

# Release Notes 2021 R2

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# Introduction

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This document provides important information about fixes, enhancements, and key features that are available in Acumatica ERP 2021 R2. The document is designed particularly for those who install Acumatica ERP. All users can benefit from reviewing this content to determine how they may benefit from the changes in this release.

Information fixes, enhancements, and key features for those who customize Acumatica ERP or develop applications for it can be found in the separate [Release Notes for Developers](#) document.

To try new features and improvements, you can use the demo company, which you can easily deploy by selecting the *SalesDemo* item in the Acumatica ERP Configuration Wizard. For detailed information on deploying the demo company and working with the demo data, see [Demo Materials](#) on the Acumatica partner portal.

# Installation and Upgrade Notes

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We strongly recommend that before administrators upgrade Acumatica ERP to a newer product version, they back up all configuration files and databases used by the application instances. For a detailed description of the general procedure of updating Acumatica ERP, see [Updating Acumatica ERP by Using the Configuration Wizard](#) in the Installation Guide.

Multiple changes have been made in Acumatica ERP 2021 R2 in comparison to Version 2021 R1 that may affect customizations and integrations. For details, see [Release Notes for Developers](#).

If the Acumatica ERP instance was integrated with software provided by an independent software vendor (ISV) partner, we recommend that the administrator consult with this partner about the compatibility of its products with Acumatica ERP 2021 R2.

## Deprecated Support for Internet Explorer

Acumatica ERP 2021 R2 is the last version that supports Internet Explorer. Starting with the next version, Internet Explorer will no longer be supported. In addition, Internet Explorer will no longer be supported in 2021 R2 (and all other releases) beginning June 15, 2022. Acumatica ERP will continue to support Microsoft Edge, Firefox, Google Chrome, and Apple Safari.

## Upgrade Policy

On the [Apply Updates](#) (SM203510) form, only minor updates for the currently installed version of Acumatica ERP are available. The administrator should upgrade the Acumatica ERP instance from previous major versions of the system to Version 2021 R2 manually on the server. (An upgrade through the web interface is not supported because the customization of the Acumatica ERP instance may be incompatible with Version 2021 R2 due to changes in Version 2021 R2.)

## Prerequisite Steps

Before administrators install Acumatica ERP 2021 R2 or upgrade to it locally, they need to do the following:

1. Switch the Internet Information Services application pool where the Acumatica ERP 2021 R2 instance will be installed to Integrated mode. (Classic mode is not supported.)
2. Install Microsoft .NET Frameworks 4.8 on the server where the Acumatica ERP 2021 R2 instance will be installed.
3. Install Microsoft .NET Core 3.1 on the server where the Acumatica ERP 2021 R2 instance will be installed.

## Upgrade Path

The upgrade to Acumatica ERP 2021 R2 must be performed as described in the following table. The upgrade process depends on the version before the upgrade.

**Table: Upgrade Paths for Acumatica ERP**

From Version	Upgrade Path
2021 R2 Beta	An upgrade to later builds of Acumatica ERP 2021 R2 is supported.
2021 R2 Preview 2	An upgrade to later builds of Acumatica ERP 2021 R2 is not supported. The administrator must completely remove all components of the system and install the later build from scratch.

From Version	Upgrade Path
2021 R2 Preview 1	An upgrade to later builds of Acumatica ERP 2021 R2 is not supported. The administrator must completely remove all components of the system and install the later build from scratch.
2021 R1	A direct upgrade to Acumatica ERP 2021 R2 is supported.
2020 R2	A direct upgrade to Acumatica ERP 2021 R2 is supported.
2020 R1	A direct upgrade to Acumatica ERP 2021 R2 is supported.
2019 R2	An incremental upgrade is required. The following steps must be performed in the listed order: <ol style="list-style-type: none"> <li>1. Upgrade to the latest Version 2021 R1 X build available.</li> <li>2. Upgrade to Version 2021 R2.</li> </ol>
2019 R1	An incremental upgrade is required. The following steps must be performed in the listed order: <ol style="list-style-type: none"> <li>1. Upgrade to the latest Version 2020 R2 X build available.</li> <li>2. Upgrade to Version 2021 R2.</li> </ol>

Acumatica ERP 2021 R2 can be upgraded from the following particular versions:

- 2021 R1 Update 11 (21.111.0019) and earlier
- 2020 R2 Update 14 (20.214.0030) and earlier
- 2020 R1 Update 19 (20.119.0010) and earlier

For the list of previous upgradable versions for later 2021 R2 updates, see the Release Notes for the particular 2021 R2 update.

## Actions Before the Upgrade

Before performing the upgrade to Acumatica ERP 2021 R2, a developer should read the following topics in the [Release Notes for Developers](#):

- *Upgrade Procedure: Customizations and Integrations* if the company uses reports, customizations, and integrations
- *Upgrade Procedure: Redesigned Form Toolbar on Custom and Customized Forms* if the company uses custom or customized forms
- *Upgrade Procedure: Changes to the Integrations that Use OAuth 2.0 or OpenID Connect* if the company has deployed integrated applications that use OAuth 2.0 or OpenID Connect
- *Upgrade Procedure: Integrated Card Processing Feature* if the company uses customizations of credit card processing

## Actions After the Upgrade

After performing the upgrade to Acumatica ERP 2021 R2, the administrator should do the following:

- Contact the Acumatica ERP support provider for assistance with the customization upgrade if the company uses custom workflows based on the predefined workflows that were introduced in 2021 R1 for entities created on the [Business Accounts](#) (CR303000), [Account Locations](#) (CR303010), [Customers](#) (AR303000), [Customer Locations](#) (AR303020), [Vendors](#) (AP303000), [Vendor Locations](#) (AP303010), and [Contacts](#) (CR302000)



forms. A customizer will need to replace the workflow actions with updates of the `Status` field of the respective form if the company uses either of the following:

- Import scenarios that use workflow actions to set the statuses of the entity
- API integrations that use workflow actions



After a customized workflow in Acumatica ERP is upgraded from 2021 R1 to 2021 R2, the customizer or administrator needs to re-implement this workflow.

For details, see [CRM: Removal of Workflows for Business Accounts, Customers, Vendors, Locations, and Contacts](#) and [Workflow: Disabling Predefined Workflows](#).

- If the company is going to use the functionality of inventory tracking for projects, after enabling the *Project-Specific Inventory* feature on the [Enable/Disable Features](#) (CS100000) form, open the [Recalculate Project Balances](#) (PM504000) form, and click **Initialize Stock** on the form toolbar. For details, see [Projects and Construction: Upgrade Notes](#).
- If the **Consolidate Statements for All Branches** check box was selected on the [Accounts Receivable Preferences](#) (AR101000) form in an earlier version of Acumatica ERP, after the upgrade, the *Consolidated for All Companies* option will be selected in the new **Prepare Statements** box on this form. If the **Consolidate Statements for All Branches** check box was cleared before the upgrade, the *For Each Branch* option will be selected in the **Prepare Statements** box after the upgrade.
- If the organization customized the [Customer Statement](#) (AR641500) and [Customer Statement MC](#) (AR642000) reports before the upgrade, note that after the upgrade to Acumatica ERP 2021 R2, the reports will work as follows, depending on the option selected in the **Prepare Statements** box on the [Accounts Receivable Preferences](#) form:
  - If *Consolidated for All Companies* is selected, the statements will be consolidated for all branches.
  - If *For Each Branch* or *Consolidated for Company* is selected, the statements will be generated separately for each branch.

Customizers should modify the old customized reports to support the new **Prepare Statements** box on the [Accounts Receivable Preferences](#) form.

For details, see [Finance: Flexible Statement Generation Options](#).

- If the organization used integrated card processing before the upgrade, note that after the upgrade to Acumatica ERP 2021 R2, the new *Integrated Card Processing* feature will be enabled on the [Enable/Disable Features](#) form.
- On the [Customer Classes](#) (AR201000) form, specify the default price class in the **Price Class** box on the **General** tab for those customer classes where it is needed. If a user changes the customer class for a customer or creates a new customer, the system will insert the correct value in the **Price Class** box on the [Customers](#) form for the customer.

## Projects and Construction: Upgrade Notes

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This topic lists the upgrade notes and general recommendations related to the project-specific inventory tracking functionality released in Acumatica ERP 2021 R2.

### Upgrade Notes

The following list provides general notes on enabling inventory tracking after an upgrade to Acumatica ERP 2021 R2 and explains which actions an administrative user should perform after the upgrade:

- If the *Project-Specific Inventory* feature will not be used, no specific actions are required.
- If the *Project-Specific Inventory* will be used, for inventory tracking for projects to be used, the following features must be enabled on the [Enable/Disable Features](#) (CS100000) form:
  - *Inventory and Order Management*

- *Inventory*
- *Project-Specific Inventory*

After the features have been enabled, a user must initialize the project-related inventory balances by clicking **Initialize Stock** on the form toolbar of the *Recalculate Project Balances* (PM504000) form, as shown in the following screenshot. Please note that the operation may be time-consuming because the time required to complete it depends on the number of warehouses and stock items in the system. Once the operation has completed, all the basic inventory operations—receipts, issues, adjustments, and transfers—support all the inventory tracking modes.

The screenshot shows the 'Recalculate Project Balances' form. At the top, there are tabs for 'CUSTOMIZATION' and 'TOOLS'. Below the tabs is a toolbar with several icons and buttons. The 'INITIALIZE STOCK' button is highlighted with a red box. Below the toolbar is a list of checkboxes for various recalculation options: 'Recalculate Unbilled Summary', 'Rebuild Commitments', 'Recalculate Draft Invoice Amount', and 'Recalculate Change Orders'. Below the checkboxes is a table with columns for 'Project ID', 'Description', 'Customer', and 'Status'.

Project ID	Description	Customer	Status
HMBAKERY11	A juicer with the installation and training for employees	HMBAKERY	Active
HMBAKERY12	Installation of juicers and training for employees	HMBAKERY	Active
HMBAKERY13	A training for employees	HMBAKERY	Active

**Figure: Preparation of the system to use project-specific inventory**

After the stock has been initialized, the project manager can use the new inventory tracking mode in projects as follows:

- If the company bill customers for projects via sales orders, after the feature has been enabled and stock is initialized, there is no need to reconfigure projects, because after the upgrade, all the existing projects are assigned the *Track by Location* mode, which corresponds to the process that has been used before the upgrade.
- If the company processes sales orders and shipments but does not use the project billing procedure, after the feature has been enabled and the stock has been initialized, the project manager can use the new inventory tracking modes (*Track by Project Quantity* and *Track by Project Quantity and Cost*) in new projects.
- If the company uses the project billing procedure, the project manager can use new inventory tracking modes (*Track by Project Quantity* and *Track by Project Quantity and Cost*) in new projects.

In an existing project, the inventory tracking mode can be changed as follows:

- If the project manager decides to change the *Track by Location* mode to *Track by Project Quantity* or *Track by Project Quantity and Cost*, the following actions must be performed before the mode is changed:
  - All items related to this project must be issued or transferred from project-specific locations.
  - Warehouse locations must be unlinked from the project on the *Warehouses* (IN204000) form.
- If the project manager decides to change the *Track by Project Quantity* or *Track by Project Quantity and Cost* inventory tracking mode, all items related to this project must be issued or transferred before the mode is changed.

## Technical Notes and Recommendations

With the new inventory tracking feature, the following enhancements to the inventory tracking mechanism have been made:

- The system now creates virtual project inventory locations on the fly, which allows a project manager to purchase material assets (that is, stock items) for a project and have no link between warehouse locations and projects and project tasks. When these project assets are kept at a warehouse, they are shown as project assets in balance sheets and other reports. Once one of these items is issued from the warehouse,

the system captures project expenses based on the issued cost, which is calculated based on the item valuation settings. This functionality has been implemented via the new `Contract.AccountingMode` project-level setting, which corresponds to the **Inventory Tracking** setting on the *Projects* (PM301000) form. This setting controls the behavior of the stock items purchased for a project and the project-specific cost and quantity tracking.

- The system now tracks project-specific quantities of stock items reserved for projects; this prevents stored materials purchased for a particular project from accidentally being used for non-project sales or sales for another project. This functionality has been implemented via the creation of project-specific quantity layers. The new `PMSiteStatus`, `PMLocationStatus`, and `PMLotSerialStatus` tables have been introduced. These tables have the same structure as the `INSiteStatus`, `INLocationStatus`, and `INLotSerialStatus` tables, respectively. These new tables also include project IDs and project task IDs information; with these additional information, the system tracks the virtual project-specific locations within existing (that is, physical) warehouse locations.



For a project with the *Track by Location* mode, the new database tables will store item and warehouse information without project-specific data. That is, the non-project code defined on the *Projects Preferences* (PM101000) form will be specified as the project ID in these tables, and project tasks will be empty.

- The system now tracks project-specific valuated costing. This functionality allows users to control the exact costs at which the project-specific stock items are purchased and issued; the project-specific item costs is tracked separately and is not affected by costs of any other project or non-project items. This functionality has been implemented via the creation of project-specific cost centers in the `PMCostCenter` table; in this table, each project cost layer is assigned to `PMCostCenter.CostSiteID`, which is linked to the `INCostSite` key in the `INCostStatus` table to track project-specific cost layers.
- The system now posts inventory and general ledger transactions with the correct project codes in inventory-related and accrued purchase processes.

For projects with the *Track by Location* mode, the same tables as in previous versions are used for building generic inquiries and reports:

- `INSiteStatus`: This table holds the actual quantity of items stored in a physical warehouse defined on the *Warehouses* (IN204000) form.
- `INLocationStatus`: This table holds the actual quantity of items stored in a physical warehouse location defined on the *Warehouses* form.
- `INLotSerialStatus`: This table holds the actual quantity of lot- or serial-tracked items stored in a physical warehouse location defined on the *Warehouses* form.
- `INCostStatus`: This table holds the cost layers and item costs that depend on the cost sites stored in the `INCostSite` table; the `INCostSite` table do not store any project-specific data.

For projects with the *Track by Project Quantity* mode, the following tables are used for building generic inquiries and reports:

- `PMSiteStatus`: This table holds the actual quantity of items stored in a virtual warehouse related to a particular project and project task within the physical warehouse defined on the *Warehouses* form.
- `PMLocationStatus`: This table holds the actual quantity of items stored in a virtual warehouse location related to a particular project and project task within a physical warehouse location defined on the *Warehouses* form.
- `PMLotSerialStatus`: This table holds the actual quantity of lot- or serial-tracked items stored in a virtual warehouse location within a physical warehouse location defined on the *Warehouses* form.
- `INCostStatus`: This table holds the cost layers and item costs that depend on the cost sites stored in the `INCostSite` table; the `INCostSite` table do not store any project-specific data.

For projects with the *Track by Project Quantity and Cost* mode, the following tables are used for building generic inquiries and reports:

- **PMSiteStatus**: This table holds the actual quantity of items stored in a virtual warehouse related to a particular project and project task within the physical warehouse defined on the [Warehouses](#) form.
- **PMLocationStatus**: This table holds the actual quantity of items stored in a virtual warehouse location related to a particular project and project task within a physical warehouse location defined on the [Warehouses](#) form.
- **PMLotSerialStatus**: This table holds the actual quantity of lot- or serial-tracked items stored in a virtual warehouse location within a physical warehouse location defined on the [Warehouses](#) form.
- **INCostStatus**: This table holds the cost layers and item costs that depend on the cost sites stored in the **INCostSite** table; the **INCostSite** table is linked to the **PMCostCenter** table, which stores project and project task data.

# Commerce: Support of Gift Wrapping in BigCommerce Orders

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In previous versions of Acumatica ERP, if a sales order that was placed in a BigCommerce store contained an item to be gift-wrapped, after this sales order was imported to Acumatica ERP, the price of the gift wrapping was not reflected in the sales order created on the [Sales Orders](#) (SO301000) form, which caused a discrepancy between the sales order totals in Acumatica ERP and in the BigCommerce store. Also, [Sales Orders](#) form did not import and maintain the message that accompanied a gift item.

In Acumatica ERP 2021 R2, the import of sales orders that include items with gift wrapping and a gift message is supported.

## Importing of Sales Orders with Gift Wrapping and Gift Messages

In a BigCommerce store, a merchant can provide its customers with the option of having their purchase gift-wrapped. The BigCommerce gift-wrapping functionality supports creating gift-wrapping options for specific products or for all products, for free or at various pricing levels. If a customer purchases an item for which gift-wrapping options have been configured, they have the option to add gift wrapping and a gift message to their purchase while viewing their shopping cart.

To configure the import of gift-wrapped items to Acumatica ERP, the commerce manager should perform the following general steps:

1. On the [Non-Stock Items](#) (IN202000) form, define a non-stock item to represent gift wrapping in sales orders, shipments, and invoices. This non-stock item should have the *Non-Stock Item* or *Service* type (the **Type** box in the **Item Defaults** section of the **General** tab) and the *Active*, *No Purchases*, or *No Request* status (**Item Status** box in the Summary area). The **Require Receipt** and **Require Shipment** check boxes should also be selected.
2. On the **Order Settings** tab of the [BigCommerce Stores](#) (BC201000) form, select the non-stock item that represents gift wrapping in the new **Gift Wrapping Item** box (shown in the following screenshot). The non-stock item selected in this box is excluded from synchronization and is not exported when the *Non-Stock Item* entity is synchronized with the BigCommerce store.

BigCommerce Stores

Connector: BigCommerce  Active  
 \* Store Name: SweetStore - BC  Default

CONNECTION SETTINGS ENTITY SETTINGS CUSTOMER SETTINGS INVENTORY SETTINGS **ORDER SETTINGS** PAYMENT SETTINGS

**GENERAL**

\* Branch: PRODWHOLE - Products Wh

**ORDER**

\* Order Type for Import: EO - BigCommerce Order  
 Order Types for Export:   
 \* Return Order Type: ER - eCommerce RMA Order  
 \* Refund Amount Item: ECOMREFAMO - eCommerce  
 Refund Reason Code: ECOMREFUND - eCommerce  
 Order Time Zone: (GMT-05:00) Eastern Time ...  
 Show Discounts In: Document Discount  
 Gift Certificate Item:   
**Gift Wrapping Item: GIFTWRAP - Gift Wrapping**  
 Tag Ext. Order with ERP Order Nbr.

**SHIPPING OPTION MAPPING**

Active	Store Shipping Zone	* Store Shipping Method	Ship Via	Shipping Zone	Shipping Terms
<input checked="" type="checkbox"/>	United States	Free Shipping	LOCAL		

TAXES

Figure: The Gift Wrapping Item box on the BigCommerce Stores form

When a sales order that includes gift-wrapped items is imported from the BigCommerce store to Acumatica ERP, on the **Details** tab of the *Sales Orders* (SO301000) form, the imported sales order contains a line for gift wrapping for each of the gift-wrapped items. The line number of the item to which the gift wrapping pertains is shown in the new **Associated Order Line Nbr.** column. (See Item 1 in the following screenshot.) If a customer left a gift message while adding gift wrapping for an item in the BigCommerce store, it is displayed in the new **Gift Message** column of the line of the gift wrapping (Item 2). Both columns are hidden by default. In the line for the gift-wrapping item in the imported order, the system inserts the same warehouse as is assigned to the main item.

Sales Orders  
 EO SO006194 - eCommerce Guest Customer

ORDER TYPE: EO \* CUSTOMER: ECOMGUEST - eCommerce Guest Customer  
 ORDER NBR.: SO006194 \* LOCATION: MAIN - Primary Location  
 STATUS: Open CONTACT:   
 \* DATE: 5/26/2021 CURRENCY: USD 1.00  
 \* REQUESTED ON: 5/26/2021 \* PROJECT: X - Non-Project Code  
 ORDER TOTAL: 292.00

EXTERNAL REFER...: 217 - SweetSt DESCRIPTION: SweetStore - BC | Order: 217 | Status: Awaiting Payment

**DETAILS** TAXES COMMISSIONS FINANCIAL SHIPPING ADDRESSES DISCOUNTS SHIPMENTS PAYMENTS TOTALS

Line Nbr.	Associated Order Line Nbr.	* Branch	* Inventory ID	Free Item	Warehouse	Line Description	Gift Message	* UOM	Quantity	Unit Price	Manual Price	Ext. Price
1		PRODWHOLE	NIKONL110	<input type="checkbox"/>	RETAIL	Nikon Coolpix L110		EA	1.00	280.00	<input checked="" type="checkbox"/>	280.00
3	1	PRODWHOLE	GIFTWRAP	<input type="checkbox"/>	RETAIL	Gift Wrapping	Hope this brightens your day!	EA	1.00	12.00	<input checked="" type="checkbox"/>	12.00

Figure: A sales order with a gift-wrapped item

### Changes to the Shipments and Invoices Forms

An order line with an item and its associated line with the gift-wrapping item are shipped and invoiced together. That is, when a shipment is created for an item that has an associated order line with gift wrapping, the associated order line is also added to the shipment. As is the case with the *Sales Orders* (SO301000) form, on the *Shipments* (SO302000) and *Invoices* (SO303000) forms, information about the associated order lines is displayed in the

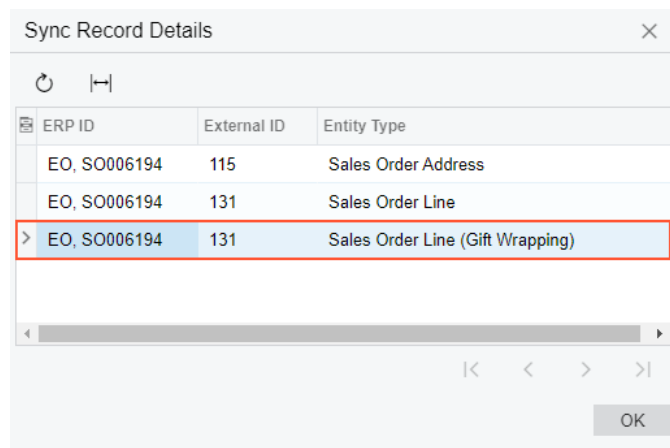
**Associated Order Line Nbr.** column, and the gift message from the sales order is displayed in the **Gift Message** column, which have been added on the **Details** tab. Both columns are hidden by default.

## Changes to the Entities Form

On the [Entities](#) (BC202000) form, for the BigCommerce Connector and the *Sales Order* entity, the *Gift Message* field of the *Sales Order* → *Details* object has become available for mapping on the **Import Mapping** and **Export Mapping** tabs.

## Changes to the Sync History Form

On the [Sync History](#) (BC301000) form, a user can select a row of a sales order sync record in the table and click **View Details** on the More menu. In the **Sync Record Details** dialog box (which is opened), information about the sales order line containing the gift-wrapping item is now displayed along with information about the sales order line of the item for which gift wrapping was added in the BigCommerce store. The gift wrapping order line contains *Sales Order Line (Gift Wrapping)* in the **Entity Type** column (see the following screenshot). The sales order line for gift wrapping has the same value in the **External ID** column as the sales order line of the item to be gift wrapped.



ERP ID	External ID	Entity Type
EO, SO006194	115	Sales Order Address
EO, SO006194	131	Sales Order Line
> EO, SO006194	131	Sales Order Line (Gift Wrapping)

*Figure: Sync Record Details dialog box*

# Commerce: Support of the Net and Gross Tax Calculation Modes in Imported Orders

---

In Acumatica ERP 2021 R2, support for the *Net* and *Gross* tax calculation modes has been added for sales orders imported from BigCommerce and Shopify stores. This functionality is available if the *Net/Gross Entry Mode* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

## Tax Calculation Mode in Sales Orders Imported from Shopify

If the synchronization of taxes is activated, for sales orders imported from a Shopify store, the **Tax Calculation Mode** setting on the **Financial** tab of the [Sales Orders](#) (SO301000) form is determined based on the tax synchronization settings specified on the [Shopify Stores](#) (BC201010) form and the price settings specified in the Shopify store.

If only Acumatica ERP is used for tax calculation, the setting is determined by the price settings specified in the Shopify store as follows:

- If the prices of items in the store include taxes (that is, if on the **Taxes** settings page, the **All prices include taxes** check box is selected), the system inserts *Gross* in the **Tax Calculation Mode** box of the [Sales Orders](#) form for the imported sales order.
- If prices are entered for items exclusive of tax (that is, if the **All prices include taxes** check box is cleared), the system inserts *Net* in the **Tax Calculation Mode** box of the [Sales Orders](#) form for the imported sales order.

If an external tax provider—for example, Avalara AvaTax—is configured, the system inserts *Tax Settings* in the **Tax Calculation Mode** box of the [Sales Orders](#) form for the imported sales orders. (See the following screenshot.) With this option selected, the sales order inherits the settings of the customer, or of the customer's location if the *Business Account Locations* feature has been enabled on the [Enable/Disable Features](#) (CS100000) form.



Sales Orders  
EO SO006194 - eCommerce Guest Customer

← ↻ 📄 + 🗑️ 📄 > | REMOVE HOLD ...

* Order Type:	EO	* Customer:	ECOMGUEST - eCommerce Guest C...	Ordered Qty.:	2.00
Order Nbr.:	SO006194	* Location:	MAIN - Primary Location	Discount Total:	0.00
Status:	On Hold	Contact:		VAT Exempt T...:	0.00
* Date:	5/26/2021	Currency:	USD 1.00 VIEW BASE	VAT Taxable T...:	0.00
* Requested On:	5/26/2021	* Project:	X - Non-Project Code.	Tax Total:	0.00
Customer Ord...:				Order Total:	292.00
External Refer...:	209 - SweetStc	Description:	SweetStore - SP   Order: 209   Status: Awaiting Payment		

DETAILS TAXES COMMISSIONS **FINANCIAL** SHIPPING ADDRESSES DISCOUNTS SHIPMENTS PAYMENTS TOTALS

**FINANCIAL INFORMATION**

\* Branch: PRODWHOLE - Products Wholesale  
 Override Tax Zone

Customer Tax Zone:  
Tax Calculation Mode: **Tax Settings**

Tax Exemption Number:  
Entity Usage Type: Default  
 Bill Separately

Invoice Nbr.:  
Invoice Date:  
\* Terms: 30D - 30 Days  
Due Date:  
Cash Discount Date:  
Post Period:

**PAYMENT INFORMATION**

Payment Method: ONLINE - eCommerce Online Paymer  
Card/Account Nbr.:  
Cash Account: 10250 - Company Merchant Account

**OWNERSHIP**

Workgroup:  
Owner: Maxwell Baker

**OTHER INFORMATION**

Orig. Order Type:  
Orig. Order Nbr.:  
 Emailed

Figure: The Tax Settings calculation mode in a sales order

## Tax Calculation Mode in Sales Orders Imported from BigCommerce

Information about the price configuration in a BigCommerce store is not passed via the BigCommerce API. Thus, if the *Net/Gross Entry Mode* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, for sales orders imported from the BigCommerce store, the system inserts *Tax Settings* in the **Tax Calculation Mode** box on the **Financial** tab of the [Sales Orders](#) (SO301000) form. This option is inserted regardless of the price settings in the BigCommerce store and the configuration of tax calculation in Acumatica ERP.

## Changes to the Entities Form

If the *Net/Gross Entry Mode* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, the *Tax Calculation Mode* field of the *Sales Order* object becomes available for mapping on the **Import Mapping** and **Export Mapping** tabs of the [Entities](#) (BC202000) form.

# Commerce: Support of Multiple Base Currencies

---

In Acumatica ERP 2021 R2, a number of changes have been made in the commerce-related functionality to support the *Multiple Base Currencies* feature, which can be enabled on the [Enable/Disable Features](#) (CS100000) form.

## Changes to the BigCommerce Stores and Shopify Stores Forms

On the [BigCommerce Stores](#) (BC201000) and [Shopify Stores](#) (BC201010) forms, in the **Branch** box of the **Order Settings** tab, an administrative user can now select only the branch whose base currency matches the default currency of the store, which is displayed on the **Connection Settings** tab. The restriction applies even if the *Multiple Base Currencies* feature is disabled on the [Enable/Disable Features](#) (CS100000) form.

If before an upgrade to Acumatica ERP 2021 R2, the branch selected in the **Branch** box on the **Order Settings** tab did not match the default currency of the store, after the upgrade, the system displays an error message during the synchronization of sales orders.

## Changes to the Export of Default Prices and MSRP

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, the settings of the default price and MSRP of a stock item, non-stock item, and template item are defined on the **Price/Cost** tab of the [Stock Items](#) (IN202500), [Non-Stock Items](#) (IN202000), and [Template Items](#) (IN203000) form for *each base currency* set up in the system.

When a stock item, non-stock item, or template item is synchronized with an external e-commerce system—that is, during the synchronization of the *Stock Item*, *Non-Stock Item*, or *Template Item* entity—the system exports to the external e-commerce system the default price and the MSRP of the item that were defined in the currency of the branch selected in the **Branch** box on the **Store Settings** tab of the [BigCommerce Stores](#) (BC201000) or [Shopify Stores](#) (BC201010) form.

## Changes to the Import of Customers

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, the **Restrict Visibility To** setting on the **Financial** tab of the [Customers](#) (AR303000) form must be specified for each customer. This means that each customer must be associated with the appropriate branch, company, or group of companies. The system stores the customer's balance and credit limit in the base currency of the branch with which the customer is associated. As a result, the customer can be used only in transactions originating from the branches that have the same base currency as the customer has.

To support this requirement to specify the **Restrict Visibility To** setting for each customer, when a customer is imported to Acumatica ERP from an external e-commerce system—that is, during the synchronization of the *Customer* or *Sales Order* entity—the **Restrict Visibility To** value is now copied to the customer from the customer class specified as the default for imported customers in the **Customer Class** box on the **Customer Settings** tab of the [BigCommerce Stores](#) (BC201000) or [Shopify Stores](#) (BC201010) form.

To avoid issues during the synchronization of customers, the administrative user should make sure that the **Restrict Visibility To** value of the customer class of imported customers is set to the branch specified for the e-commerce system in the **Branch** box on the **Order Settings** tab of the [BigCommerce Stores](#) or [Shopify Stores](#) form, or to a company or a group of companies to which the specified branch belongs.

## Additional Information

For more information about the support of multiple base currencies, see [Finance: Support of Multiple Base Currencies](#) and [Order Management: Multiple Base Currencies](#).

# Commerce: Support of Shopify Payments

---

In Acumatica ERP 2021 R2, the support of integrated card processing has been added for Shopify Payments. Now users can capture, void, and issue refunds for payments made through Shopify Payments and imported from the Shopify store to Acumatica ERP.



This functionality is available if the *Integrated Card Processing* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

To configure the import of payments based on Shopify Payments from the Shopify store to Acumatica ERP and integrated card processing of the imported payments, an administrative user performs the following general steps:

1. Setting up Shopify Payments in the Shopify store
2. Configuring a processing center for Shopify Payments and a card payment method linked to this processing center in Acumatica ERP
3. Mapping the Shopify Payments store payment method with the card payment method from Acumatica ERP

## Configuration of Shopify Payments in the Shopify Store

Shopify Payments is a payment provider available to Shopify customers in certain countries and regions. It supports all major payment methods, does not require additional registration, and can be used as soon as the store is created. To use Shopify Payments for processing payments in the Shopify store, an administrative user needs to activate it on the **Payments** settings page of the Shopify store's admin area.

For information about setting up Shopify Payments, see [the Shopify documentation](#).

## Configuration of a Processing Center and Payment Method in Acumatica ERP

During the configuration of a processing center to be used with Shopify Payments, in the Summary area of the [Processing Centers](#) (CA205000) form, an administrative user selects *Shopify Payments API plug-in* as the **Payment Plug-In (Type)**. As soon as this payment plug-in is selected, the system displays a warning (see Item 1 in the following screenshot) indicating that the processing center created based on the Shopify Payments API plug-in cannot be used to authorize payments in Acumatica ERP, and that the other card operations are available for only payments initiated externally (that is, in the Shopify store). At the same time, on the **Plug-In Parameters** tab, the following parameters appear (Item 2):

- The API key
- The API password
- The store admin URL

The API key and password should be the same as the API credentials that were used to establish the connection to the Shopify store on the **Connection Settings** tab of the [Shopify Stores](#) (BC201010) form. The store admin URL should end with a slash.

Processing Centers

SHOIFYPAY - Shopify Payments

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

TEST CREDENTIALS

\* Proc. Center ID: SHOIFYPAY  Accept Payments from New Cards

\* Name: Shopify Payments  Allow Unlinked Refunds

\* Cash Account: 10250ST - Company Merchar  Currency: USD

Active

Payment Plug-In (Type): Shopify Payments API plug-in

PLUG-IN PARAM

The SHOIFYPAY processing center does not support the Authorize action. The Capture action is supported only for payments that were pre-authorized externally.

* ID	* Description	Value
KEY	API Key	*****
PASSWORD	API Password	*****
STOREURL	Store Admin URL	https://[redacted].myshopify.com/admin/

Figure: Processing center parameters for Shopify Payments

After the processing center has been configured, on the [Payment Methods](#) (CA204000) form, the administrative user needs to set up a card payment method (that is, a payment method with the *Credit Card* means of payment) and link it with the processing center. For information about setting up payment methods in Acumatica ERP, see [Cash Management: Payment Methods](#).

### Mapping of Shopify Payments with a Payment Method from Acumatica ERP

An administrative user maps the Shopify Payments payment provider on the [Shopify Stores](#) (BC201010) form by performing similar steps to those used to map other payment methods with integrated card processing configured (for example, Authorize.Net). On the **Payment Settings** tab, the **Store Payment Method** column is initially populated based on the settings from the Shopify store when the correct API credentials are entered and saved on the **Connection Settings** tab. For Shopify Payments, the system inserts *SHOIFY\_PAYMENTS* (see the following screenshot).

Shopify Stores  
Shopify SweetStore - SP

CUSTOMIZATION TOOLS ▾

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Connector: **Shopify**  Active  
 \* Store Name:   Default

CONNECTION SETTINGS ENTITY SETTINGS CUSTOMER SETTINGS INVENTORY SETTINGS ORDER SETTINGS **PAYMENT SETTINGS** >>

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Active	* Store Payment Method	* Store Currency	Payment Method ID	Cash Account	Proc. Center ID	Release Payments	Process Refunds
<input checked="" type="checkbox"/>	CASH ON DELIVERY (COD)	USD	ONLINE	10250ST		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	CASH_ON_DELIVERY	USD	ONLINE	10250ST		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	GIFT_CARD	USD	ONLINE	10250ST		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	MANUAL	USD	ONLINE	10250ST		<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	SHOPIFY_PAYMENTS	USD	SHOPIFYPAY	10250ST	SHOPIFYPAY	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	AUTHORIZE_NET	USD				<input type="checkbox"/>	<input type="checkbox"/>

Figure: Mapping of Shopify Payments with the payment method from Acumatica ERP

## Import of Payments to Acumatica ERP

Payments are imported from the Shopify store to Acumatica ERP when the *Sales Order* or *Payment* entity is synchronized. For each imported payment made through Shopify Payments, a document of the *Prepayment* type is created on the [Payments and Applications](#) (AR302000) form based on the card payment method that was mapped to Shopify Payments on the **Payment Settings** tab of the [Shopify Stores](#) (BC201010) form. Based on the status of the payment in the Shopify store before import, the system assigns the prepayment either of the following statuses:

- *Pending Processing*: If the payment was authorized during order placement
- *Balanced*: If the payment was captured during order placement or if the payment was authorized during order placement and then captured in the admin area of the store

Payments that have been authorized but not captured in the store need to be processed after import and then released either manually or by using an automation schedule for the [Release AR Documents](#) (AR501000) form.

## Processing of Imported Payments

If integrated card processing has been configured for Shopify Payments, users can perform the following operations on the payments imported into Acumatica ERP:

- On the [Payments and Applications](#) (AR302000) form: *Capture*, *Void*, and *Refund*
- On the [Sales Orders](#) (SO301000) form: *Capture*, *Void*

The *Authorize* operation cannot be performed on either of these forms because the Shopify Payments API plug-in is intended for use with only the payments that have been authorized or both authorized and captured in the Shopify store.

When a capture, void, or refund operation is performed on an imported payment in Acumatica ERP, the payment status of the sales order is immediately updated in the Shopify store.

## Additional Information

For information about configuring and importing payments with integrated card processing, see [Synchronizing Orders: Card Payments](#).

# Commerce: Improvements to Multicurrency Payment Mapping

In previous versions of Acumatica ERP, if transactions in non-base currencies were allowed in a BigCommerce or Shopify store synchronized with the Acumatica ERP instance, on the **Payment Settings** tab of the [BigCommerce Stores](#) (BC201000) or [Shopify Stores](#) (BC201010) form, an administrator had to map each store payment method with an ERP payment method for the base currency in one table and then specify cash accounts for each of the non-base currencies in which transactions are accepted in the online store in another table. In Acumatica ERP 2021 R2, the **Payment Mapping** tab was redesigned to simplify the payment mapping interface and extend the functionality of transacting in multiple currencies in BigCommerce and Shopify stores.

## Merging of the Payment Mapping Tables

On the **Payment Settings** tab of the [BigCommerce Stores](#) (BC201000) or [Shopify Stores](#) (BC201010) form, the **Payment Mapping Settings** section has been removed and the **Base Currency Payment Methods** and **Multicurrency Cash Accounts** tables have been merged. Now the **Payment Settings** tab displays a single table in which store payment methods in any currencies configured in the BigCommerce store or Shopify store can be mapped.

The new table has kept most of the columns of the **Base Currency Payment Methods** table, with one exception. The **Currency** column was replaced with the **Store Currency** column. The new column shows the currency defined on the [Currencies](#) (CM202000) form of Acumatica ERP that matches the currency for which the store payment method has been set up in a BigCommerce or Shopify store. The following screenshot shows the redesigned table on the [BigCommerce Stores](#) form; on the [Shopify Stores](#) form, the table looks exactly the same.

BigCommerce Stores

Connector: BigCommerce  Active  
 \* Store Name: SweetStore - BC  Default

CONNECTION SETTINGS ENTITY SETTINGS CUSTOMER SETTINGS INVENTORY SETTINGS ORDER SETTINGS **PAYMENT SETTINGS**

Active	* Store Payment Method	* Store Currency	Payment Method ID	Cash Account	Proc. Center ID	Release Payments	Process Refunds
<input checked="" type="checkbox"/>	AMAZON	EUR	CHECK	10700		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	AMAZON	USD	CHECK	10200		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	AUTHORIZE.NET	USD	VISATOK	10600	AUTHNETAPI	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	CUSTOM	USD	ONLINE	10250		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	GIFTCERTIFICATE (GIFT_C...	EUR	CHECK	10700		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	GIFTCERTIFICATE (GIFT_C...	USD	CHECK	10200		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	INSTORE (OFFLINE)	USD	ONLINE	10250		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	PAYPAL	USD				<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	STORECREDIT (STORE_C...	USD				<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	TEST PAYMENT GATEWAY	USD				<input type="checkbox"/>	<input type="checkbox"/>

*Figure: Redesigned Payment Settings tab on the BigCommerce Stores form*

Because the store payment method is defined in a BigCommerce or Shopify store on a per-currency basis, the **Store Currency** column and the **Store Payment Method** column of the [BigCommerce Stores](#) or [Shopify Stores](#) form, respectively, uniquely identify the store payment method. Thus, each combination of both column values should be mapped to a payment method and cash account defined in Acumatica ERP.

When a new payment method is set up in a BigCommerce or Shopify store, a new row is automatically added to the table with the **Store Payment Method** and **Store Currency** columns filled in and the **Active** check box selected. When the first sales order or payment based on the new store payment method is imported to Acumatica ERP, the synchronization fails. The commerce manager needs to either map the new store payment method or clear the **Active** check box so that payments based on this store payment method will not be imported. The **Store Payment Method** and **Store Currency** columns are editable, so the manager can set up the mapping before starting to import sales orders paid by using the new store payment methods.

In the **Cash Accounts** column of the new table, only the cash accounts defined for the currency matching the store currency are available for selection.

## Upgrade Notes

If the *Multicurrency Accounting* feature was enabled on the [Enable/Disable Features](#) (CS100000) form and additional cash accounts were specified for non-base currencies in the **Multicurrency Cash Accounts** table on the **Payment Settings** tab of the [BigCommerce Stores](#) (BC201000) or [Shopify Stores](#) (BC201010) form, during the upgrade to Acumatica ERP 2021 R2, for each row of this table, a new row will be generated in the redesigned table. After the upgrade, we recommend to review the mapping of store payment methods set up for non-base currencies.

# Commerce: Improvement to the Import of Refunds

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In previous versions of Acumatica ERP, when a refund was imported from an external e-commerce system for a sales order that has already been shipped (that is, for a sales order with the *Completed* status), the system created a return order on the [Sales Orders](#) (SO301000) form and a payment of the *Customer Refund* type on the [Payments and Applications](#) (AR302000) form, without linking these documents. The customer refund was linked to the original payment instead. Consequently, when a credit memo was created for the return order, it did not contain information about or a link to the customer refund, and releasing the credit memo did not complete the refunding process. A user had to manually link the credit memo with the appropriate customer refund, which was time-consuming and error-prone.

Starting in Acumatica ERP 2021 R2, customer refunds and return orders are automatically linked during the synchronization of the *Refund* entity. Users can see information about the customer refund that is linked to a return order on the **Payments** tab of the [Sales Orders](#) form. Now when a user creates a credit memo for the return order, information about the related customer refund is automatically copied to the credit memo. Users no longer need to manually apply credit memos to customer refunds.

## Additional Information

For information about changes to customer refunds in sales orders, see [Order Management: Customer Refunds in Sales Orders and SO Invoices](#).

For details on importing refunds from a BigCommerce store, see [Importing Non-Card Refunds](#) and [Importing Card Refunds](#).

For details on importing refunds from a Shopify store, see [Importing Non-Card Refunds](#) and [Importing Card Refunds](#).



# Commerce: Support for Shopify Metafields

Shopify customers can create custom fields in their stores to hold additional information about customers, products, orders, blog posts, or even the store itself. Data from metafields can be used for internal purposes (for example, for reporting and analysis) or added to the store's theme to customize the appearance of the storefront to show more information to customers. For example, an e-commerce manager might want to display additional information about a product on a product page, to add information about a customer (which is or is not visible to the customer in their store account), or to add an additional box to the checkout page to request information about the urgency of the order fulfillment. For more information about metafields in Shopify, see [the Shopify documentation](#).

In Acumatica ERP 2021 R2, it is possible to map Shopify metafields with predefined or custom fields from Acumatica ERP to exchange data stored in them between the two systems. This topic describes the extent of the support for Shopify metafields by Acumatica ERP Retail-Commerce Edition and the general steps required for the implementation of this functionality.

## Using Shopify Metafields in Field Mapping

Users of Acumatica ERP Retail-Commerce Edition can map fields from Acumatica ERP to metafields created in a Shopify store for the following entities maintained on the [Entities](#) (BC202000) form:

- *Stock Item*
- *Non-Stock Item*
- *Template Item*
- *Customer*
- *Sales Order*

To use a Shopify metafield in field mapping for data import, the user needs to select the appropriate option in the **Source Object** column of the table on the **Import Mapping** tab of the [Entities](#) form. To use a Shopify metafield for export, the user selects the option in the **Target Object** column in the table of the **Export Mapping** tab of the same form. The options that are available for each of the entities are summarized in the following table.

**Table: Source and Target Objects for Mapping Shopify Metafields**

Entity	Tab	Source Object	Target Object
<i>Stock Item</i>	<b>Export Mapping</b>	N/A	<i>Product → Metafields</i> <i>Product → Product Variants → Metafields</i>
<i>Non-Stock Item</i>	<b>Export Mapping</b>	N/A	<i>Product → Metafields</i> <i>Product → Product Variants → Metafields</i>
<i>Template Item</i>	<b>Export Mapping</b>	N/A	<i>Product → Metafields</i> <i>Product → Product Variants → Metafields</i>
<i>Customer</i>	<b>Export Mapping</b>	N/A	<i>Customer → Metafields</i>
	<b>Import Mapping</b>	<i>Customer → Metafields</i>	N/A

Entity	Tab	Source Object	Target Object
<i>Sales Order</i>	<b>Import Mapping</b>	<i>Order Data - Metafields</i> <i>Order Data → Customer → Metafields</i>	N/A

Metafields in Shopify have several properties, including the following:

- *Namespace*: A category or container that groups some metafields and differentiates them from other metafields
- *Key*: The name of the metafield; it is used to reference the information stored in the metafield
- *Value*: The content of the metafield

When a user is configuring an import mapping for the *Customer* or *Sales Order* entity, to map a Shopify metafield with an Acumatica ERP field, they need to select the metafield object in the **Source Object** column and type the metafield name in the **Source Field / Value** column in the following format: `Namespace . Key`.

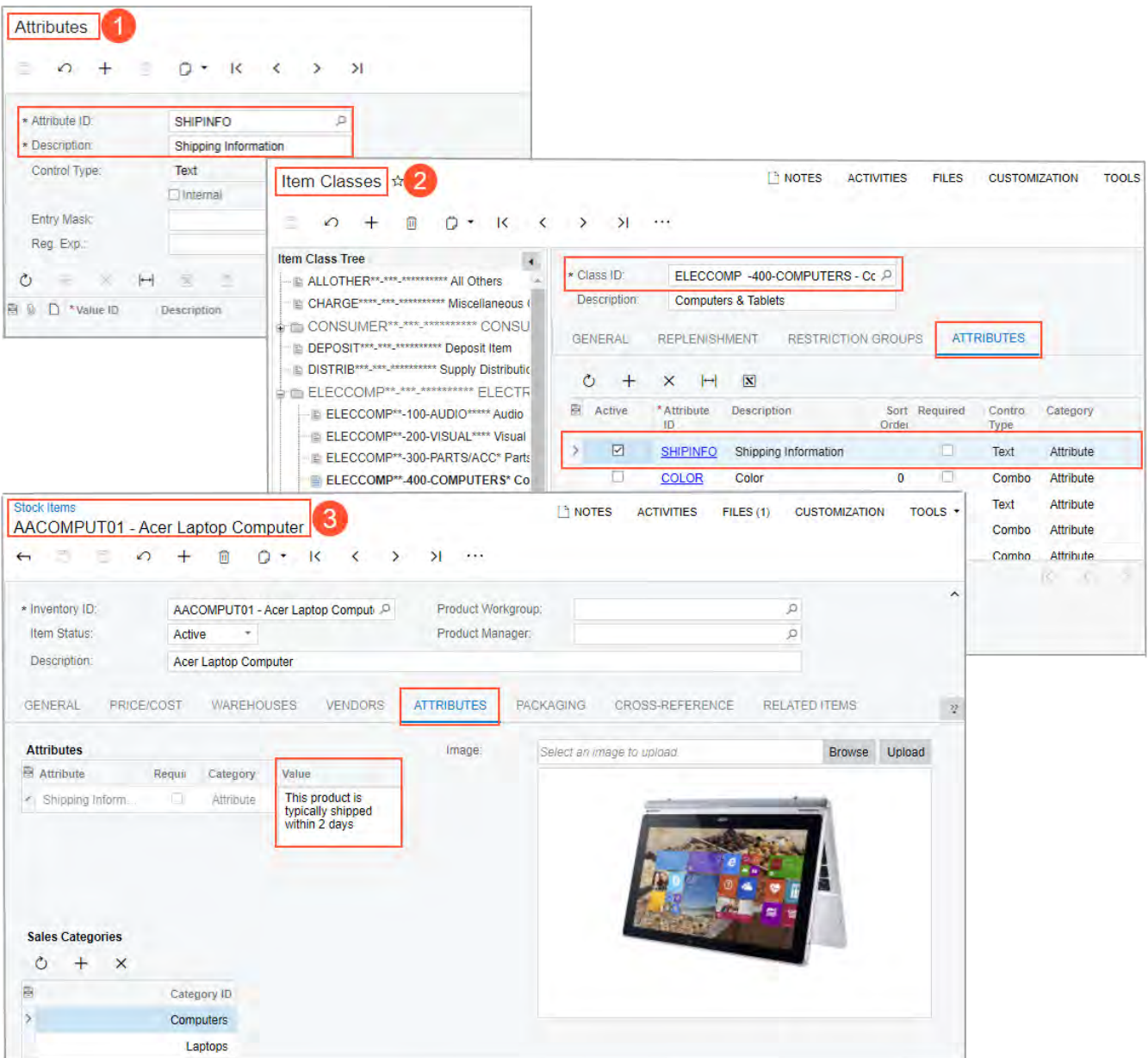
When a user is configuring an export mapping for the *Stock Item*, *Non-Stock Item*, *Template Item*, or *Customer* entity, to map an Acumatica ERP field with a Shopify metafield, they need to select the metafield object in the **Target Object** column and type the metafield name in the **Target** column in the following format: `Namespace . Key`. During the synchronization of the entity, the system will check whether the metafield with this name exists and do either of the following:

- If the metafield exists, update its value based on the settings of the **Source Field / Value** column.
- If the metafield does not exist, create it with the specified namespace and key, and assign it the value according to the mapping settings for the particular object.

It is also possible to use metafields in formulas. When a metafield is used in a formula, its namespace and key should be enclosed in square brackets: `[Namespace . Key]`.

## Using a Metafield: An Example

Suppose that a company sells laptops in its Shopify store and uses Acumatica ERP to manage product and inventory information. For each of the popular laptop models, the company keeps a note about how quickly a laptop can be shipped. The note is stored as a value of the text attribute added to the item class of the laptops in question (see the following screenshot).



**Figure: The attribute configured for a stock item**

Further suppose that the company wants this information to be exported to the Shopify store along with the product information and to be displayed to customers on product pages on the storefront. To implement this, the store administrator should perform the following tasks:

1. Creating a metafield in the Shopify store to store the shipping note
2. Adding the metafield to the Shopify store's theme so that it is displayed on the product pages
3. Mapping the metafield with the attribute created for the shipping note in Acumatica ERP

The remaining sections of this topic describe each of these steps in detail.

## Creating a Metafield in the Shopify Store

Store administrators can create metafields for products and product variants on the **Metafields** settings page of the Shopify store's admin area. Alternatively, e-commerce administrators can manage metafields *by using third-party apps*.

For each new metafield defined directly in the Shopify admin area, a metafield definition is created, which acts as a template that identifies the part of the store to which the new metafield applies and the values the metafield can have. A metafield definition has the following components:

- **Name**
- **Namespace and key** (which are separated by a period, as shown in the following screenshot)
- **Description**
- Content type
- **Validation** (validation settings, which are optional, depend on the selected content type and are displayed only after the content type is selected)

The screenshot shows the 'Add product metafield definition' form. At the top, there is a back arrow and the title 'Add product metafield definition', along with a 'Definition pinned' status. The form is divided into several sections:

- Name:** A text input field containing 'Shipping Information'.
- Namespace and key:** A text input field containing 'shipping.hint', highlighted with a red box. Below it, a note states: 'The system uses this to identify the definition.'
- Description:** A text area containing 'A note to customers with information about how quickly the product can be shipped' with a character count of 81/100.
- Content type:** A section titled 'Text' with a 'Change' link. It features two radio buttons: 'Single line text' (selected) and 'Multi-line text'.
- Validation:** A section titled 'Validation' with the text 'Values can contain letters, numbers, and special characters.' Below this are two dropdown menus for 'ADDITIONAL RULES': 'Minimum length' and 'Maximum length'.

*Figure: A metafield definition for a product*

After the definition is saved, the metafield appears in the **Metafields** section at the bottom of product management pages. In this section, only the name of the definition (Item 1 in the following screenshot) and the metafield value (Item 2) are displayed, but other definition components are not.

The screenshot shows the 'Metafields' section of a product management page. The section title 'Metafields' is on the left, and a 'View all' link is on the right. Below the title is a list of metafields. The first item is 'Shipping Information', which is highlighted with a red box and labeled with a red circle containing the number '1'. To the right of this item is an empty input field, also highlighted with a red box and labeled with a red circle containing the number '2'.

*Figure: The Metafields section of the product management page*

## Adding the Metafield to the Store's Theme

Depending on the theme applied to the store, metafields can be added to the theme in two ways:

- By using the theme editor

- By editing the theme code

For information about exposing metafields to customers visiting the online store, see [Displaying metafields on your online store](#).

## Mapping the Metafield to the Attribute from Acumatica ERP

To export values of the attribute added to stock items in Acumatica ERP to the new Shopify metafield, on the **Export Mapping** tab of the *Entities* (BC202000) form, a mapping should be defined for the *Stock Item* entity, as illustrated by the following screenshot. The namespace and key of the metafield should be manually specified in exactly the same way as they were defined in the Shopify store (that is, separated by a period).

Entities

START REAL-TIME SYNC ...

Connector: Shopify      Sync Direction: Export      Real-Time Import: Not Supported  
 Store: My Shopify Store      Primary System: ERP      Real-Time Export: Stopped  
 Entity: Stock Item      Max. Number of Failed Attempts: 5      Real-Time Mode: Prepare

EXPORT MAPPING      EXPORT FILTERING

Active	* Target Object	* Target Field	* Source Object	* Source Field / Value
<input checked="" type="checkbox"/>	Product -> Metafields	shipping_hint	Stock Item -> Attributes	Shipping Information

**Figure:** The Shopify metafield mapped to the Acumatica ERP product attribute

After the *Stock Item* entity is synchronized with the Shopify store, the **Shipping Information** box on the product management page will be filled in with the value of the attribute specified for the stock item (see the following screenshot).

Metafields [View all](#)

Shipping Information	This product is typically shipped within 2 days
----------------------	---

**Figure:** The updated metafield value on the product management page

On the storefront, the value will be displayed by using the settings and styles used when adding the metafield to the product page template of store's theme. The following screenshot illustrates the basic implementation in which only the metafield value is displayed.



## Acer Laptop Computer

\$500.00 ~~\$600.00~~ **SALE**

ADD TO CART

BUY IT NOW

### SWITCH IT UP

Go beyond regular 2-in-1 functionality with the flexible Acer Aspire Switch 11. It can be used four ways—as a notebook, tablet, tent, or display—giving you the freedom to create, collaborate, and share as you see fit. Its innovative snap hinge provides smooth transitions between laptop and tablet. And when positioned as a tent or display, the Switch 11 gives you great versatility for sharing content with multiple viewers.

- 11.6-inch Full HD touchscreen
- Intel Core i3-4012Y
- 4GB memory/128GB SSD
- Up to 6.5 hours battery life

### Additional information:

This product is typically shipped within 2 days

[SHARE](#) [TWEET](#) [PIN IT](#)

Figure: The updated metafield value on the product page

# Commerce: Support for Sales Order Details in Import Mapping

Starting in Acumatica ERP 2021 R2, users can map the fields with information about the products included in an order in an external system with the fields used in sales order detail lines in Acumatica ERP.

## Support for Sales Order Details in Import Mapping

When a user defines the field mapping to be used for importing sales orders from an external system, they can now use both predefined and custom Acumatica ERP fields of sales order detail lines—that is, fields that are used in sales order lines, which are displayed on the **Details** tab of the *Sales Orders* (SO301000) form. With this capability, during order synchronization, detailed information about the products in an order placed in the external system can be transferred to Acumatica ERP.

To support this functionality, on the **Import Mapping** tab of the *Entities* (BC202000) form, the new *Sales Order → Details → Advanced* option has been added to the **Target Object** column (see Item 1 in the following screenshot). When this target object is selected, the **Target Value** column displays the list of fields of sales order details that can be used for mapping. Custom fields have the prefix *Usr* (Item 2).

**Figure: Sales order line fields available for mapping**

Also, for BigCommerce stores, the *Order Data → Order Products* option has been added to the **Source Object** column. When this source object is selected, the **Source Field / Value** column displays the list of fields holding information about products in BigCommerce orders.

## Import Mapping Support for Product Modifiers in BigCommerce

It is now possible to map the fields used to modify a product in BigCommerce (which are called *product modifiers* or *customizations* in BigCommerce) to the fields shown in sales order lines in Acumatica ERP. Product modifiers are used to customize existing products without creating new product variants. For more information about product modifiers, see [the BigCommerce documentation](#).

To map a product modifier that may be selected by customers during order placement in the BigCommerce store, on the **Import Filtering** tab of the *Entities* (BC202000) form, a user selects *Order Data → Order Products → Order Product Options* in the **Source Object** column and types the name of the product modifier in the **Source Field /**

**Value** column. To define a more advanced mapping—for example, to display data from multiple product modifier fields to a single sales order line field in Acumatica ERP—the user can specify a formula in this column.

Suppose that a company is selling doors in its online store, which is built on the BigCommerce platform. Before placing an order for a door, a customer may customize it by selecting the colors of the door slab and specifying which side, right or left, the door should be hinged on. After the order is imported to Acumatica ERP, the description of the line item in the imported order should display information about the product customizations. The following screenshot shows the product modifiers defined for a product in BigCommerce.

The screenshot shows the 'Customizations' section in BigCommerce. Below the heading, there is a sub-section 'Modifier Options' with a 'Configure Options' button. A table lists three modifier options: 'Exterior Color' (Swatch type with values 'Red Oak, Mahogany, Rosewood'), 'Interior Color' (Swatch type with values 'Crystal White, Cream'), and 'Hinges' (Radio Buttons type with values 'Right, Left'). The 'Option Name' column is highlighted with a red box.

Option Name	Type	Values
Exterior Color	Swatch	Red Oak, Mahogany, Rosewood
Interior Color	Swatch	Crystal White, Cream
Hinges	Radio Buttons	Right, Left

**Figure: The product modifiers to be mapped**

An example of how these product modifiers can be mapped to the line description of a sales order line on the **Import Mapping** tab of the *Entities* form is shown in the following screenshot. The field names used in the formula are the names of product modifier options that appear in the user interface in BigCommerce.

The screenshot shows the 'Entities' form in Acumatica, specifically the 'Import Mapping' tab for the 'Sales Order' entity. The configuration includes connector details (BigCommerce, SweetStore), sync direction (Import), and real-time settings. Below this, a table shows the mapping configuration for the 'Line Description' target field. The source object is 'Order Data -> Order Products -> Orders Products Option'. A callout box highlights the formula used in the 'Source Field / Value' column:

```
=Ext. Color: ' + [Exterior Color, DisplayValue] +
'; Int. Color: ' + [Interior Color, DisplayValue] +
'; Hinges: ' + [Hinges, DisplayValue]
```

**Figure: The mapping of product modifiers to a sales order line description**

Further suppose that a sales order in BigCommerce contains a customized door with the settings shown in the following screenshot.



The screenshot displays a product page for a 'Simple Solid Door'. On the left is a large image of a brown door with a silver handle, set in a matching frame. To the right of the image, the product name 'Simple Solid Door' is shown above the price '\$272.19 (Inc. Tax)'. Below this, the price '\$250.00 (Ex. Tax)' is listed. A review section shows five stars and the text '(No reviews yet) Write a Review'. The SKU 'AWESOMEDOOR' is also visible. A red rectangular box highlights the 'Product modifiers' section, which includes: 'Exterior Color:' with three color swatches (dark brown, medium brown, light brown); 'Interior Color:' with two swatches (white, yellow); and 'Hinges:' with radio buttons for 'Right' (selected) and 'Left'. Below the modifiers is a 'Quantity:' field with a dropdown arrow, the number '1', and an up arrow. At the bottom right are two buttons: 'Add to Cart' and 'Add to Wish List' with a dropdown arrow. A small thumbnail image of the door is located at the bottom left of the product area.

*Figure: Product modifiers selected by the customer*

After the sales order has been imported to Acumatica ERP, on the **Details** tab of the [Sales Orders](#) (SO301000) form, the **Line Description** column of the corresponding line in the imported sales order displays the information about the modifiers that the customer selected (as shown in the following screenshot).

Sales Orders

EO 000075 - eCommerce Guest Customer

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

CREATE SHIPMENT HOLD

\* Order Type: EO \* Customer: ECOMGUEST - eCommerce Guest C... Ordered Qty.: 1.00  
 Order Nbr.: 000075 \* Location: MAIN - Primary Location Discount Total: 0.00  
 Status: Open Contact: VAT Exempt T... 0.00  
 \* Date: 7/4/2021 Currency: USD 1.00 VIEW BASE VAT Taxable T... 0.00  
 \* Requested On: 7/4/2021 \* Project: X - Non-Project Code. Tax Total: 0.00  
 Customer Ord... Order Total: 250.00  
 External Refer... 244 - AcuDoor: Description: AcuDoors | Order: 244 | Status: Awaiting Fulfillment

DETAILS TAXES FINANCIAL SHIPPING ADDRESSES DISCOUNTS SHIPMENTS PAYMENTS TOTALS

ADD ITEMS ADD MATRIX ITEMS ADD INVOICE LINE DETAILS PO LINK ITEM AVAILABILITY LINK PROD ORDER

* Branch	* Inventory ID	Free Item	Warehouse	Line Description	* UOM	Quantity	Unit Price
RETAIL	AWESOMEDOOR	<input type="checkbox"/>	RETAIL	Ext. Color: Mahogany; Int. Color: Crystal White; Hinges: Right	PIECE	1.00	250.0000

Figure: The mapped product modifiers in the imported sales order

# Commerce: Predefined Business Events for Aborted Records

In Acumatica ERP 2021 R2, new business events have been configured for the Retail-Commerce Edition on the [Business Events](#) (SM302050) form. With the new business events, the administrator of an online store can receive an email notification every time the commerce connector fails to process a synchronization record related to the *Sales Order*, *Payment*, *Shipment*, or *Refund* entity more than the maximum allowed number of failed attempts.

## New Predefined Business Events

In previous versions of Acumatica ERP, if a store administrator needed to be notified about aborted synchronization records, they had to configure a new business event and a notification template. Starting in Acumatica ERP 2021 R2, a set of business events and the related notification templates is available out of the box.

Before any of the predefined business events start triggering email notifications about aborted synchronization records of a particular entity, the administrative user needs to perform the following general steps:

- On the **Connection Settings** tab of the [BigCommerce Stores](#) (BC201000) or [Shopify Stores](#) (BC201010) form, specify the administrator of the store in the new **Administrator** box (shown in the following screenshot).
- On the [Business Events](#) (SM302050) form, activate the needed business event by selecting the **Active** check box in the Selection area for the event.

BigCommerce Stores ☆

TEST CONNECTION

Connector: BigCommerce  Active

\* Store Name: Sweet Store  Default

CONNECTION SETTINGS ENTITY SETTINGS CUSTOMER SETTINGS INVENTORY SETTINGS ORDER SETTINGS PAYMENT SETTINGS

\* Store Admin Path:  STORE PROPERTIES

REST SETTINGS

\* API Path:  Default Currency: USD

\* Client ID:  Store Time Zone: America/Los\_Angeles

\* Access Token:  STORE ADMINISTRATOR DETAILS

WEBDAV SETTINGS

\* WebDAV Path:  Administrator:

\* WebDAV Username:

\* WebDAV Password:

SYSTEM SETTINGS

Locale:

**Figure:** The new Administrator box on the BigCommerce Stores form

Once the business event has been activated and the administrator of the store has been specified, the system will automatically start sending the store administrator email notifications each time a synchronization record of the corresponding entity is aborted.

The following table lists the predefined business events that have been configured on the [Business Events](#) (SM302050) form, the description of the business event, the underlying generic inquiry, and the notification template that has been specified as a subscriber to the business event.

**Table: Predefined Business Events for Aborted Synchronization Records**

Business Event ID	Description	Generic Inquiry	Notification Template
<i>BCAbortedOrder</i>	A business event that triggers notifications for aborted synchronization records of the <i>Sales Order</i> entity	<i>BC-DB-AbortedOrders</i>	<i>Aborted Order Notification</i>
<i>BCAbortedPayment</i>	A business event that triggers notifications for aborted synchronization records of the <i>Payment</i> entity	<i>BC-DB-AbortedPayments</i>	<i>Aborted Payment Notification</i>
<i>BCAbortedRefund</i>	A business event that triggers notifications for aborted synchronization records of the <i>Refund</i> entity	<i>BC-DB-AbortedRefunds</i>	<i>Aborted Refund Notification</i>
<i>BCAbortedShipment</i>	A business event that triggers notifications for aborted synchronization records of the <i>Shipment</i> entity	<i>BC-DB-AbortedShipments</i>	<i>Aborted Shipment Notification</i>

### Email Notifications Related to the New Business Events

The new business events are configured to send an email notification for each aborted synchronization record. The notification includes information about the store and entity of the aborted synchronization record, along with other details (if applicable). An example of a notification sent by a business event is shown in the following screenshot.

Email Activity NOTES FILES CUSTOMIZATION TOOLS

← ↻ 📧 🗑️ REPLY ALL REPLY ...

From: \_\_\_\_\_  
 To: [jstevens@sweetlife.example.com](mailto:jstevens@sweetlife.example.com)  
 CC: \_\_\_\_\_  
 BCC: \_\_\_\_\_  
 Subject: Synchronization Aborted for Sales Order

MESSAGE DETAILS TRACKING

VISUAL ↻ ↺ Paragraph **B** **I** U A ↖ ≡ ≡ ≡ ≡ ≡ INSERT LAYOUT TABLES

**Synchronization Aborted**

Dear [Jerald Stevens](#).

The processing of the following synchronization record was aborted by the system.

Store	Entity	Local ID	External ID	Last Operation	Last Error
Sweet Store	Sales Order		194	Failed to Save in ERP 29.07.2021 16:21:18	The sales order could not be imported because the combination of the United States store shipping zone and the Free Shipping store shipping method is not mapped to a Ship Via or the mapping is inactive in the store settings.

Review the record details on the [Sync History](#) form.

Commerce Connector.

**Figure: Notification about aborted synchronization of an order**

## Additional Information

For more information about configuring business events, see [Using Business Events](#). For information about automating synchronization with BigCommerce, see [Automating Synchronization](#). For information about automating synchronization with Shopify, see [Automating Synchronization](#).

# Commerce: Predefined Synchronization Schedules

In previous versions of Acumatica ERP, to automate data synchronization between Acumatica ERP and an external e-commerce system, an administrative user had to set up automation schedules from scratch for each data entity. To save time and simplify the automation of data synchronization, in Acumatica ERP 2021 R2, a number of predefined automation schedules have been added on the [Automation Schedules](#) (SM205020) form.

## Predefined Automation Schedules for Data Preparation

The following table lists the names and execution frequencies of the predefined automation schedules introduced in Acumatica ERP 2021 R2 for the data preparation process run on the [Prepare Data](#) (BC501000) form.

**Table: Predefined Schedules for Data Preparation**

Schedule Description	Execution Frequency
<i>Prepare Stock, Non-Stock, and Template Items</i>	Daily, once a day
<i>Prepare Product Availability</i>	Daily, every hour
<i>Prepare Sales Orders</i>	Daily, every 10 min
<i>Prepare Shipments</i>	Daily, every 30 min
<i>Prepare Refunds</i>	Daily, every 20 min

## Predefined Automation Schedules for Data Processing

The following table lists the names and execution frequencies of the predefined automation schedules introduced in Acumatica ERP 2021 R2 for the data processing process run on the [Process Data](#) (BC501500) form.

**Table: Predefined Schedules for Data Processing**

Schedule Name	Execution Frequency
<i>Process Non-Stock Items</i>	Daily, every hour
<i>Process Stock Items</i>	Daily, every hour
<i>Process Template Items</i>	Daily, every hour
<i>Process Product Availability</i>	Daily, every hour
<i>Process Sales Orders</i>	Daily, every 10 min
<i>Process Shipments</i>	Daily, every 10 min
<i>Process Refunds</i>	Daily, every 10 min

To use a predefined automation schedule for a particular store, on the [Automation Schedules](#) (SM205020) form, an administrative user needs to do the following:

- In the Summary area, select the **Active** check box (see Item 1 in the following screenshot).
- On the **Filters** tab, update the filter to include the store for which the schedule should be executed (Item 2).

- On the **Schedule** tab, adjust the schedule execution frequency, if necessary.



The execution frequency of each predefined schedule has been set up according to the general scheduling recommendations and should be fine-tuned to meet the needs of a particular business.

Automation Schedules NOTES FILES CUSTOMIZATION TOOLS ▾

📄 ↶ + 🗑️ ⏪ < > ⏩ VIEW SCREEN VIEW HISTORY

Schedule ID:   Active 1

\* Description:

\* Screen ID:  \* Action Name:

DETAILS SCHEDULE CONDITIONS FILTER VALUES

🔄 + × |←| |→|

📄	🔒	🗑️	Active	* Field Name	Relativ	Value	Ignore Error
📄	🔒	🗑️	<input checked="" type="checkbox"/>	Prepare Mode	<input type="checkbox"/>	Incremental	<input type="checkbox"/>
>	🔒	🗑️	<input checked="" type="checkbox"/>	Store	<input type="checkbox"/>	Sweet Store	<input type="checkbox"/>

*Figure: Updated predefined automation schedule*

Once the store has been specified in the filter settings and the schedule has been activated, the process for which the schedule was defined will be automatically executed according to the schedule's settings.

## Additional Information

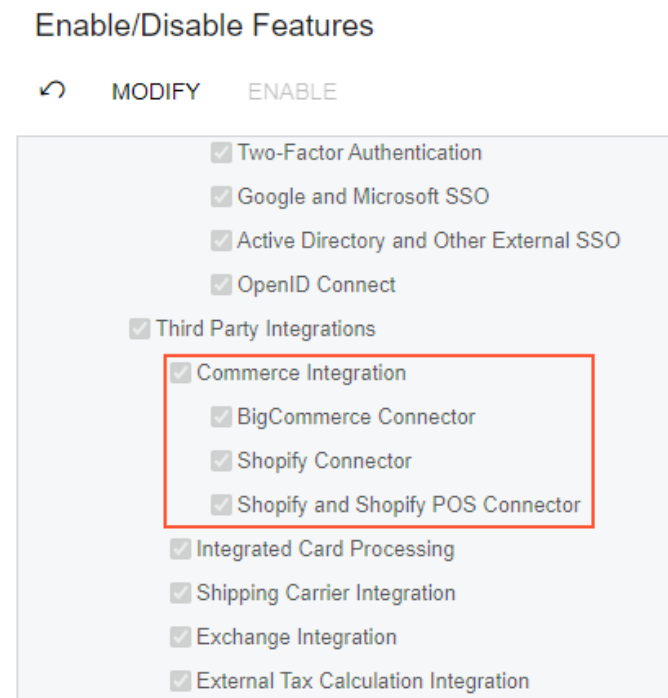
For information about automating synchronization with BigCommerce, see [Automating Synchronization](#). For information about automating synchronization with Shopify, see [Automating Synchronization](#).

# Commerce: Other UI Enhancements

In Acumatica ERP 2021 R2, a number of improvements have been made to the retail-commerce functionality. The sections of this topic describe these improvements.

## Reorganization of Features

In Acumatica ERP 2021 R2, the check boxes corresponding to retail-commerce features on the [Enable/Disable Features](#) (CS100000) form have been reorganized. The **Shopify POS** check box has been renamed to **Shopify and Shopify POS Connector** and moved under **Commerce Integration** (as shown in the following screenshot).



*Figure: Reorganized Commerce Integration section*

## Form Toolbar Enhancements

On multiple forms related to the retail-commerce functionality, form-specific commands on the toolbar are now located on a separate menu, which opens when a user clicks the More button on the form toolbar. On the More menu, which opens, commands are grouped by categories, as shown for the [Sync History](#) (BC301000) form in the following screenshot.

If a command is the primary menu command (that is, the command that is most likely to be clicked on the form), it is shown both on the form toolbar and on the More menu. The primary menu command on the form toolbar is highlighted in green, and on the More menu, it is marked with a green dot. Commands that should be used with caution or that may be potentially dangerous are marked with a yellow or red dot, respectively.



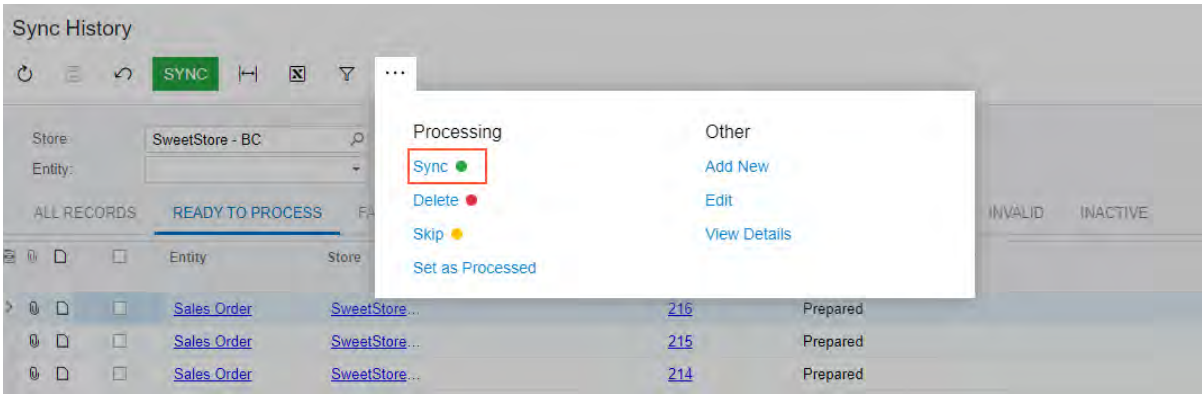


Figure: The commands grouped by categories on the More menu of the Sync History form

For more information, see [User Interface: Redesigned Form Toolbar](#).

### Improvements to the Import of Refunded Orders

Improvements have been made for the scenario in which a sales order imported from a BigCommerce or Shopify store to Acumatica ERP had the *Open* or *On Hold* status on the *Sales Orders* (SO301000) form and the ordered quantity of a particular item in the sales order was refunded in full in the store. In previous versions of Acumatica ERP, when this sales order was synchronized with Acumatica ERP, the sales order line of the refunded item was deleted from the sales order.

Starting in Acumatica ERP 2021 R2, if a sales order line is fully refunded in the store, after the sales order is synchronized with Acumatica ERP, it remains on the **Details** tab of the *Sales Orders* form, showing an ordered quantity of zero and an amount of zero.







On the **Quotes** tab, the following buttons have been removed: **Print Quote**, **Send Quote**, **Submit Quote**, and **Edit Quote**. A user can execute these menu commands on the [Sales Quotes](#) form. For details, see [CRM: New Workflow for Sales Quotes](#).

Also, the **Estimation** box in the Summary area of the [Opportunities](#) form has been renamed to **Estimated Close Date**.

## New and Updated Tabs of the Sales Quotes Form

In Acumatica ERP 2021 R2, the [Sales Quotes](#) (CR304500) form, shown in the following screenshot, has new and updated tabs. The order of the tabs has been changed, many UI elements have been rearranged, added, or removed. The updated tabs of the form are shown in the following screenshot.

Sales Quotes  
OP000394 Q000013 - Computers to Plaza Construction

NOTES FILES CUSTOMIZATION TOOLS

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\* Opportunity ID: OP000394 - Computers to Plaza Cons  Business Account: CONSTPLAZA - Plaza Construction   Manual Amount

Quote Nbr.: Q000013   Primary \* Location: MAIN - Primary Location  Amount: 7,406.16

Status: Draft Contact: Jack Keeney  Discount: 0.00

\* Date: 9/2/2021  Currency: USD 1.00  VIEW BASE Tax Total: 0.00

Expiration Date:  Total: 7,406.16

\* Description: Computers to Plaza Construction

**DETAILS** CONTACT FINANCIAL SHIPPING ACTIVITIES RELATIONS TAXES DISCOUNTS APPROVALS

🔄 + X ADD MATRIX ITEMS 📄 📄 📄

Inventory ID	Description	Frn lte	Warehouse	Quant	UO	Unit Price	Ext. Price	Discount, %	Discount Amount	Amount	Manual Discount	Discount Code
AACOMPUT01	Acer Laptop Computer	<input type="checkbox"/>	WHOLESALE	15.00	EA	500.00	7,500.00	10.000000	750.00	6,750.00	<input checked="" type="checkbox"/>	
CONHEARTM1	Polar Heart Rate Monitor	<input type="checkbox"/>	WHOLESALE	10.00	EA	69.07	690.70	5.000000	34.54	656.16	<input checked="" type="checkbox"/>	

Subtotal: 8190.70, Line Discount Subtotal: 784.54

*Figure: The updated tabs of the Sales Quotes form*

Some of the tabs of the [Sales Quotes](#) form have been renamed as follows:

- **Document Details** to **Details**
- **Details** to **Contact**
- **Contact Info** to **Contact**
- **Shipping Info** to **Shipping**
- **Tax Details** to **Taxes**
- **Discount Details** to **Discounts**
- **Approval Details** to **Approvals**

The new **Financial** tab of the [Sales Quotes](#) form contains billing address and contact information, as shown in the following screenshot. This tab is similar to the **Financial** tab of the [Opportunities](#) (CR304000) form, which was described in the previous section.

Sales Quotes  
OP000394 Q000013 - Computers to Plaza Construction

NOTES FILES CUSTOMIZATION TOOLS

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* Opportunity ID:	OP000394 - Computers to Plaza Cons	Business Account:	CONSTPLAZA - Plaza Construction	<input type="checkbox"/> Manual Amount	
Quote Nbr.:	Q000013 <input checked="" type="checkbox"/> Primary	* Location:	MAIN - Primary Location	Amount:	7,406.16
Status:	Draft	Contact:	Jack Keeney	Discount:	0.00
* Date:	9/2/2021	Currency:	USD 1.00 VIEW BASE	Tax Total:	0.00
Expiration Date:				Total:	7,406.16
* Description:	Computers to Plaza Construction				

DETAILS CONTACT **FINANCIAL** SHIPPING ACTIVITIES RELATIONS TAXES DISCOUNTS APPROVALS

<b>BILL-TO ADDRESS</b>	<b>FINANCIAL SETTINGS</b>
<input type="checkbox"/> Override	Branch: PRODWHOLE - Products Wholesale
ADDRESS LOOKUP	Credit Terms: 30D - 30 Days
Address Line 1: 950 Main Ave #1410	<b>OTHER SETTINGS</b>
Address Line 2:	Project: X - Non-Project Code
City: Cleveland	External Ref.:
State: OH - OHIO	Workgroup:
Postal Code: 44113	Owner: Maxwell Baker
Country: US - United States of America	
<b>BILL-TO INFO</b>	
<input type="checkbox"/> Override	
Account Name: Plaza Construction	
Attention: Jack Keeney	
Business 1: 216-321-2121	
Cell:	
Email: jkeeney@plazaconstruction.com	

**Figure: The Financial tab of the Sales Quotes form**

The **Shipping** tab (Item 1 in the following screenshot) has been enhanced and contains tax settings and shipping instructions in addition to ship-to information (Item 2). The **Override** check boxes have been added to the **Ship-To Address** and **Ship-To Info** sections (Items 3 and 4). The tab inherits the settings from the location specified in the **Location** box of the Summary area on the *Opportunities* form. A user can change a location in a sales quote if the quote has the *Draft* status.

**Sales Quotes**  
 OP000394 Q000013 - Computers to Plaza Construction

NOTES FILES CUSTOMIZATION TOOLS

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\* Opportunity ID: OP000394 - Computers to Plaza Cons  
 Quote Nbr.: Q000013 Primary  
 Status: Draft  
 \* Date: 9/2/2021  
 Expiration Date:

Business Account: CONSTPLAZA - Plaza Construction  
 \* Location: MAIN - Primary Location  
 Contact: Jack Keeney  
 Currency: USD 1.00 VIEW BASE

Manual Amount  
 Amount: 7,406.16  
 Discount: 0.00  
 Tax Total: 592.50  
 Total: 7,998.66

\* Description: Computers to Plaza Construction

DETAILS CONTACT FINANCIAL **1** SHIPPING ACTIVITIES RELATIONS TAXES DISCOUNTS APPROVALS

**SHIP-TO ADDRESS**

**3**  Override

ADDRESS LOOKUP

Address Line 1: 950 Main Ave #1410  
 Address Line 2:  
 City: Cleveland  
 State: OH - OHIO  
 Postal Code: 44113  
 Country: US - United States of America  
 Latitude:  
 Longitude:

**SHIP-TO INFO**

**4**  Override

Account Name: Plaza Construction  
 Attention: Jack Keeney  
 Business 1: 216-321-2121  
 Cell:  
 Email: jkeeney@plazaconstruction.com

**TAX SETTINGS**

Tax Registration ID:  
 Tax Zone: AVALARA - Avalara Tax Calculation  
 Tax Exemption Number:  
 Entity Usage Type: Default

**SHIPPING INSTRUCTIONS**

Warehouse: WHOLESALE - Wholesale Warehouse  
 Ship Via: FEDEX2 - FedEx Two Day  
 Shipping Terms: FOB - Free on Board  
 Shipping Zone: WEST - Western US  
 FOB Point:

Residential Delivery  
 Saturday Delivery  
 Insurance  
 Shipping Rule: Cancel Remainder

Figure: The Shipping tab of the Sales Quotes form

If approval for sales quotes has been configured in the system, the **Approvals** tab is shown on the form (Item 1 in the following screenshot) and the **Request Approval** button is shown on the form toolbar until a sales quote has been submitted for approval. When the sales quote is under approval, the **Approve** and **Reject** buttons are shown on the form toolbar (Item 2).

**Sales Quotes**  
 OP000394 Q000015 - 03 Computers to Plaza Construction

NOTES FILES CUSTOMIZATION TOOLS

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**2** APPROVE REJECT ...

\* Opportunity ID: OP000394 - Computers to Plaza Cons  
 Quote Nbr.: Q000015  
 Status: Pending Approval  
 Date: 9/2/2021  
 Expiration Date:

Business Account: CONSTPLAZA - Plaza Construction  
 Location: MAIN - Primary Location  
 Contact: Jack Keeney  
 Currency: USD 1.00 VIEW BASE

Manual Amount  
 Amount: 7,406.16  
 Discount: 0.00  
 Tax Total: 592.50  
 Total: 7,998.66

\* Description: 03 Computers to Plaza Construction

DETAILS CONTACT FINANCIAL SHIPPING ACTIVITIES RELATIONS TAXES DISCOUNTS **1** APPROVALS

🔄 + × | | 🗑️

Assignee ID	Assigned To	Workgroup	Approved by (ID)	Approved By	Approval Date	Status	Reason
EP00000009	David Chubb					Pending	

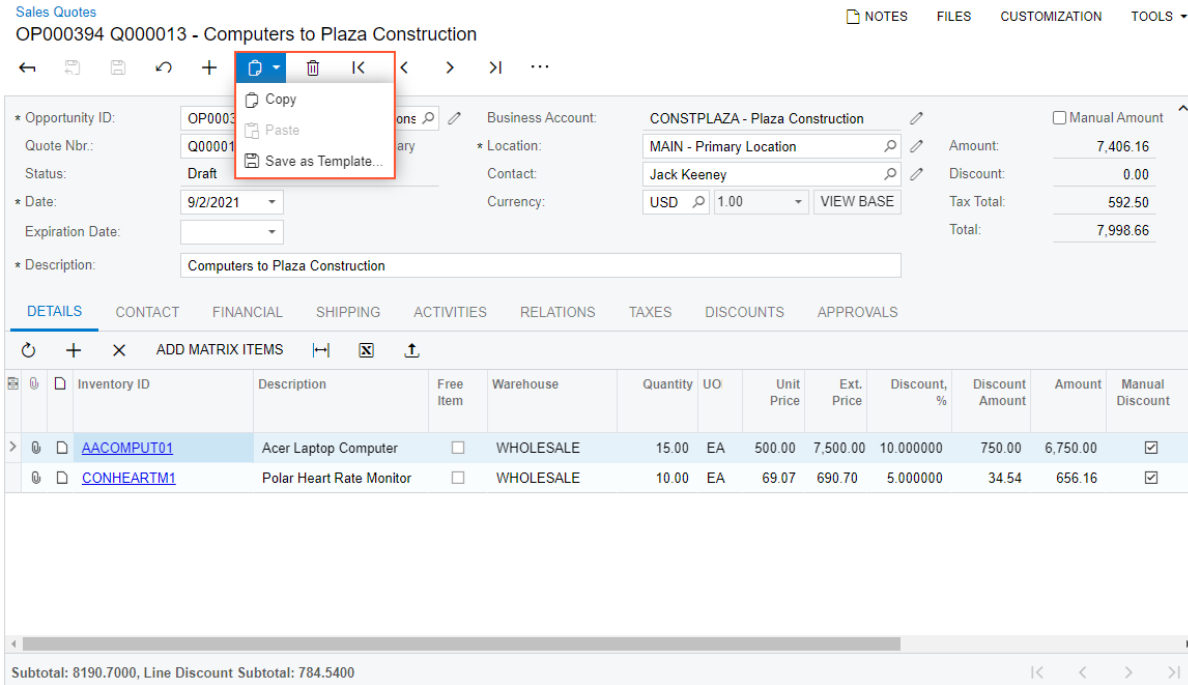
⏪ ⏩ ⏴ ⏵

Figure: The approval buttons on the Approvals tab

Also, the standard **Clipboard** menu has been added to the form toolbar of the **Sales Quotes** form.

### Changes to the Form Toolbar of the Sales Quotes Form

The standard form toolbar has the **Clipboard** button, which opens the **Clipboard** menu. The button and the menu have been added to the form toolbar of the *Sales Quotes* (CR304500) form, as shown in the following screenshot.



**Figure: The Clipboard menu on the form toolbar of the Sales Quotes form**



# CRM: New Workflow for Sales Quotes

In Acumatica ERP 2021 R2, the workflow used for sales quotes has been redesigned to give users the ability to process sales quotes more easily.

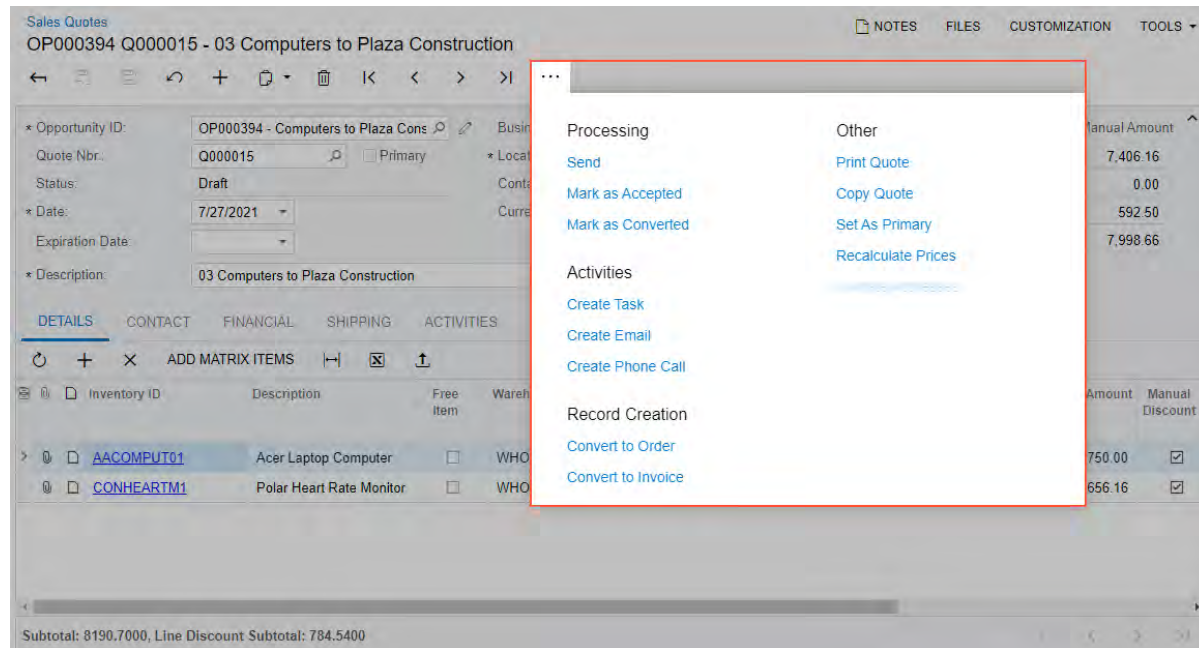


Because the implementation of the new workflow engine entails changes to data access classes (DACs) and business logic, it may affect custom generic inquiries, customization projects, import and export scenarios, and API integrations. For the complete list of changes, see [Release Notes for Developers](#).

## Enhanced Workflow for Sales Quotes

Starting in Acumatica ERP 2021 R2, the workflow for sales quotes has been enhanced to make the processing of sales quotes more clear and the processing steps more comprehensive. As a sales quote is being processed, it progresses through various states. Each state of a sales quote is represented in the system by a status, which is displayed in the **Status** box in the Summary area of the [Sales Quotes](#) (CR304500) form. The form also has the new form toolbar and the More menu introduced in Acumatica ERP 2021 R2 (for details, see [CRM: UI Enhancements and User Interface: Redesigned Form Toolbar](#)).

In the new workflow, the transitions between states of a sales quote have been implemented through menu commands on the More menu on the [Sales Quotes](#) form, as shown in the following screenshot. When one of these commands is executed, as part of the processing, the system changes the current state of the sales quote (and, thus, the status indicated on the form) to the particular state that is defined in the workflow.




*Figure: Commands on the More menu of the Sales Quotes form*

## States of a Sales Quote and Transitions Between States

The possible states of a sales quote, which are reflected in the **Status** box on the [Sales Quotes](#) (CR304500) form, are shown in the following table.

**Table: States of a Sales Quote**

Name of the State	Description
<i>Prepared</i>	The sales quote is ready to be offered to a customer. This state was used in previous versions of Acumatica ERP and is kept in the system for compatibility. A sales quote cannot be moved to this state; it can be moved only from it.
<i>Draft</i>	This sales quote is being prepared by a user. This is the default state of a new sales quote.
<i>Pending Approval</i>	The sales quote is waiting for the approval or approvals, which are determined based on the approval map assigned to sales quotes.
<i>Approved</i>	The sales quote is approved within the company.
<i>Rejected</i>	The sales quote has been rejected by an approver within the company.
<i>Sent</i>	The sales quote has been sent to a customer. <div style="border: 1px solid orange; border-radius: 10px; padding: 5px; margin-top: 10px;">  The <i>Sent</i> state does not guarantee that the sales quote has been delivered to the recipient or has been read. </div>
<i>Accepted</i>	The sales quote has been accepted by the customer.
<i>Converted</i>	The sales quote has been converted to a sales order or invoice, and no further work on the quote is planned.
<i>Declined</i>	The customer has rejected the offer presented in the sales quote.



If a sales quote is in the *Draft* state, on the **Taxes, Discounts, and Details** tabs of the [Sales Quotes](#) form, the settings related to prices are available for editing. If a sales quote is in the *Prepared, Pending Approval, Approved, Rejected, Sent, or Accepted* state, the user can change settings that are not related to prices, such as contact or billing information.

The transitions of sales quote states (and the corresponding statuses shown on the [Sales Quotes](#) form) are shown in the following table.

**Table: Transitions of sales quote states**

From State	To State	Name of the Menu Command
Not Applicable	<i>Draft</i>	Not applicable
<i>Draft</i>	<i>Pending Approval</i>	<b>Request Approval</b>
<i>Pending Approval</i>	<i>Rejected</i>	<b>Reject</b>
<i>Approved, Sent, Accepted, Pending Approval, Rejected</i>	<i>Draft</i>	<b>Edit</b>
<i>Pending Approval</i>	<i>Approved</i>	<b>Approve</b>

From State	To State	Name of the Menu Command
<i>Draft, Approved</i>	<i>Sent</i>	<b>Send</b>
<i>Draft, Approved, Sent, Declined, Converted</i>	<i>Accepted</i>	<b>Mark as Accepted</b>
<i>Prepared, Approved, Sent, Accepted</i>	<i>Declined</i>	<b>Mark as Declined</b>
<i>Draft, Prepared, Approved, Sent, Accepted</i>	<i>Converted</i>	<b>Convert to Order, Convert to Invoice</b>
<i>Prepared, Approved, Sent, Accepted</i>	<i>Converted</i>	<b>Mark as Converted</b>

A primary quote created on the [Sales Quotes](#) form is unavailable for editing if the associated opportunity is inactive (that is, if the **Active** check box on the **CRM Info** tab of the [Opportunities](#) (CR304000) is cleared).

## Approval of Sales Quotes

To set up the approval of sales quotes, the *Approval Workflow* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, and an approval map is specified on the [Customer Management Preferences](#) (CR101000) form.

With this configuration performed, a user can submit a sales quote with the *Draft* status for approval by clicking **Request Approval** on the form toolbar of the [Sales Quotes](#) (CR304500) form. When a sales quote has been submitted for approval, the **Approve** and **Reject** buttons are displayed on the form toolbar.

## Creation of a Sales Order and Invoice from a Sales Quote

A user can create a sales order or invoice from a sales quote by clicking **Create Sales Order** or **Create Invoice**, respectively, on the More menu on the form toolbar of the [Sales Quotes](#) (CR304500) form. When a sales order or invoice has been created, the system changes the status of the sales quote to *Converted*.

A sales order or an invoice can be created from both a primary quote for an opportunity and a non-primary one. The system lists the sales order and invoice on the **Relations** tab of the [Opportunities](#) (CR304000) form. Each of these documents is assigned the *Source* role if the document is created from a primary sales quote for the opportunity and the *Derivative* role if the document is created from a non-primary sales quote. For details, see [CRM: Enhanced Relations Between CRM Entities and Associated Entities](#).



An opportunity can have multiple non-primary quotes and sales orders or invoices that are created based on non-primary quotes.

## Sales Quote Settings Related to a Location

When a sales quote has been created on the [Sales Quotes](#) (CR304500) form, the system copies the location settings from the associated opportunity to the sales quote. On the **Shipping** tab of the form, the **Override** check boxes in the **Ship-To Address** and **Ship-To Info** sections are cleared. If a user selects the **Override** check box in the **Ship-To Address** or **Ship-To Info** section, the system displays a dialog box in which a user confirms the replacement of the existing settings with the new settings.

## Additional Information

For more information about sales quotes, see [Managing Opportunities: Sales Quotes](#).

# CRM: Enhanced Relations Between CRM Entities and Associated Entities

In Acumatica ERP 2021 R2, the relations between entities—such as a lead, contact, business account, opportunity, case, sales order, and invoice—have been enhanced.

## New Bidirectional Roles and Types of Relations

Previous versions of Acumatica ERP supported only one-way roles for entities that could be associated with an entity used in CRM, which can be a lead, contact, business account, sales quote, opportunity, and case. For example, if a user needed to associate a lead with an opportunity using the *Related Entity* role, the user had to manually add the relation to the **Relations** tab of both the *Opportunities* (CR304000) and the *Leads* (CR301000) form.



These roles are not the roles that determine users' access to system resources; instead, they are the roles entities have to one another.

In many cases, the relation between a pair of entities is bidirectional. Starting in Acumatica ERP 2021 R2, the bidirectional roles shown in the following table are supported. With bidirectional roles, a pair of roles are associated with each other in both directions: an original role (shown in the original record) and a reverse role (shown in the associated record). For example, if a sales order (original record) is created from a sales quote (associated record), then the quote becomes the source of the sales order, and the sales order becomes the derivative document for the quote. The pairs of bidirectional roles are shown in the following table. The relations between the roles are established in the system, a fixed set of relations between the roles is supported, and no pairs can be used beyond those listed below.

**Table: Bidirectional Roles**

Original Role	Reverse Role
<i>Source</i>	<i>Derivative</i>
<i>Derivative</i>	<i>Source</i>
<i>Parent</i>	<i>Child</i>
<i>Child</i>	<i>Parent</i>

Bidirectional roles for entities have been added to the **Role** column on the **Relations** tab; see Item 1 in the following screenshot, which shows the *Opportunities* (CR304000) form. If a sales order (original record) has a relation with an opportunity that has the *Source* role, then the **Relations** tab of the *Opportunities* form for the opportunity (associated record) displays a relation with the sales order that has the *Derivative* role (Item 2). The **Add to CC** check box—which indicates, if selected, that the contact should receive a copy of notification emails—for the reverse role is always cleared (Item 3). The **Relations** tab of the *Sales Quotes* (CR304500) form for the sales quote displays a relation with the opportunity that has the *Source* role.

The types of records that are available for selection in the **Type** column (Item 4) depend on the role that has been selected in the **Role** column.



# CRM: Enhanced Copying of Settings to Opportunities, Sales Orders, and Invoices

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Acumatica ERP 2021 R2 introduces enhanced copying of settings from a business account location, primary quote, business account, and customer to an opportunity and from an opportunity to a sales order and invoice. These capabilities make the data entry of related entities faster and more efficient.

## Opportunity Settings Related to a Business Account and a Customer

In Acumatica ERP 2021 R2, when a user creates an opportunity on the [Opportunities](#) (CR304000) form, and the user selects an account of the *Business Account* type in the **Business Account** box of the Summary area, the system populates the settings of the opportunity, which it copies from the related elements specified for the business account on the [Business Accounts](#) (CR303000) form. Specifically, the system fills in the following settings of the [Opportunities](#) form:

- The **Location** box of the Summary area
- The primary contact settings in the **Contact** section of the **Contact** tab
- The **Parent Account** box, if applicable, on the **CRM Info** tab
- All settings on the **Shipping** tab

When a user creates an opportunity on the [Opportunities](#) form and the user selects a business account of the *Customer* type in the **Business Account** box of the Summary area, the system populates the settings of the opportunity, which it copies from the related elements specified for the customer on the [Customers](#) (AR303000) form. Specifically, the system fills in the following settings of the [Opportunities](#) form (in addition to the settings from the business account listed above):

- The **Currency** box of the Summary area.
- The **Credit Terms** box of the **Financial** tab (**Financial Settings** section).
- All settings in the **Bill-To Address** section on the **Financial** tab. If the customer record has not been created, the **Bill-To Address** is copied from the business account address specified on the [Business Accounts](#) form (**General** tab).
- All settings in the **Bill-To Info** section of the **Financial** tab.

## Opportunity Settings Related to a Location

In Acumatica ERP 2021 R2, when a user is creating an opportunity on the [Opportunities](#) (CR304000) form and selects a business account in the **Business Account** box of the Summary area, the system fills in the account location in the **Location** box and copies the contact, address, shipping, and tax settings from the [Account Locations](#) (CR303010) form to the corresponding elements on the **Contact**, **Financial**, **Shipping**, and **Taxes** tabs of the [Opportunities](#) form.

On the **Shipping** tab of the [Opportunities](#) form, in the **Ship-To Address** and **Ship-To Info** sections, the copied address information is filled in and unavailable, and the **Override** check boxes are cleared. If a user selects the **Override** check box in either section, the system displays a dialog box in which the user can confirm the intent to replace the existing settings with newly entered settings. The address-related elements again become available for selection.

If a user changes the opportunity location in the **Location** box of the [Opportunities](#) form, the settings on the **Shipping** tab change to those specified in the new location. If the **Override** check box is selected in the **Ship-To Address** and **Ship-To Info** sections, only the settings in the **Tax Settings** and **Shipping Instructions** sections of the change to those specified in the new location.

## Opportunity Settings Related to a Primary Quote

In Acumatica ERP 2021 R2, if a primary quote is specified for an opportunity on the **Quotes** tab of the [Opportunities](#) (CR304000) form, and the status of the selected primary quote is not *Draft*, the following settings in the opportunity (which the primary quote also contains) become unavailable for editing:

- The **Currency** box of the Summary area
- The **Manual Amount** box of the Summary area
- All the settings on the **Details** tab



A user can add a note to a copied detail line for the opportunity even though other settings of the line cannot be overridden.

- All the settings on the **Contact** tab
- The **Branch** box on the **CRM Info** tab
- The **Credit Terms** box of the **Financial** tab
- All the settings on the **Shipping** tabs except those in the **Ship-To Info** section
- All the settings on the **Taxes** tab
- All the settings on the **Discounts** tab

## Opportunity-Related Settings in Invoices and Sales Orders

Starting in Acumatica ERP 2021 R2, if a user creates an opportunity-based sales order or invoice, the following settings of the opportunity on the [Opportunities](#) (CR304000) form are copied to the corresponding settings of the sales order or invoice on the [Sales Orders](#) (SO301000) or [Invoices and Memos](#) (AR301000) form, respectively:

- All settings of the **Bill-To Address** and **Bill-To Info** sections of the **Financials** tab, including the states of the **Override** check boxes (cleared or selected).
- The **Credit Terms** box of the **Financial** tab; the specified terms are copied to the **Sales Order Terms** box for a sales order and to **Invoice Terms** box for an invoice.
- All the settings of the **Tax Settings** section on the **Shipping** tab.
- All the settings in the **Shipping Instructions** section of the **Shipping** tab (for a sales order only).

If a sales order or invoice associated with an opportunity is created, the system assigns bidirectional roles to indicate their relations to one another: the *Source* role is assigned to the opportunity, and the *Derivative* role is assigned to the sales order or invoice. The sales order or invoice is shown on the **Relations** tab of the [Opportunities](#) form. In the row on the **Relations** tab that has the information about the relation to the sales order or invoice, the following information is shown:

- The relation to the opportunity
- The business account specified in the opportunity
- The contact specified in the opportunity

If a sales quote is converted to a sales order or invoice, the system assigns bidirectional roles to indicate their relations to one another: the *Source* role is assigned to the quote, and the *Derivative* role is assigned to the sales order or invoice. The sales order or invoice is shown on the **Relations** tab of the [Sales Quotes](#) (CR304500) form. In the row on the **Relations** tab that has the information about the relation to the sales order or invoice, the following information is shown:

- The relation to the quote
- The business account specified in the quote
- The contact specified in the quote

For details about bidirectional roles, see [CRM: Enhanced Relations Between CRM Entities and Associated Entities](#).

## Additional Information

For more information about opportunities and opportunity-based sales orders and invoices, see [Managing Opportunities](#).



# CRM: More Flexible Duplicate Validation Workflow

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Acumatica ERP 2021 R2 introduces a more flexible duplicate validation workflow and new and updated forms. These improvements help users configure duplicate validation and check records for duplicates more quickly and easily.

## New and Modified Forms Related to the Duplicate Validation Functionality

Starting in Acumatica ERP 2021 R2, on the [Enable/Disable Features](#) (CS100000) form, the *Lead/Contact Duplicate Validation* feature has been renamed to *Duplicate Validation*. The [Customer Management Preferences](#) (CR101000) form no longer contains the **Duplicate Validation Settings** tab. Instead, a new [Duplicate Validation](#) (CR103000) form has been added to the system. A user can find the link to the [Duplicate Validation](#) form in the **Marketing** and **Opportunities** workspaces under the **Preferences** category. For details, see the following section.

Also, the new [Validate Records](#) (CR503430) form, which is also described further in this topic, has been introduced to provide mass validation of leads, contacts, and business accounts.

## Enhanced Workflow of Duplicate Validation

In previous versions of Acumatica ERP, duplicate validation for leads, contacts, and business accounts was configured on the **Duplicate Validation Settings** tab of the [Customer Management Preferences](#) (CR101000) form. A user could not compare records to other records of the same type, such as comparing a lead to only leads or comparing a contact to only contacts. Instead, the system applied the same duplicate validation rules to records of different types, such as leads and contacts, or contacts and business accounts. For example, if for a lead, the system found a contact with similar settings, the lead could be assigned the *Possible Duplicate* status. This logic could be unclear to users.

Starting in Acumatica ERP 2021 R2, on the new [Duplicate Validation](#) (CR103000) form, shown in the following screenshot, a user can specify different duplicate validation rules for each combination of record types (leads, contacts, and business accounts). A user can click a combination of record types in the **Comparison** pane of the [Duplicate Validation](#) form (see Item 1 in the following screenshot). In the **Rules of Comparison** section and the table of the right pane (Item 2), the user can specify the rules for the selected combination of records.

Duplicate Validation

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

Comparison

Lead to Lead (8)

Lead to Contact

Lead to Account

Contact to Contact

Contact to Lead

Contact to Account

Account to Account

RULES OF COMPARISON (2)

Validation Score Threshold: 5.00 (6)

Validate on Entry (7)

Matching Field (4)

Score Weight (5)

Create on Entry (3)

Matching Field	Score Weight	Transformation Rule	Create on Entry
Email (4)	5.0000 (5)	None	Block (3)
First Name	1.0000	None	Allow
Account Name	1.0000	Split Words	Allow
Last Name	1.0000	None	Allow
Phone 1	0.5000	None	Allow
Web	0.5000	Domain Name	Allow

**Figure: The Duplicate Validation form**

In Acumatica ERP 2021 R2, the system gives users the ability to check if a lead, contact, or business account has duplicates before the record has been created or to prevent creation of the duplicate lead, contact, or business account. The **Create on Entry** column (see Item 3 in the screenshot above) contains the rule the system applies when a user tries to create a record with a matching value in the element listed in the **Matching Field** column. In the **Create on Entry** column, the following options are available for selection:

- *Allow*: The system allows creation of duplicate records.
- *Warn*: The system displays a warning message if a user tries to save a duplicate record.
- *Block*: The system prevents a user from creation of a duplicate record.

If the *Block* option is selected in the **Create on Entry** column for the element in the **Matching Field** column (Item 4; in this example, *Email* is selected in this row), the system makes the value in the **Score Weight** column (Item 5) equal to the value in the **Validation Score Threshold** box of the **Rules of Comparison** section (Item 6). The **Validate on Entry** check box (Item 7) becomes selected and unavailable for editing.

With these settings specified for the *Lead to Lead* combination (Item 8), the system prevents the creation of a duplicate lead that has the same email address as the existing lead and shows an error message when the user tries to save the duplicate lead (see the following screenshot).

The screenshot displays the Acumatica CRM interface. At the top, a search bar and navigation menu are visible. A red box highlights an error message: "CR Error: The Lead cannot be saved because at least one duplicate has been found for this record." Below the error message, the "Leads" form for "William Conway - Bearings Inc" is shown. The form includes fields for Lead ID, Status, Reason, Description, Contact, Business Account, Owner, Source, Source Campaign, and Duplicate. The Duplicate field is set to "Not Validated".

Figure: An error message on an attempt to create a duplicate lead

## Copying and Pasting of Duplicate Validation Settings

In a table of the right pane on the [Duplicate Validation](#) (CR103000) form, a user can copy a row that has the settings specified for a combination of records and paste this row for another combination of records by doing the following:

1. In the **Comparison** pane, selecting the combination of records from which the settings will be copied.
2. In the right pane, selecting a row in the table.
3. On the table toolbar, clicking the Copy button (see Item 9 in the screenshot above).
4. In the **Comparison** pane, selecting the combination of records for which the setting will be inserted.
5. On the table toolbar, clicking the Paste button (Item 10) to insert the row with these settings.

## Enhancements to the Calculation of Validation Scores

In previous versions of Acumatica ERP, if in a target record (the record that is kept in the system as a result of the merge), empty values were specified for some fields for which duplicate validation scores were specified on the [Customer Management Preferences](#) (CR101000) form, the system would recalculate the scores for the fields that had values so that the total equaled the threshold value. Thus, in the target record, the scores of the fields that had values differed from the scores specified in the **Matching Field** column on the **Duplicate Validation Settings** tab of the [Customer Management Preferences](#) form. This logic could seem unclear and complicated to users.

In Acumatica ERP 2021 R2, the calculation of validation scores has become more flexible. On the [Customer Management Preferences](#) form, the **Normalize Validation Scores** check box has been added (see the screenshot below). This check box determines the calculation of the scores specified for a pair of record types in the **Score**

**Weight** column of the table in the right pane on the [Duplicate Validation](#) (CR103000) form. The validation scores are calculated as follows depending on the state of the check box, which is one of the following:

- **Selected:** If the fields in the compared records match, the validation scores in a target record are automatically recalculated. For example, suppose that for leads, the scores are specified for six fields, and in a particular lead, one or more of these fields has an empty value. The system adds the scores so that the total score equals the threshold value.
- **Cleared:** The validation scores are calculated according to the duplicate validation rules specified for the combination of records and do not depend on the number of empty fields in a target record.

Customer Management Preferences NOTES FILES CUSTOMIZATION TOOLS ▾

GENERAL SETTINGS MAILING SETTINGS

NUMBERING SEQUENCES		MISCELLANEOUS SETTINGS	
* Opportunity Numbering Sequen...	OPPORTUNITY - Opportunity	<input checked="" type="checkbox"/> Normalize Validation Scores	
* Case Numbering Sequence:	CASE - Case	<input checked="" type="checkbox"/> Copy Notes	
* Mass Mail Numbering Sequence:	MMAIL - Mass Mail	<input checked="" type="checkbox"/> Copy Attachments	
* Campaign Numbering Sequence:	CAMPAIGN - Campaign	Default Rate Type :	SPOT <input type="checkbox"/> Enable Rate Override
* Quote Numbering Sequence:	CRQUOTE - Quotes in CRM	Default Currency:	USD <input type="checkbox"/> Enable Currency Override
DATA ENTRY SETTINGS		ASSIGNMENT SETTINGS	
Default Lead Class:	LEADBUS	Lead Assignment Map:	Lead Assignment
Default Contact Class:	LEADBUS	Contact Assignment Map:	Contact assignment
Default Business Account Class:	BUSINESS	Business Account Assignment ...	Customer assignment by region
Default Opportunity Class:	PRODUCT	Opportunity Assignment Map:	Opportunity assignment by class
Default Case Class:	PRODSUPINC	Case Assignment Map:	Case Assignment
		QUOTE APPROVAL SETTINGS	
		Approval Map:	
		Pending Approval Notification:	

**Figure:** The new check box on the Customer Management Preferences form

On the [Duplicate Validation](#) form, if a user changes validation scores and attempts to save the new settings, the system displays the following warning dialog box (see the following screenshot). If the user clicks **Yes**, the system saves the new settings and opens the [Calculate Grams](#) (CR503400) form, and the user can recalculate validation scores. If the user clicks **No**, the system closes the dialog box and saves the new settings; the validation scores are not recalculated and the user can do this later.

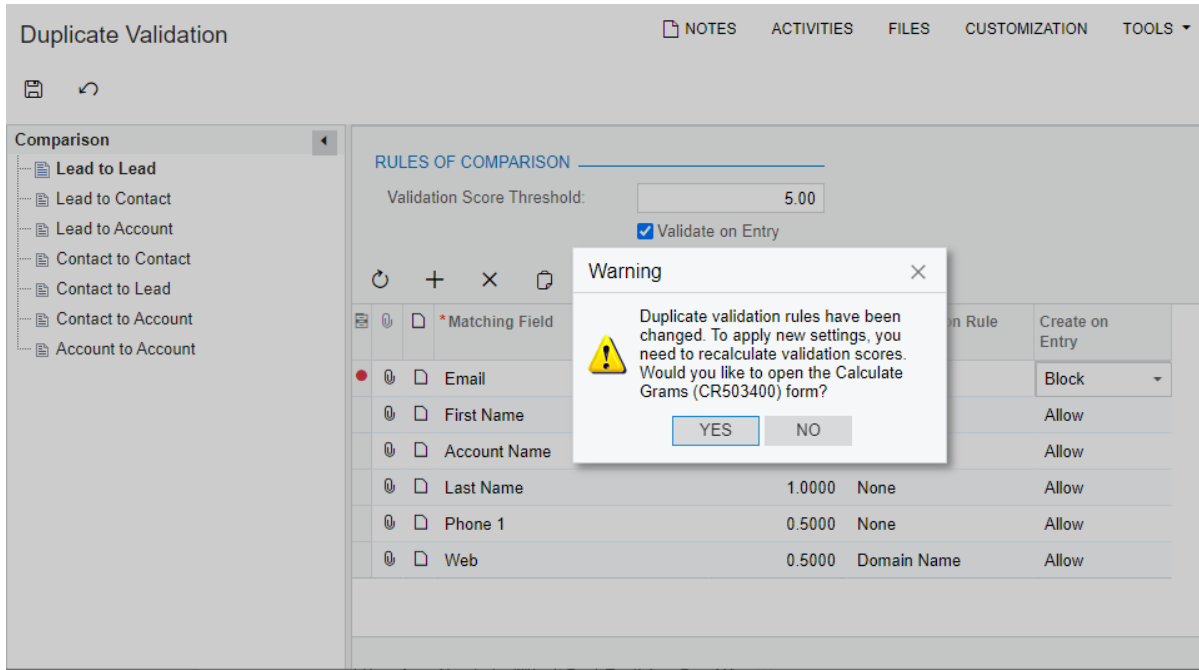


Figure: The dialog box to facilitate the recalculation of validation scores

Also, when an administrative user enables the *Duplicate Validation* feature, the system warns this user that the calculation of validation scores is needed for correct duplicate validation. That is, if on the [Enable/Disable Features](#) (CS100000) form, the *Duplicate Validation* feature had been disabled and the user selects the check box to enable this feature, the system displays the following warning message to remind the user to calculate validation scores after enabling the feature. (Once the user has enabled the feature, the warning message is no longer displayed.)

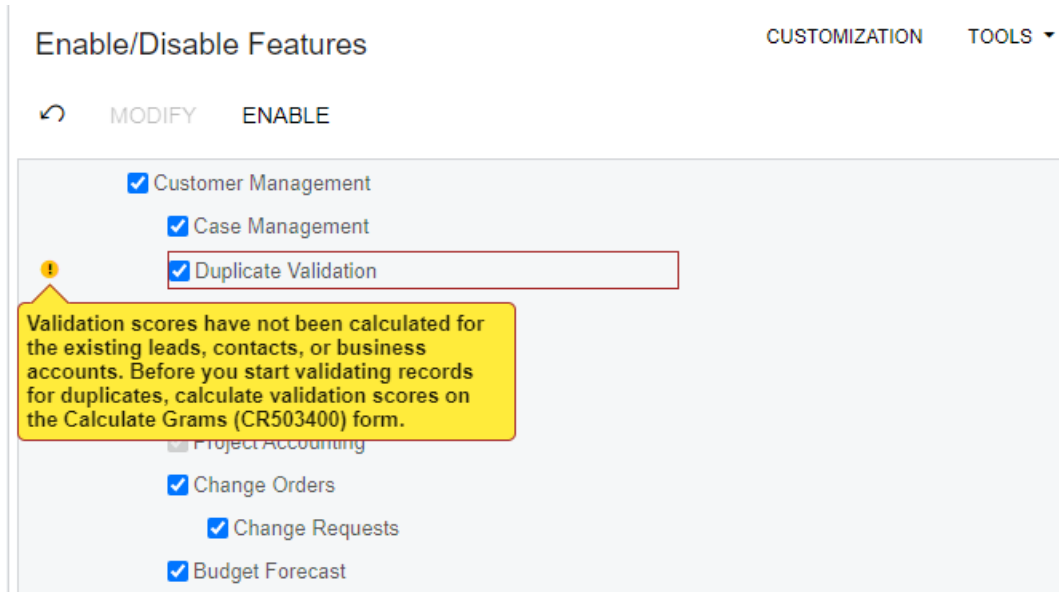


Figure: The warning message about recalculating validation scores

### The New Validate Records Form

In Acumatica ERP 2021 R2, a user can mass-validate groups of leads, contacts, and business accounts on the [Validate Records](#) (CR503430) form (see the following screenshot). The form has replaced the *Validate Accounts* (CR503420) and the *Validate Leads and Contacts* (CR503410) forms; a single form can now be used for this validation.

Validate Records CUSTOMIZATION TOOLS ▾

PROCESS ALL ↻ ▾

Validate Only New and Updated Records  
 Validate All Records

↻ | |

Type	Business Account	Account Name	Contact	Status	Duplicate
> Vendor	<a href="#">ACITASYST</a>	Acitai Systems - Computer Services For Bu...		Prospect	Not Validated
Vendor	<a href="#">ADPSERVICE</a>	Automatic Data Processing Inc.		Prospect	Not Validated
Vendor	<a href="#">AEROCOREBE</a>	Aerocorebe Travel Agency Corporation		Prospect	Not Validated
Vendor	<a href="#">ARKTAK</a>	Arktak Networks		Prospect	Not Validated
Vendor	<a href="#">ASARHARD</a>	Asar Hardware Limited		Prospect	Not Validated
Vendor	<a href="#">ATDSECUR</a>	ATD Security Services, Inc.		Prospect	Not Validated
Vendor	<a href="#">AVALARA</a>	Avalara Tax Agency		Prospect	Not Validated
Vendor	<a href="#">AVIANCE</a>	Aviance Airline Cargo		Prospect	Not Validated
Vendor	<a href="#">BANAFIDE</a>	Banafide Office Service		Prospect	Not Validated

Figure: The Validate Records form

## Other Enhancements

In previous versions of Acumatica ERP, on the **Duplicate Validation Settings** tab of the [Customer Management Preferences](#) (CR101000) form, in a validation rules table, if a row had *Split Words* selected in the **Transformation Rule** column, and the value in a target record's field and a duplicate record's corresponding field had more than one word, the system separated the words during comparison only if a space separated these words.

In Acumatica ERP 2021 R2, more dividers can be used for separating the words that make up a field value in a record. The set of dividers can be specified through a customization project.

## Support of User-Defined Fields During the Merge of Duplicate Records

Starting in Acumatica ERP 2021 R2, a user can view the values of user defined-fields in records listed on the **Duplicates** tab of the [Leads](#) (CR301000), [Contacts](#) (CR302000), and [Business Accounts](#) (CR303000) forms. If user-defined fields have been added to the forms of the records that are validated for duplicates, in the **Column Configuration** dialog box, the user can add the user-defined fields to the **Selected Columns** list, and these fields will be listed in the table of the **Duplicates** tab, as shown in the following screenshot.

The screenshot shows the 'Leads' form for 'Lacy Green - Cummings, Waelchi, and Predovic'. The 'USER-DEFINED FIELDS' section is active, showing three dropdown menus: 'Industry' set to 'Cellular Telephone', 'Number of Employees' set to '300-500', and 'Looking for' set to 'Electronics & Computers'. Below this, a table lists duplicate records. The 'DUPLICATES' tab is selected, and a table shows a record with 'Type: Lead', 'Duplicate: Validated', 'Last Modified On: 6/28/2021', 'Display Name: Lacy Green', 'Email: lacy.green@cwpc.example.com', 'Industry: Computers, Internet & E-Commerce', 'Looking for: Electronics & Computers', and 'Number of Employees: 300-500'. The 'Industry' and 'Looking for' columns are highlighted with a red box.

**Figure: User-defined fields on the Duplicates tab of the Leads form**

In the Merge dialog box, the system lists user-defined fields that have different values in a target record and in a duplicate record. When a user merges duplicate records or links records in the Merge dialog box, the user can indicate to the system which settings to use: those of the target record, or those of the duplicate record. (See the following screenshot.)

The screenshot shows the 'Merge dialog box' with the title 'Please resolve the conflicts'. The 'Target' is 'Lacy Green'. The dialog lists fields with conflicting values between the target and duplicate records. The 'Industry' field is highlighted with a red box, and its dropdown menu is open, showing three options: 'Cellular Telephone', 'Computers, Internet & E-Commerce', and 'Electronics & Computers'. The 'Computers, Internet & E-Commerce' option is selected. Other fields listed include 'Email' (lacy@cwpc.example.com), 'Number of Employees', 'Looking for' (Electronics & Computers), and 'Source' (Referral). The dialog has 'OK' and 'CANCEL' buttons at the bottom.

**Figure: User-defined fields in the Merge dialog box**

For details on the support of user-defined fields for CRM entities in 2021 R2, see [CRM: Enhanced Support of User-Defined Fields on CRM Forms](#).

## Additional Information

For more information about duplicate validation, see [Duplicate Validation](#) and [Validating Records for Duplicates](#).

# CRM: Removal of Workflows for Business Accounts, Customers, Vendors, Locations, and Contacts

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In Acumatica ERP 2021 R2, the workflows introduced in 2021 R1 and used for business accounts, customers, vendors, and locations have been removed. Users can manually change the status of the following entities:

- Business accounts on the [Business Accounts](#) (CR303000) form
- Customers on the [Customers](#) (AR303000) form
- Vendors on the [Vendors](#) (AP303000) form
- Account locations on the [Account Locations](#) (CR303010) form
- Customer locations on the [Customer Locations](#) (AR303020) form
- Vendor locations on the [Vendor Locations](#) (AP303010) form

Also, the workflow has been removed for contacts on the [Contacts](#) (CR302000) form. (Users can manually change the status of contacts.)



If any customizations have been made based on the workflows that were introduced in Acumatica ERP 2021 R1, contact the Acumatica ERP support provider for assistance with the customization upgrade.

## Updated Business Accounts Form

In previous versions of Acumatica ERP, a user manually changed the status (and thus state) of a business account. With the workflow introduced in Acumatica ERP 2021 R1, the state of a business account was changed by the system based on the user executing actions on the form toolbar and the **Actions** menu. Starting in Acumatica ERP 2021 R2, the user can manually change the status of a business account in the **Customer Status** box of the [Business Accounts](#) (CR303000) form (see the following screenshot) as part of account processing.



Business Accounts  
AACUSTOMER - Alta Ace

NOTES FILES (1) CUSTOMIZATION TOOLS

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\* Business Account: AACUSTOMER - Alta Ace

\* Customer Status: Active

GENERAL CRM INFO CONTACTS LOCATIONS SHIPPING RELATIONS LEADS OPPORTUNITIES

ACCOUNT INFO

\* Account Name: Alta Ace

ACCOUNT ADDRESS

ADDRESS LOOKUP

Address Line 1: 156 10th Ave

Address Line 2:

City: New York

State: NY - NEW YORK

Postal Code: 10011

\* Country: US - United States of America

ADDITIONAL ACCOUNT INFO

Business 1: +1 (212) 555-6724

Cell:

Fax:

Account Email: ap@altaace.con

Web:

Owner: Maxwell Baker

Class:

PRIMARY CONTACT

Name: Amelia Armstrong

Job Title: Accountant

Email: aarmstrong@altaace.con

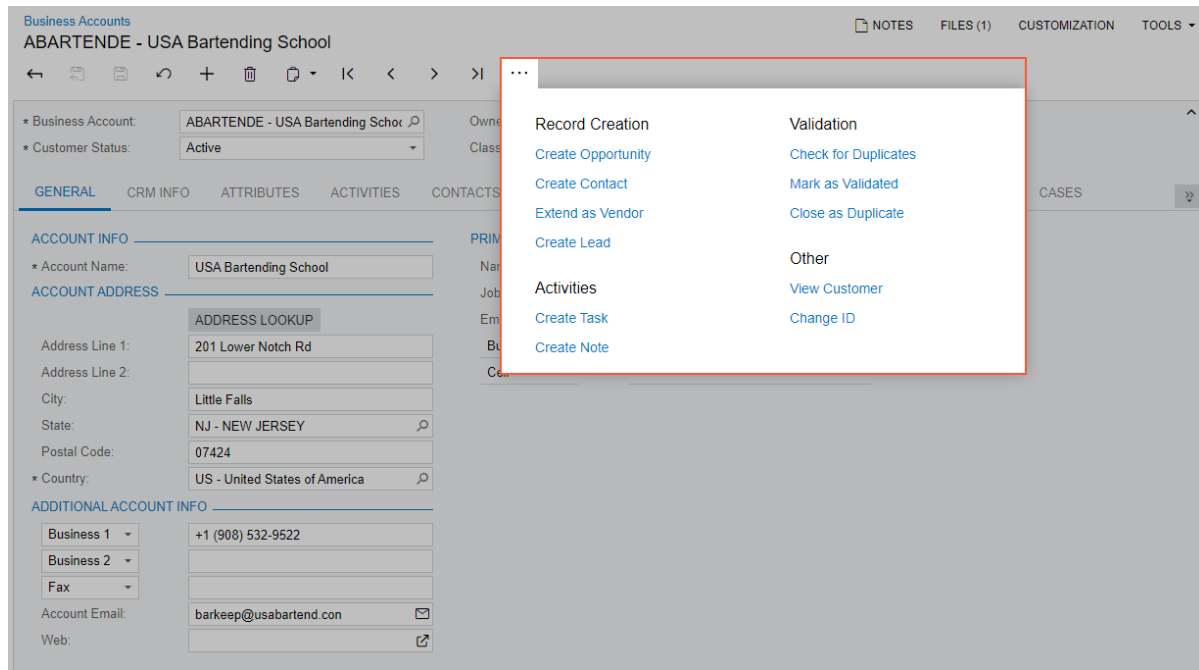
Business 1: +1 (212) 555-6725

Cell:

**Figure:** The options for selection in the Customer Status box of the Business Accounts form

The *Active*, *One-Time*, and *Credit Hold* options are available for selection in the **Customer Status** box of the form if the selected business account has the *Customer* or *Customer & Vendor* type. The *Prospect* option is available for selection for a business account of the *Business Account* and *Vendor* types. The *On Hold* and *Inactive* options are available for business accounts of all types.

The *Business Accounts* form also has the new form toolbar and the More menu introduced in Acumatica ERP 2021 R2 (for details, see [CRM: UI Enhancements](#) and [User Interface: Redesigned Form Toolbar](#)). The commands on the More menu are shown in the following screenshot.



*Figure: The commands on the More menu on the Business Accounts form*

## Updated Customers Form

In previous versions of Acumatica ERP, a user manually changed the status (and, thus, state) of a customer. With the workflow introduced in Acumatica ERP 2021 R1, the state of a customer was changed by the system based on the user executing actions on the form toolbar and the **Actions** menu.

Starting in Acumatica ERP 2021 R2, the user can manually change the status of a customer in the **Customer Status** box of the *Customers* (AR303000) form as part of the customer's processing. The **Customer Status** box is required, and the following options are available for selection: *Active* (default value), *On Hold*, *Credit Hold*, *One-Time*, *Inactive*.

The *Customers* form also has the new form toolbar and the More menu introduced in Acumatica ERP 2021 R2 (for details, see *User Interface: Redesigned Form Toolbar*). The following commands are no longer available: **Activate**, **Hold**, **Remove Credit Hold**, **Credit Hold**, **Deactivate**, **Set as One-Time Customer**, and **Set as Regular Customer**. The More menu of the *Customers* form is shown in the following screenshot.

The screenshot shows the 'Customers' form for 'ABARTENDE - USA Bartending School'. The 'More' menu is open, displaying a list of actions categorized into Customer Management, Document Processing, Statements, and Other.

Customer Management	Inquiries
<a href="#">Create Contact</a>	<a href="#">Customer Details</a>
<a href="#">Extend as Vendor</a>	<a href="#">Sales Prices</a>
Document Processing	Reports
<a href="#">Create Invoice</a>	<a href="#">AR Balance by Customer</a>
<a href="#">Create Sales Order</a>	<a href="#">AR Register</a>
<a href="#">Create Payment</a>	<a href="#">Customer History</a>
<a href="#">Write Off Balance</a>	<a href="#">AR Aging</a>
	<a href="#">AR Coming Due</a>
	<a href="#">Customer Profile</a>
Statements	
<a href="#">Generate on Demand</a>	
<a href="#">Regenerate Last Statement</a>	
<a href="#">Statement History</a>	
<a href="#">Print Statement</a>	
Other	
<a href="#">View Account</a>	
<a href="#">View Vendor</a>	
<a href="#">Change ID</a>	
<a href="#">Manage Restriction Groups</a>	

Figure: The commands on the More menu on the Customers form

## Updated Vendors Form

In previous versions of Acumatica ERP, a user manually changed the status (and, thus, state) of a vendor. With the workflow introduced in Acumatica ERP 2021 R1, the state of a vendor was changed by the system based on the actions on the form toolbar and the **Actions** menu that were executed.

Starting in Acumatica ERP 2021 R2, the user can manually change the status of a vendor in the **Vendor Status** box of the *Vendors* (AP303000) form as part of the vendor's processing. The **Vendor Status** box is required, and the following options are available for selection: *Active* (default), *On Hold*, *Hold Payments*, *One-Time*, and *Inactive*.

The *Vendors* form also has the new form toolbar and the More menu introduced in Acumatica ERP 2021 R2 (for details, see *User Interface: Redesigned Form Toolbar*). The following commands are no longer available on the *Vendors* form: **Activate**, **Hold**, **Hold Payments**, **Deactivate**, **Set as One-Time Vendor**, and **Set as Regular Vendor**. The More menu of the *Vendors* form is shown in the following screenshot.

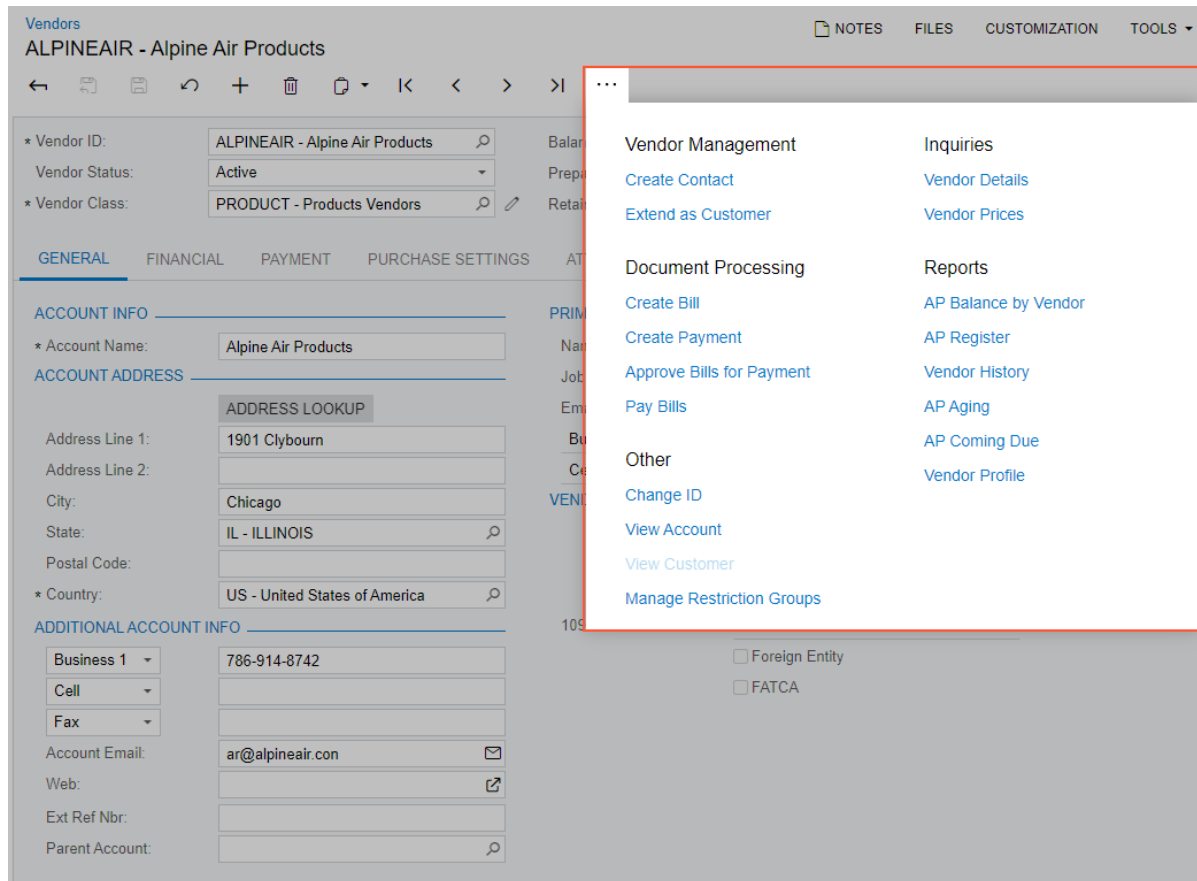


Figure: The commands on the More menu on the Vendors form

## Updated Layout of the Account Locations, Customer Locations, and Vendor Locations Forms

In Acumatica ERP 2021 R2, on the [Account Locations](#) (CR303010) form, for a non-primary business account location, a user can manually select *Active* or *Inactive* in the **Status** box of the Summary area. The **Activate** and **Deactivate** commands have been removed from the form toolbar.

On the [Customer Locations](#) (AR303020) form, for a non-primary customer location, a user can manually select *Active* or *Inactive* in the **Status** box of the Summary area. The **Activate** and **Deactivate** commands are no longer available. The **View Account Location** command is displayed on the form toolbar.

On the [Vendor Locations](#) (AP303010) form, for a non-primary vendor location, a user can manually select *Active* or *Inactive* in the **Status** box of the Summary area. The **Activate** and **Deactivate** commands are no longer available.

The **Status** box is required on the [Account Locations](#), [Customer Locations](#), and [Vendor Locations](#) forms, and the default value is *Active*.

## Updated Layout of the Contacts Form

In Acumatica ERP 2021 R2, on the [Contacts](#) (CR302000) form, a user can manually select *Active* or *Inactive* in the **Status** box of the Summary area. The **Status** box is required and the default value is *Active*. The **Activate** and **Deactivate** commands have been removed from the More menu on the form toolbar.

## Changes to the Update Contacts and Update Business Accounts Forms

In Acumatica ERP 2021 R2, in the Summary area of the [Update Business Accounts](#) (CR503320) and [Update Contacts](#) (CR503021) form, the **Operation** and **Action** boxes are no longer displayed if no custom workflow has been added for business accounts or contacts, respectively. For details, see the [Support of the Workflow Engine](#) section below.

## API Changes

The workflow support for the API for business accounts, customers, vendors, locations, and contacts introduced in Acumatica ERP 2021 R1 has been removed. The `Status` fields of the customer, vendor, and business account entities should be changed via the API directly, as was the case in Acumatica ERP 2020 R2 and earlier versions.

## Changes to Import Scenarios Related to Business Accounts

On the [Import Scenarios](#) (SM206025) form, the following changes have been made to the *Import Business Account from Salesforce* import scenario included in an empty company and to the *Sales Demo* dataset:

- The row that has `<WorkflowTransition>` in the **Field / Action Name** column has been deactivated (the **Active** check box is cleared for this row).
- In the row that maps `Customer Status` in the **Field / Action Name** column, the formula in the **Source Field / Value** column has been changed from `= [BAccount.Status] to = IIF (Active__c = 'No', IIF ([BAccount.Status] <> 'I', 'Deactivate', ''), IIF ([BAccount.Status] = 'I', 'Activate', ''))`.

## Support of the Workflow Engine

The entities created on the [Business Accounts](#) (CR303000), [Account Locations](#) (CR303010), [Customers](#) (AR303000), [Customer Locations](#) (AR303020), [Vendors](#) (AP303000), and [Vendor Locations](#) (AP303010) forms support the workflow engine, and customizers can create a new custom workflow for these entities, if needed.



After a customized workflow in Acumatica ERP is upgraded from 2021 R1 to 2021 R2, a customizer or administrator needs to re-implement this workflow.

## Additional Information

For more information about the extension of a business account as a customer or vendor (or both), see [Business Accounts: Extension of a Business Account as a Customer or Vendor](#).

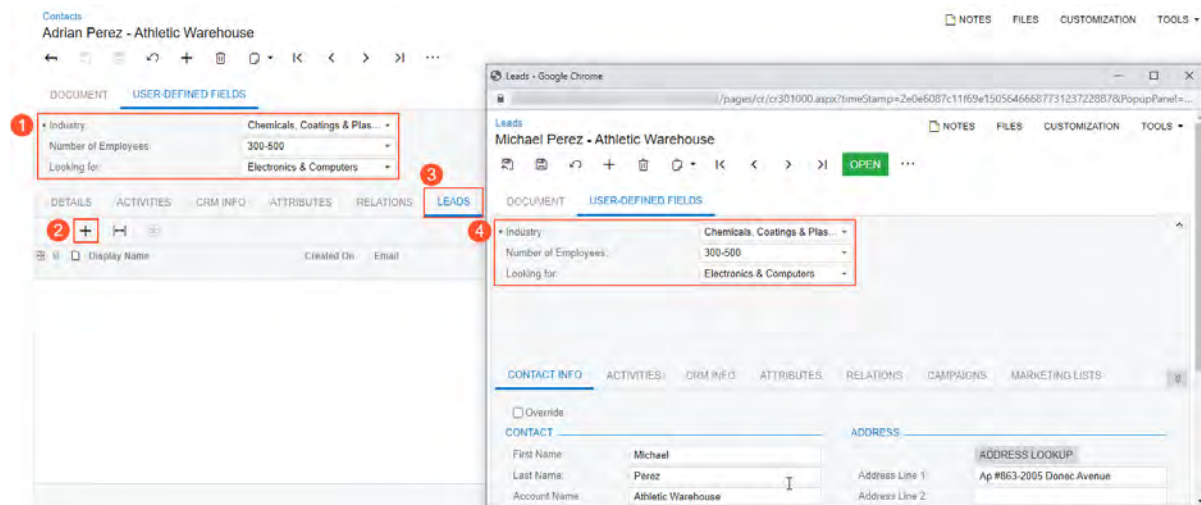
# CRM: Enhanced Support of User-Defined Fields on CRM Forms

In Acumatica ERP 2021 R2, the values of user-defined fields can be copied among CRM entities. With the user-defined fields, users can add various information to records and copy this information to the associated records.

## Copying of User-Defined Fields from Original Records to Associated Records

In previous versions of Acumatica ERP, a user could add user-defined fields to such forms as [Leads](#) (CR301000), [Contacts](#) (CR302000), [Business Accounts](#) (CR303000), [Opportunities](#) (CR304000), [Sales Quotes](#) (CR304500), and [Cases](#) (CR306000).

Starting in Acumatica ERP 2021 R2, if any user-defined fields are defined on both the original entity's form and the associated entity's form on the **User-Defined Fields** tab of the Summary area, the system automatically copies the values of the common user-defined fields to these fields for the new entities associated with the existing entities. For example, suppose that the [Contacts](#) form and the [Leads](#) form have the same three user-defined fields, and the user has filled in the field values for the contact (see Item 1 in the following screenshot). If a user creates a new lead for this contact by clicking **Add New Lead** (Item 2) on the **Leads** tab of the [Contacts](#) form (Item 3), on the [Leads](#) form, which opens in a pop-up window, the values are inserted into the corresponding fields on the **User-Defined Fields** tab of the Summary area (Item 4).



**Figure: Values of user-defined fields copied to a new lead**

If a user creates an entity by using another entity's form as a starting point and the new entity has any user-defined fields that are defined as required, the system displays these fields in the dialog box used for record creation. For example, supposed that a customizer adds the same required user-defined fields to the [Leads](#) (see Item 1 in the following screenshot), [Contacts](#), and [Business Accounts](#), and a user is creating a new business account for the lead by using the **New Account** dialog box. On the new **User-Defined Fields** tab of the dialog box (Item 2), the required user-defined fields and their values will be listed (Items 3 and 4). In the example shown in the screenshot, the value of the **Industry** user-defined field will be inserted in the new contact and business account records created based on the lead record.

The screenshot displays the CRM interface for a lead named "Lacy Green - Cummings, Waelchi, and Predovic". The "USER-DEFINED FIELDS" section is highlighted with a red box and a circled "1". The fields are:

- \* Industry: Computers, Internet & E-Co...
- Number of Employees: 300-500
- Looking for: Electronics & Computers

The "New Account" dialog box is open, showing the "USER-DEFINED FIELDS" tab highlighted with a red box and a circled "2". It contains two sections:

- BUSINESS ACCOUNT:** A table with columns "Name" and "Value". The "Industry" row is highlighted with a red box and a circled "3", showing the value "Computers, Internet & E-Commerce".
- CONTACT:** A table with columns "Name" and "Value". The "Industry" row is highlighted with a red box and a circled "4", showing the value "Computers, Internet & E-Commerce".

Buttons at the bottom of the dialog include "CREATE AND REVIEW", "CREATE", and "CANCEL".

*Figure: Values of required user-defined fields copied to a new business account and contact*

In the **New Account** dialog box, a user can select a new value for a required user-defined field that will be inserted for the new business account, contact, or both, if needed (see the following screenshot).

The screenshot shows a 'New Account' dialog box with three tabs: 'MAIN', 'ATTRIBUTES', and 'USER-DEFINED FIELDS'. The 'USER-DEFINED FIELDS' tab is active. It contains two sections: 'BUSINESS ACCOUNT' and 'CONTACT'. In the 'BUSINESS ACCOUNT' section, there is a table with columns 'Name' and 'Value'. The 'Industry' field is selected, and a dropdown menu is open, showing a list of industry categories. The 'CONTACT' section also has an 'Industry' field. At the bottom of the dialog, there are three buttons: 'CREATE AND REVIEW', 'CREATE', and 'CANCEL'.

Name	Value
Industry	Biotechnology

Dropdown menu options for Industry:

- Advertising, Branding & Marketing
- Airlines, Hotels & Travel
- Apparel, Textiles & Fashions
- Automobiles & Trucks
- Banking
- Biotechnology
- Careers/Employment
- Cellular Telephone
- Chemicals, Coatings & Plastics
- Computers, Internet & E-Commerce
- Consulting, Outsourcing, Offshoring

**Figure: Selection of a new value for a required user-defined field**

A user can view and select a new value for a required user-defined field in the following dialog boxes:

- **New Contact** on the [Leads](#), [Business Accounts](#), [Opportunities](#), [Customers](#) (AR303000), and [Vendors](#) (AP303000) forms: The set of user-defined fields depends on the class of the new entity.
- **New Account** on the [Leads](#), [Contacts](#), and [Opportunities](#) forms: The set of user-defined fields depends on the class of the new entity.
- **New Opportunity** on the [Leads](#) form: The set of user-defined fields depends on the class of the new entity.
- **Create New Quote** on the [Opportunities](#) form: The set of user-defined fields depends on the selected type of the quote (*Project Quote* or *Sales Quote*).

To be displayed on the **User-Defined Fields** tab of each of these dialog boxes, the user-defined fields must be added to and required on the form of the new record. They may or may not be added and be required on the original record.

The values of optional user-defined fields are not shown in these dialog boxes. If a customizer has specified a default value for a user-defined field in an original record, this default value is inserted in the respective field for a new record associated with this record.

A user can change the value in a user-defined field of a record, regardless of whether it is the default value or a required value (or both).

The system copies the values of user-defined fields to new records from the records created on the following forms:

- A lead, opportunity, or case created when the user clicks the **Leads**, **Opportunities**, or **Cases** tab, respectively, of the [Business Accounts](#) form
- A lead, opportunity, or case created on the **Leads**, **Opportunities**, or **Cases** tab of the [Contacts](#) form
- A sales order or invoice created when the user clicks **Create Sales Order** or **Create Invoice** on the More menu of the [Opportunities](#) form
- A sales quote created when the user copies the existing sales quote on the **Quotes** tab of the [Opportunities](#) form



- A sales quote created when the user copies the existing sales quote by clicking **Copy Quote** on the More menu of the [Sales Quotes](#) form
- A project quote created when the user clicks the existing project quote by clicking **Copy** on the More menu of the [Project Quotes](#) (PM304500) form
- A service order created when the user clicks **Create Service Order** on the More menu of the [Cases](#) or [Opportunities](#) form
- An appointment created when the user clicks **Create Appointment** on the More menu of the [Opportunities](#) form

Also, a user can select the values of user-defined fields when the user merges duplicate records. For details, see [CRM: More Flexible Duplicate Validation Workflow](#).

# CRM: Predefined Business Events and Notification Templates

In Acumatica ERP 2021 R2, new CRM business events have been configured on the [Business Events](#) (SM302050) form. With the new business events, users can receive email or push notifications related to leads, business accounts, opportunities, and cases.

## New Predefined Business Events

In previous versions of Acumatica ERP, if any number of users had to be notified about a change related to leads, contacts, accounts, or cases—such as the assignment of a new lead or opportunity to an owner, or opportunities that have expired on the current date—a customizer had to configure a new business event, notification template, and schedule (if applicable).

Starting in Acumatica ERP 2021 R2, a set of business events and the related notification templates is available in the out-of-the-box system. A system administrator can activate the needed business event by selecting the **Active** check box in the Selection area of the [Business Events](#) (SM302050) form for the event, and users will receive notifications by email or in the mobile app.

On the [Business Events](#) form, the following predefined business events have been configured.

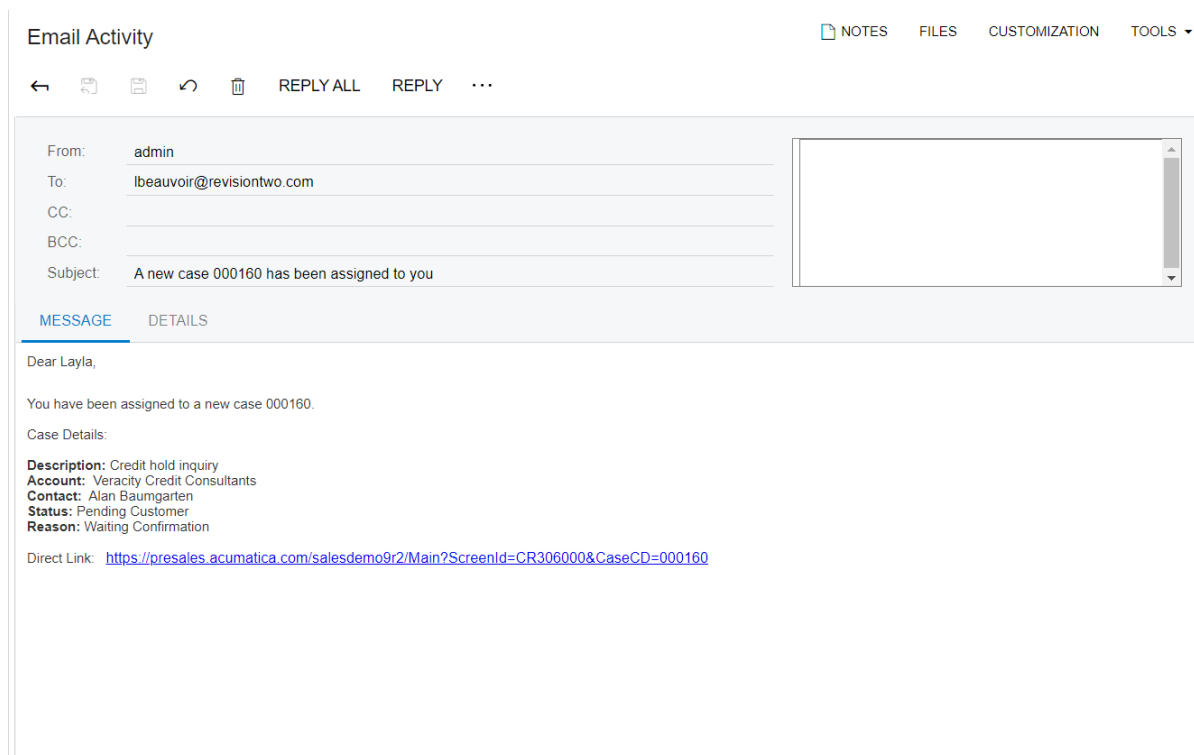
Event ID	Triggered by	Description
<i>CRAccountNoActivity</i>	Schedule	The returned active business accounts have had no activity for more than 30 days.
<i>CRCasesNoActivity</i>	Schedule	The returned active cases have had no activity for more than 30 days.
<i>CRLeadNoActivity</i>	Schedule	The returned open leads have had no activity for more than 30 days. Leads are not included if they have the <i>Converted</i> , <i>Disqualified</i> , or <i>Suspended</i> status.
<i>CRLeadNoInitialActivity</i>	Schedule	No activities have been performed yet for the returned new leads.
<i>CROppsNoActivity</i>	Schedule	The returned active opportunities have had no activity for more than 30 days.
<i>CRNewAccount</i>	Record change	A business account is assigned to a new owner.
<i>CRNewCase</i>	Record change	A case is assigned to a new owner.
<i>CRNewLead</i>	Record change	A lead is assigned to a new owner.
<i>CRNewOpp</i>	Record change	An opportunity is assigned to a new owner.
<i>CRLeadNoOpp</i>	Schedule	The returned leads have not been converted to opportunities.
<i>CRCasesPendingClosure</i>	Record change	The status of the returned cases has been changed to <i>Pending Closure</i> .

Event ID	Triggered by	Description
<i>CROppsDueToday</i>	Schedule	The <b>Estimated Close Date</b> of the returned opportunities is the current date (or 'a date in the past' in the next row).
<i>CROppsOverdue</i>	Schedule	The <b>Estimated Close Date</b> of the returned opportunities is a date in the past.

The new business events and the email notifications can be related to a change in a record or changes in multiple records. For example, a contact can receive an email about the assignment of a new lead or an email with a list of opportunities that expire on the current date.

## Email Notifications Related to Business Events Triggered by a Record Change

A user may need to receive an email notification when a value in a record field has been changed—for example, a new owner has been selected in a case. In Acumatica ERP 2021 R2, business events triggered by a record change have been configured for data entry forms, such as *Leads* (CR301000), *Business Accounts* (CR303000), *Opportunities* (CR304000), and *Cases* (CR306000). For example, if the *CRNewCase* business event has been activated, and a case has been assigned to a new owner or an owner has been specified for a new case, the contact selected in the **Owner** box in the Summary area of the *Cases* form will receive an email in the contact's mailbox. (An example of such an email is shown in the following screenshot.) The emails generated based on the notification templates are listed on the *All Emails* (CO409070) form.



**Figure:** An email notifying the recipient about a new case owner

If a customizer wants to add links to Acumatica ERP forms to email notifications (as is done in the email in the previous screenshot), the URL of the website should be specified in the **URL to be used in Notifications** box of the Summary area on the *Email Preferences* (SM204001) form.

## Email Notifications Related to Business Events Triggered by a Schedule

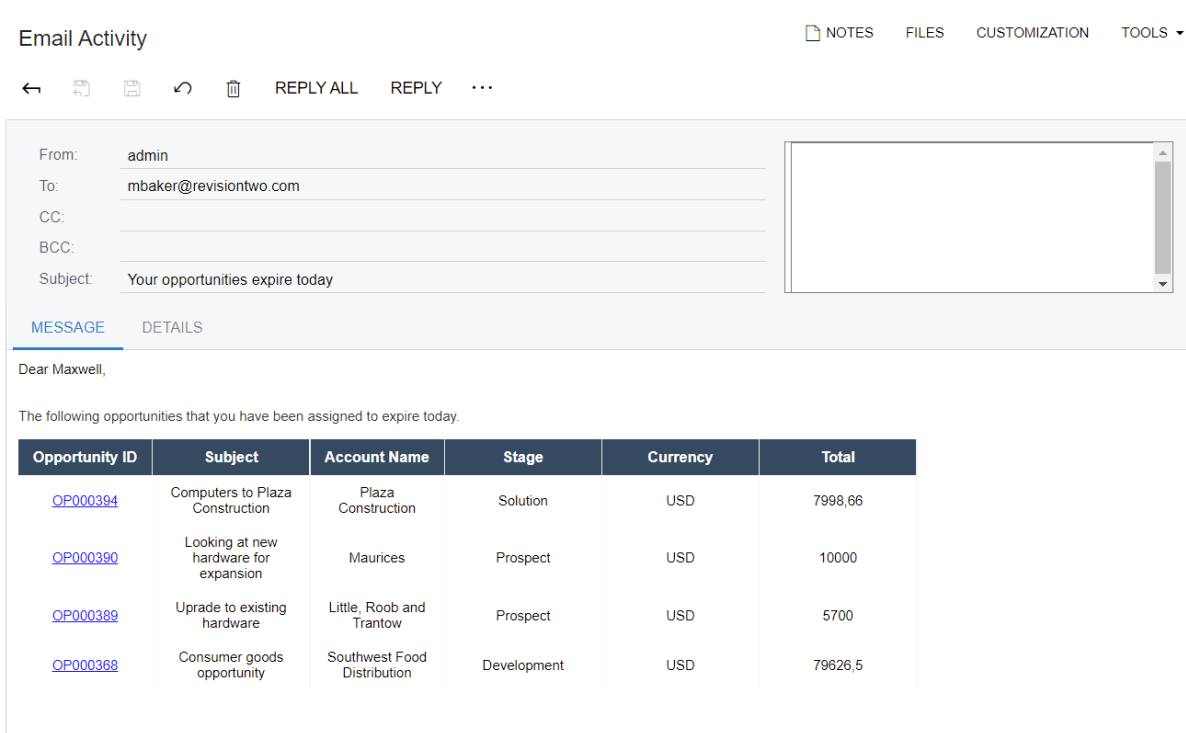
A user may need to regularly receive notifications that contain information that is useful for business in one email—for example, a list of all the opportunities expiring on the current date, or a list of all leads for which no activity has been recorded in the system for a period of time. Business events of this kind are triggered by a schedule and are configured for a generic inquiry form.

In Acumatica ERP 2021 R2, the following generic inquiry forms for the CRM business events have been created:

- *Lead Notifications (CR3010NT)*
- *Business Account Notifications (CR3030NT)*
- *Opportunity Notifications (CR3040NT)*
- *Case Notifications (CR3060NT)*

To cause the system to send regular notifications related to particular changes in multiple records, a system administrator needs to create a schedule on the **Schedules** tab of the *Business Events* (SM302050) form for an existing business event and activate the business event.

For example, if a schedule has been created for the *CROppsDueToday* business event, the business event has been activated, and at least one opportunity's **Estimated Close Date** is the current date, the contact selected in the **Owner** box in the Summary area of the *Opportunities* (CR304000) form will receive an email in the contact's mailbox. (An example of such an email is shown in the following screenshot.) The emails generated based on the notification templates are listed on the *All Emails* (CO409070) form.



Email Activity

NOTES FILES CUSTOMIZATION TOOLS

← 📧 📄 ↶ 🗑️ REPLY ALL REPLY ...

From: admin  
To: mbaker@revisiontwo.com  
CC:  
BCC:  
Subject: Your opportunities expire today

MESSAGE DETAILS

Dear Maxwell,

The following opportunities that you have been assigned to expire today.

Opportunity ID	Subject	Account Name	Stage	Currency	Total
<a href="#">OP000394</a>	Computers to Plaza Construction	Plaza Construction	Solution	USD	7998,66
<a href="#">OP000390</a>	Looking at new hardware for expansion	Maurices	Prospect	USD	10000
<a href="#">OP000389</a>	Upgrade to existing hardware	Little, Roob and Trantow	Prospect	USD	5700
<a href="#">OP000368</a>	Consumer goods opportunity	Southwest Food Distribution	Development	USD	79626,5

*Figure: An email notifying the recipient about opportunities that expire today*

## Mobile Push Notifications

In Acumatica ERP 2021 R2, a customizer can configure mobile push notifications related to CRM business events. If a business account or case has been assigned to an owner or if a case can be closed, an owner can receive a push notification.

Before the system starts sending push notifications, the following tasks should be performed:

- The Acumatica ERP instance is hosted over HTTPS.
- An Acumatica ERP license should be activated.
- A user has signed in to Acumatica ERP from a mobile device, and the information about the mobile device has been specified on the **Devices** tab of the [User Profile](#) (SM203010) form.
- Push notifications should be turned on for the user's mobile device.

### Additional Information

For more information about configuring business events, see [Using Business Events](#).

# CRM: Improved Layout of the Opportunity Classes Form

In Acumatica ERP 2021 R2, some improvements have been made on the *Opportunity Classes* (CR209000) form.

## Improvements in Opportunity Classes

On the *Opportunity Classes* (CR209000) form (**Details** tab), the following changes have been made:

- In the **Data Entry Settings** section, the **Cash Discount Account** and the **Cash Discount Sub.** boxes have been removed.
- The **Email Settings** section has been renamed to **Activity Settings** (Item 1 in the following screenshot).
- In the **Activity Settings** section, the **Show Activities from Source Lead** check box has been added (Item 2). The check box has replaced the **Show Activities from Contact** check box. If the check box is selected, the activities added to the **Activities** tab of the *Leads* (CR301000) form are copied to the **Activities** tab of the *Opportunities* (CR304000) form for an opportunity of the class.

Opportunity Classes

PRODUCT

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

← ↻ + 🗑️ 📄 ⏪ < > ⏩

\* Opportunity Class ID:   Internal

Description:

DETAILS ATTRIBUTES STAGES

**DATA ENTRY SETTINGS**

Default Owner:

Assignment Map:

**CONVERSION SETTINGS**

Contact Class ID:

Account Class ID:

**ACTIVITY SETTINGS**

Default Email Account:

Show Activities from Source Lead

Figure: Improved layout of the Opportunity Classes form

# CRM: UI Enhancements

In Acumatica ERP 2021 R2, the user interface of the form toolbars of the CRM-related forms has been enhanced. On multiple forms related to CRM functionality, form-specific commands on the form toolbar have been moved to the More menu, which a user views by clicking the More (...) button on the form toolbar. Commands on the More menu are now grouped by categories. For more information, see [User Interface: Redesigned Form Toolbar](#).



These commands work as they did in the previous versions; only the placement of the commands has changed.

The following table lists the forms where menu commands on the More menu have been renamed to unify the command names throughout the system.

**Table: Commands on the More menu that have been renamed in 2021 R2**

Form	Command name in 2021 R1	Command name in 2021 R2
<a href="#">Leads</a> (CR301000), <a href="#">Contacts</a> (CR302000)	<b>Add Email</b>	<b>Create Email</b>
	<b>Add Task</b>	<b>Create Task</b>
	<b>Add Phone Call</b>	<b>Create Phone Call</b>
	<b>Add Note</b>	<b>Create Note</b>
<a href="#">Opportunities</a> (CR304000)	<b>Add Task</b>	<b>Create Task</b>
	<b>Add Note</b>	<b>Create Note</b>
<a href="#">Sales Quotes</a> (CR304500)	<b>Send Quote</b>	<b>Send</b>
	<b>Mark as Primary</b>	<b>Set as Primary</b>
<a href="#">Cases</a> (CR306000)	<b>Add Email</b>	<b>Create Email</b>
	<b>Add Work Item</b>	<b>Create Work Item</b>
	<b>Add Note</b>	<b>Create Note</b>
	<b>Add Task</b>	<b>Create Task</b>
	<b>Add Phone Call</b>	<b>Create Phone Call</b>

# Documentation: Improvements in User Guides

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In Acumatica ERP 2021 R2, multiple improvements have been made to the content and structure of the guides that make up the documentation, as described in the following sections.

## Customer Relationship Management Guide

The structure of the *Customer Relationship Management* guide has been partly reorganized. The topics that describe the configuration of the CRM functionality (including the *Duplicate Validation* chapter, which has been updated) have been moved to the *Implementing Customer Relationship Management* chapter of the *Implementation* guide.

The following changes and enhancements have been made to the *Customer Relationship Management* guide:

- A new chapter, *Managing Relations*, has been added. In this chapter, users can learn how to use the relations between records to quickly find, create, view, and modify CRM records and the associated records.
- In the *Managing Opportunities* chapter, the topics describing the processing of opportunities, sales quotes, sales orders, and invoices have been significantly updated.
- In the *Creating Business Accounts* chapter, the *Extension of a Business Account as a Customer or Vendor* topic has been added.
- In the *Validating Records for Duplicates* chapter, the *Mass-Validation of Records* topic and the *To Validate Multiple Leads for Duplicates* activity have been updated.
- In the topics describing the creation of leads, contacts, business accounts, opportunities, and cases, information about working with user-defined fields has been added.

## Field Services Guide

The structure of the *Equipment Management* guide has been partly reorganized. The topics that describe the processing of service contracts have been significantly updated, and new topics have been added. The topics are now organized in chunks that contain general information on configuring a service contract of each billing type, and activity topics related to processing service contracts. The following chapters are now available in the *Equipment Management* guide:

- *Processing Service Contracts Billed at the Time of Service*: The information in the topics of this chapter has been updated with regard to the billing type that has been renamed in Acumatica ERP 2021 R2.
- *Processing Service Contracts Billed at the End of the Period*: The information in the topics of this chapter has been updated with regard to the billing type that has been renamed in Acumatica ERP 2021 R2.
- *Processing Service Contracts Billed at the Beginning of the Period*: The topics of this new chapter contain general information and an activity related to the new billing types that have been developed in Acumatica ERP 2021 R2.

## Financial Management Guides

The structure of the *Financial Management* guides has been partly reorganized. The topics that describe the configuration of the basic and advanced finance functionality have been moved to the new *Implementation* guide.

The following changes and enhancements have been made:

- The *Intercompany Sales* chapter of the *Accounts Receivable* guide has been updated with activities that users can perform to process an intercompany invoice, pay an intercompany bill, and pay the intercompany invoice.
- A new chapter, *Processing Expenses with a Corporate Credit Card*, has been added to the *Accounts Payable* guide. By completing the activities in this chapter, users will learn how to process payments from a corporate credit card in Acumatica ERP and how to reconcile the credit card balance.



- Two new chapters—*Configuring GL Consolidation* and *Performing GL Consolidation*—have been added to the *General Ledger* guide. By performing the activities in these chapters, users will learn how to consolidate data from specific branches of a subsidiary company, which has been implemented in a separate tenant, into a specific branch of its parent company.

## Implementation Guide

The *Implementation Guide* has been completely reorganized to follow the new documentation structure. The guide now contains multiple new chapters covering the implementation of basic functionality for different functional areas of Acumatica ERP.

According to the new structure of documentation, implementation checklists for each particular business process are now located in the corresponding chapter that describes this process. Thus, the separate *Implementation Checklists* guide has been removed from online documentation as outdated. Instead of this, edition-specific implementation checklists are now available for download on the Acumatica ERP Help Portal.

Each of the following documents provides guidelines on configuring business processes in a new system depending on the edition being implemented:

- Acumatica ERP Implementation Checklists 2021 R2
- Acumatica ERP Retail-Commerce Edition Implementation Checklists 2021 R2
- Acumatica ERP Construction Edition Implementation Checklists 2021 R2
- Acumatica ERP Manufacturing Edition Implementation Checklists 2021 R2
- Acumatica ERP Distribution Edition Implementation Checklists 2021 R2

## Manufacturing Guide

In the *Manufacturing Edition* guide, the topics that describe the processing of production and material requirements planning have been significantly updated and extended; the topics now include activities that users can perform by using the *U100* dataset.

The topics in the *Estimating, Advanced Planning and Scheduling*, and *Engineering Change Control* chapters have been renamed and restructured; the chapters now include activities that users can perform by using the *SalesDemo* dataset.

## Payroll Guide

Various chapters of the *Payroll* guide have been updated and extended. Also, the following changes and enhancements have been made to the guide:

- The *Setting Up Payment Methods* chapter has been added. The topics in this chapter describe how a user can set up payment methods to be used in Payroll.
- The new *Configuring Time Tracking* chapter contains information about how time tracking can be configured for use in Payroll and the ways of entering employee time in Acumatica ERP.
- Topics that describe how a user can set up certified projects, specify relevant deductions and benefits, configure fringe benefits, and configure certified reporting have been added to the new *Configuring Certified Projects* chapter.
- The *Configuring Government Reporting* and *Preparing Government Reports* chapters have been added, which describe the steps that users need to perform to be able to generate government reports and electronically submit them to the appropriate government body through Aatrix, which is an integrated component of Acumatica ERP.
- The *Managing Payroll Processes* chapter has been replaced with multiple chapters that describe in detail how users can process various payroll documents, such as payroll batches, paychecks, and payroll liabilities. A chapter on corrections in payroll documents has been added.

## Construction Guides

In the *Construction Edition* guide, the following changes and enhancements have been made:

- The *Overview of Construction Processes* topic (which is the top-level topic of the guide) has been renamed and rewritten to describe the latest capabilities provided in Acumatica ERP Construction Edition.
- The topics that describe the processing of submittals (the *Processing Submittals* chapter) and cost projections (the *Preparing Cost Projections* chapter) have been significantly updated and extended. The topics now include activities that users can perform by using the *U100* dataset to learn how to process submittals and create cost projections for projects.
- The topics that describe working with subcontracts (in the *Processing Subcontracts* chapter) have been rewritten. These topics now include two additional activities that users can perform by using the *U100* dataset to learn how to decrease a commitment with a change order and how to update a negative line in a subcontract.
- A new activity has been added to the *Working with Construction Reports* chapter. Users can perform it by using the *U100* dataset to learn how to prepare AIA reports with retainage.
- In the *Correcting Pro Forma Invoices* chapter, a new activity has been added. By using the *U100* dataset, users can complete this activity and learn how to correct actual amounts in AIA reports if the accounts receivable document has already been prepared and released for a pro forma invoice for which an AIA report with incorrect amounts has been generated.

## Retail-Commerce Guide

The following changes have been made to *Integration with Shopify* and *Integration with BigCommerce* parts of the *Retail-Commerce* guide:

- The *Importing Refunds* chapter has been split into two chapters: *Importing Card Refunds* (which contains topics on refunds made to card-based payment methods for which integrated card processing has been configured) and *Importing Non-Card Refunds* (which contains topics on refunds to non-card payments or card payments for which integrated card processing has not been configured).
- Each part has a new *Selling Matrix Items* chapter, with topics describing the export of template and matrix items along with their quantities from Acumatica ERP to the store, and the import of orders with matrix items to Acumatica ERP.

In the *Integration with Shopify* part of the guide, the following additional changes have been made:

- The topics that describe the features of sales order synchronization are now arranged into four separate chapters, which are *Synchronizing Orders*, *Importing Orders with Taxes*, *Importing Orders with Discounts*, and *Selling and Accepting Gift Cards*.
- A new activity has been added to the *Synchronizing Product Availability* chapter. Users can perform it by using the *U100* dataset to learn how to export available quantities of items to the Shopify store.

Various other chapters of the *Retail-Commerce* guide have been updated and extended.

## System Administration Guide

In the *System Administration* guide, the topics related to system maintenance have been significantly updated and extended; the topics now include activities that administrators can perform by using the *U100* dataset.

The new *Publishing Customization Projects* chapter has been added to explain in simple terms to explain to administrators who are not involved with customization how to publish and maintain customization projects.

The *Customizing the User Interface* chapter has been split into three chapters to provide more detailed explanations of each aspect of user interface customization. The new chapters are *Customizing the User Interface*, *Using Company Logos*, and *Customizing the Color Theme*. Information that was previously in the *Managing the Site Map* chapter has been updated and merged into the *Customizing the User Interface* chapter.

The *Managing Search* chapter has been updated and renamed to *Building Search Indexes*. Also, the *Managing Schedules* chapter has been updated and renamed to *Scheduling Automated Processing*.

Information about working with tenants, maintaining the database, and updating the system has been split into activities that can be performed by using the web interface and activities that can be performed by using the Acumatica ERP Configuration Wizard.

## Reporting Tools Guide

In the *Reporting Tools* guide, topics have been added that explain how to design effective dashboards and that provide detailed instructions on configuring widgets of the available types. The topics include activities that users can perform by using the *U100* dataset.

To minimize confusion about where to find information about dashboards and widgets, topics that provide this information have been moved to the *Reporting Tools* guide and removed from the *Interface Guide* and the *Getting Started with Acumatica ERP* guide.

# Field Services: Customizable Number of Staff Members on Calendar Boards

In Acumatica ERP 2021 R2, a user can now specify the number of staff members to be shown on calendar board forms—that is, the [Calendar Board](#) (FS300300), [Staff Calendar Board](#) (FS300400), and [Room Calendar Board](#) (FS300700) form. This new functionality is convenient for managers who need to see the working calendars of all staff members on one calendar board form.

## Specifying the Number of Staff Members

Now an administrative user can specify the number of staff members that the system will show on the calendar boards (independently of whether the vertical or horizontal view is used on the calendar). On the [Service Management Preferences](#) (FS100100) form, on the **Calendars & Maps** tab, the user specifies a number in the **Number of Staff Members** box (see the following screenshot) and saves the changes.

The screenshot shows the 'Service Management Preferences' form with the 'CALENDARS & MAPS' tab selected. The 'CALENDAR SETTINGS' section includes the following fields:

- \* Work Calendar: MAIN - Main Calendar
- Appointment Resize Precision: 30 MINUTES
- Appointment Auto-Confirm Time: 12 h 00 m
- Number of Staff Members: 20** (highlighted with a red box)
- Show Service Orders in a Period Of: [ ] Days

The 'MAP SETTINGS' section includes:

- Bing Map API Key: [ ]
- Refresh GPS Locations Every: 30 Seconds
- History Time Accuracy: 15 Minutes
- History Distance Accuracy: 5 Kilometers
- Show Location Tracking

The 'DEFAULT CALENDAR SETTINGS' section includes:

- View Mode: Vertical
- Time Range: Day
- Time Filter: Cleared Filter
- Day Start Time: 7:00 AM
- Day End Time: [ ]
- Day Resolution: 16
- Week Resolution: 12
- Month Resolution: 10

**Figure: The Number of Staff Members box**

By default, the box contains 10. If a user clears the box and saves these changes, all of the field service staff members will be shown on the calendar boards.

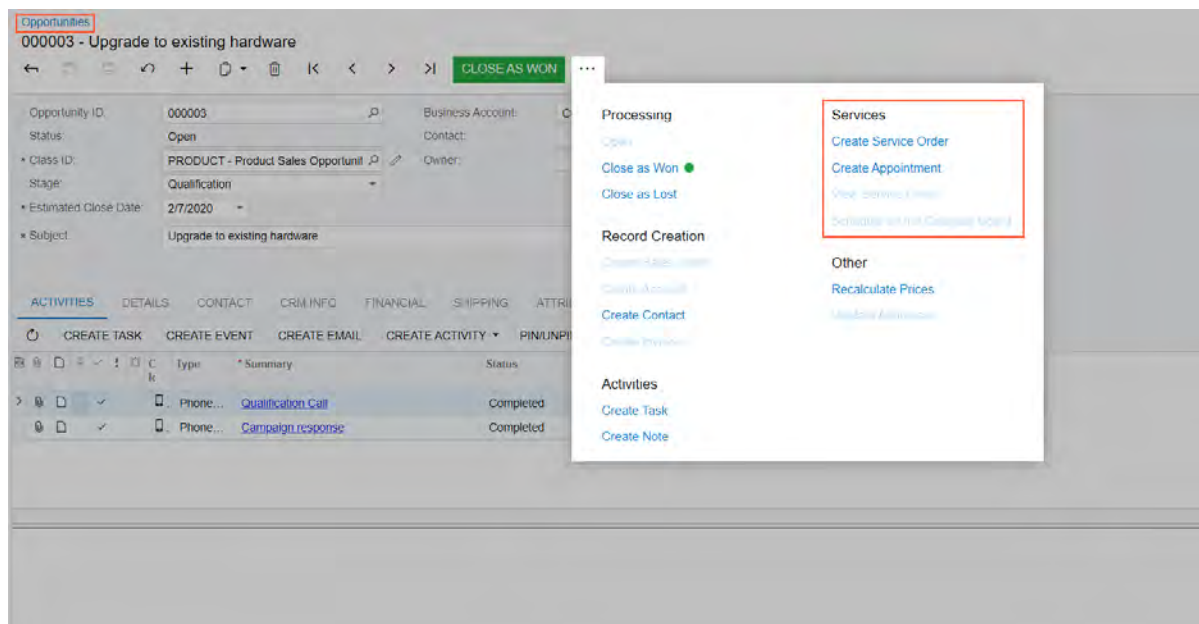
# Field Services: Quick Creation of a Service Document from an Opportunity and from a Project

Acumatica ERP 2021 R2 introduces the ability to quickly create service documents (service orders and appointments) from the *Opportunities* (CR304000) and *Projects* (PM301000) forms. Now while remaining on either form, a user can quickly create a service order or schedule an appointment directly on the calendar board, without opening the *Service Orders* (FS300100) or *Appointments* (FS300200) form. This new functionality will help managers to reduce the time of creating service orders and scheduling appointments because they do not need to open a service document form and enter all the required information there.

## Creating Service Documents from the Opportunities Form

In Acumatica ERP 2021 R2, while working with an opportunity on the *Opportunities* (CR304000) form, a user can easily create a service order or appointment related to the opportunity. The user clicks one of the new menu commands, opens a dialog box, and quickly enters the general settings of the service order or appointment to be created. The system creates the opportunity-related service document immediately on the *Service Orders* (FS300100) or *Appointments* (FS300200) form.

To create a service document from the *Opportunities* form, on the More menu, under **Services**, the user can now use the **Create Service Order** and **Create Appointment** menu commands (see the following screenshot). The **Services** category also contains the **View Service Order** and **Schedule on the Calendar Board** service-related commands.



*Figure: The menu commands related to service documents*

When a user clicks **Create Service Order**, the **Create Service Order/Appointment** dialog box is opened (see the following screenshot), in which the user specifies the basic settings the system will use to create the service order associated with the opportunity.

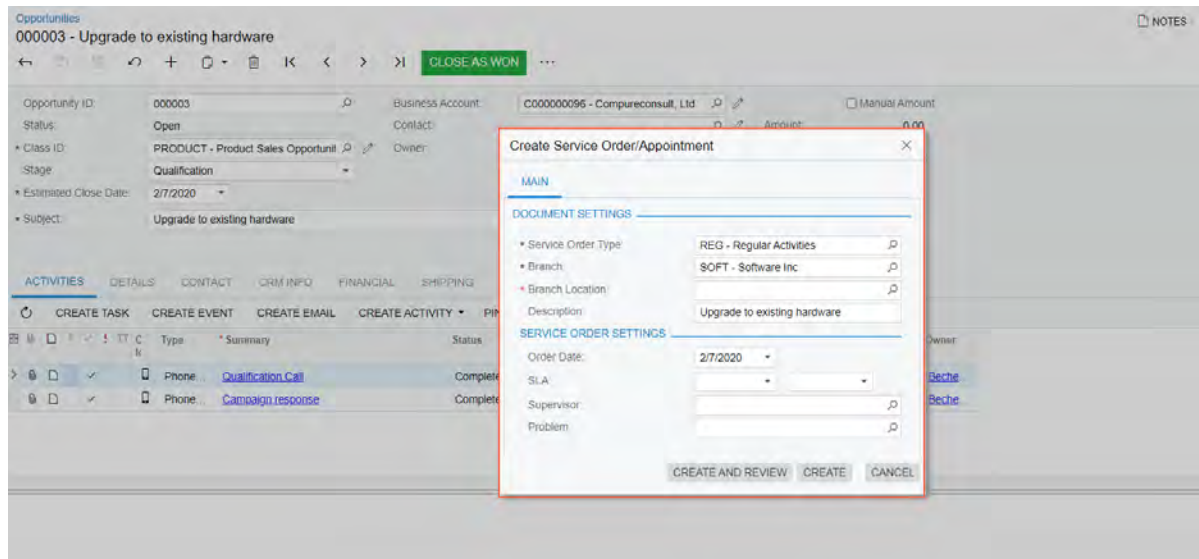


Figure: The Create Service Order/Appointment dialog box on the Opportunities form

When a user clicks **Create Appointment**, the **Create Service Order/Appointment** dialog box is opened and includes the **Appointment Settings** section (see the following screenshot) The user specifies the basic settings the system will use to create an appointment associated with the opportunity. The system creates a service order in addition to an appointment automatically.

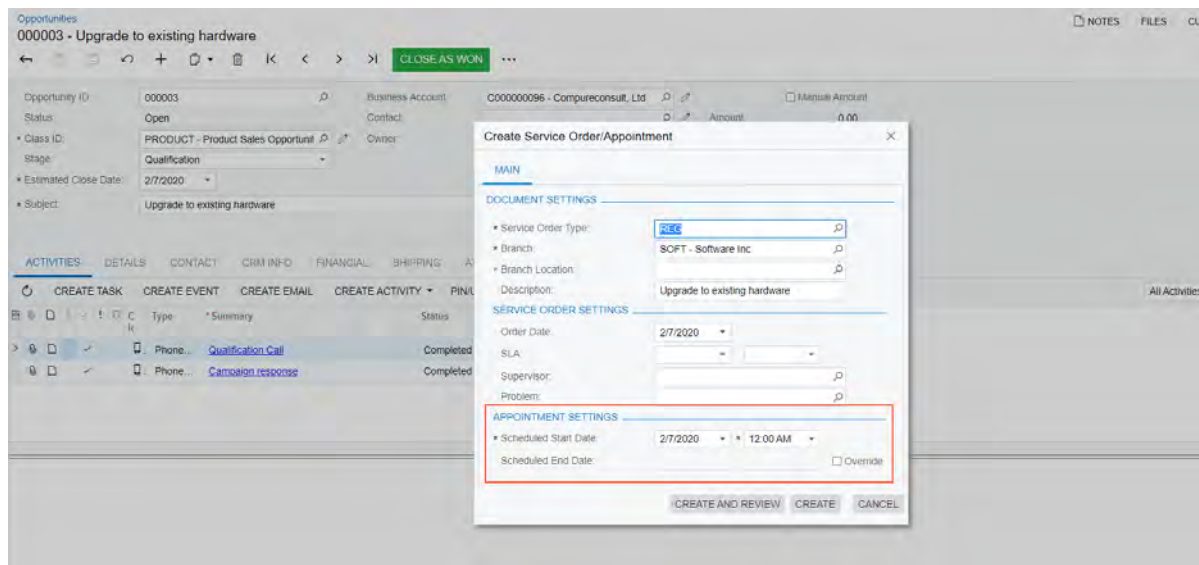


Figure: The Create Service Order/Appointment dialog box with the Appointment Settings section

The user fills in all the required boxes and specifies any other needed settings, and can click one of the following buttons:

- **Create:** The system creates a service order or an appointment (or both documents) without opening the service document form—[Service Orders](#) or [Appointments](#). In the upper right corner of the [Opportunities](#) form, the system shows a notification that the document has been created, but the user stays on the current form. The user can later view the created service document on the [Service Orders](#) or [Appointments](#) form.
- **Create and Review:** The system opens the [Service Orders](#) or [Appointments](#) form in a pop-up window with the created document. The user can review the document, add or change any settings, and save it.

The following commands are also included on the More menu under **Services**:

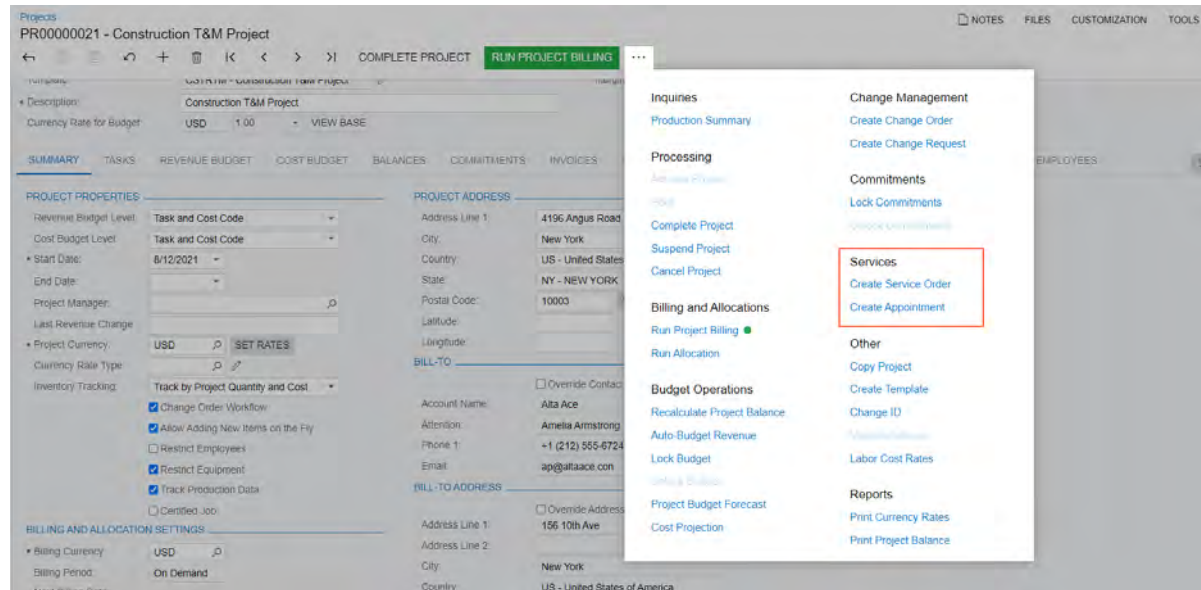
- **View Service Order:** Opens the [Service Orders](#) form in a pop-up window, on which a user can view the service order associated with the selected opportunity.
- **Schedule on the Calendar Board:** Opens the [Calendar Board](#) (FS300300) form, on which a user can schedule an appointment for the service order. The [Calendar Board](#) form can only be opened if a service order has been created for the selected opportunity and at least one service has been assigned to the associated service order.

## Creating a Service Order or an Appointment on the Projects Form

In Acumatica ERP 2021 R2, while viewing a project on the [Projects](#) (PM301000) form, a user can easily create a service order or appointment related to the project. The user clicks one of the new menu commands, opens a dialog box, and quickly enters the general settings of the service order or appointment to be created. The system creates the project-related service document immediately on the [Service Orders](#) (FS300100) or [Appointments](#) (FS300200) form.

On the [Projects](#) form, on the More menu under **Services**, the following menu commands are now available (as shown in the following screenshot):

- **Create Service Order:** Opens the **Create Service Order/Appointment** dialog box, in which the user specifies the basic settings the system will use to create a service order associated with the project.
- **Create Appointment:** Opens the **Create Service Order/Appointment** dialog box with an additional section in which a user specifies the basic settings the system will use to create an appointment associated with the project.



*Figure: The menu commands related to service documents*

The **Create Service Order/Appointment** dialog box with the **Appointment Settings** section is shown in the following screenshot.

**Figure:** The Create Service Order/Appointment dialog box on the Projects form

The user fills in all the required boxes and specifies any other needed settings, and can click one of the following buttons:

- **Create:** The system creates a service order or an appointment (or both documents) without opening the service document form—[Service Orders](#) or [Appointments](#). In the upper right corner of the [Projects](#) form, the system shows a notification that the document has been created, but the user stays on the current form. The user can later view the created service document on the [Service Orders](#) or [Appointments](#) form.
- **Create and Review:** The system opens the [Service Orders](#) or [Appointments](#) form in a pop-up window with the created document. The user can review the document, add or change any settings, and save it.

As a result, a user can save time and quickly create a service order or an appointment (or both documents) for a project.



# Field Services: Tracking Profitability of Items in Service Orders

Since Acumatica ERP 2021 R2, a user can track the profitability and costs of items (stock items, non-stock items, services, and labor) at the service order level—that is, of the items included in a service order.

## The New Profitability Tab on the Service Orders Form

The new **Profitability** tab, shown in the following screenshot, has been added to the [Service Orders](#) (FS300100) form to display details about the profitability and costs of the items in the service order. The lines on this tab are added by the system.

The table on this tab contains the following columns, which contain data about each listed item: **Ref. Nbr., Line Type, Inventory ID, Description, Staff Member, Unit Price, Unit Cost, Estimated Quantity, Estimated Amount, Estimated Cost, Actual Duration, Actual Quantity, Actual Amount, Ext. Cost, Billable Quantity, Billable Amount, Profit, Profit (%)**, and **Appointment Nbr.** (hidden by default).

The system copies most of the values in these columns from the source of the line, as described further in this topic. The values related to profitability and costs are calculated by the system based on the type of the line item and the billing settings specified for the customer specified in the service order.

Ref. Nbr.	Line Type	Inventory ID	Description	Staff Member	Unit Price	Unit Cost	Estimated Quantity	Estimated Amount	Estimated Cost	Actual Duration	Actual Quantity	Actual Amount	Ext. Cost	Billable Quantity
0001	Service	TRAINING	Training on juicer usage (at customer's place)		50.00	40.00	0.75	37.50	30.00	2 h 00 m	2.00	100.00	80.00	

**Figure: The new Profitability tab**

On this tab, the following types of detail lines can be displayed:

- **Non-Stock Item** and **Service** types: The system copies all lines of these types, including the applicable column values, from the **Details** tab of the [Service Orders](#) form. For each line of this type, the system determines the values of the following columns as described:
  - **Unit Cost:** The system copies this value from the **Details** tab of this form. The value is the cost specified in the **Current Cost** box of the [Non-Stock Items](#) (IN202000) form.
  - **Ext. Cost:** This value is the extended cost of the item or service, which the system calculates as the unit cost multiplied by the actual quantity of the item.
  - **Billable Quantity:** This value is the same as the value in the **Estimated Quantity** column of this tab if on the **Financial Settings** tab, [Service Orders](#) is specified in the **Billing By** box. If [Appointments](#) is instead specified in the **Billing By** box, then on the **Profitability** tab, the value in the **Billable Quantity** column is the same as the value in the **Billable Quantity** column of the **Details** tab of the [Appointments](#) (FS300200) form for the appointment associated with this item.
  - **Billable Amount:** This value is the same as the value in the **Estimated Amount** column of this tab if on the **Financial Settings** tab, [Service Orders](#) is specified in the **Billing By** box. If [Appointments](#) is instead specified in the **Billing By** box, then on the **Profitability** tab, the value in the **Billable Amount** column is the same as the value in the **Billable Amount** column of the **Details** tab on the [Appointments](#) form for the appointment associated with this item.

- *Inventory Item* type: The system copies all lines of this type, including the applicable column values, from the **Details** tab of the [Service Orders](#) form. For each line of this type, the system determines the values of the following columns as described:
  - **Unit Cost:** This value is the cost specified in the **Average Cost** box on the [Stock Items](#) (IN202500) form for the item. If this item is a serialized inventory item, this value may vary; thus, the value in this column is the average of the costs of all the serialized items with this inventory ID specified in this service order on the **Details** tab.
  - **Ext. Cost:** This value is the extended cost of the item or service, which is the unit cost multiplied by the actual quantity of the item. For a serialized item, this is the sum of the costs of all the serialized items with this inventory ID in this service order.
  - **Billable Quantity:** This value is the same as the value specified in the **Quantity** column of the **Details** tab if on the **Financial Settings** tab of this form, *Service Orders* is specified in the **Billing By** box. If *Appointments* is instead specified in the **Billing By** box, then on the **Profitability** tab, the value in the **Billable Quantity** column is the same as the value specified in the **Appointment Quantity** column of the **Details** tab.
  - **Billable Amount:** This value is the same as the value specified in the **Amount** column of the **Details** tab if on the **Financial Settings** tab of this form, *Service Orders* is specified in the **Billing By** box. If *Appointments* is specified in the **Billing By** box, then on the **Profitability** tab, the value in the **Billable Amount** column is the same as the value in the **Appointment Amount** column of the **Details** tab.
- *Labor* type: When the system logs the time of a staff member assigned to an appointment associated with this service order, causing the log line to be added to the **Log** tab of the [Appointments](#) form, the system copies this line and its applicable column values to the **Profitability** tab of the [Service Orders](#) form.

For each line of this type, the system determines the values of the following columns as described below:

- **Unit Cost:** The system fills in this column with the cost specified in the **Rate** column on the [Labor Rates](#) (PM209900) form for the employee (that is, the applicable staff member) who performed the labor.
- **Ext. Cost:** The extended cost of the labor item is the unit cost multiplied by the actual quantity of the item.
- **Billable Quantity:** For the service order type of the service order on the [Service Order Types](#) form, if *Project Transactions* is selected in the **Generated Billing Documents** box and *Cost as Cost* is selected in the **Billing Type** box, then the value in the **Billable Quantity** column on the **Profitability** tab of the [Service Orders](#) form will be the same as the value of the **Actual Quantity** column of the **Details** tab on the [Appointments](#) form for the line representing this labor item. Otherwise, the system specifies 0 in this column.
- **Billable Amount:** For the service order type of the service order on the [Service Order Types](#) form, if *Project Transactions* is selected in the **Generated Billing Documents** box and *Cost as Cost* is selected in the **Billing Type** box, then the value in the **Billable Amount** column on the **Profitability** tab of the [Service Orders](#) form will be the same as the value of the **Actual Amount** column of the **Details** tab on the [Appointments](#) form for the line representing this labor item. Otherwise, the system specifies 0 in this column.

For each line, regardless of its type, the **Profit** column contains the profit of the line item, which the system calculates by using the following formula.

```
Billable-Ext.Cost
```

For the **Profit (%)** column, which contains the profit of the line item expressed as a percent, the system uses the following formula.

```
((Billable Amount-Ext. Cost)/Ext. Cost) * 100
```

## Changes in the Summary Area of the Service Orders Form

In the Summary area of the [Service Orders](#) (FS300100) form, the following boxes (shown in the screenshot below) have been added:

- **Cost Total:** The total of the **Ext. Cost** values of all line items on the **Profitability** tab.
- **Profit (%):** The profitability of the service order's items, expressed as a percent. The system calculates this value as follows.

$$\left( (\text{Line Total (the Billable Total section of the Totals tab)} - \text{Cost Total}) / \text{Cost Total} \right) * 100$$

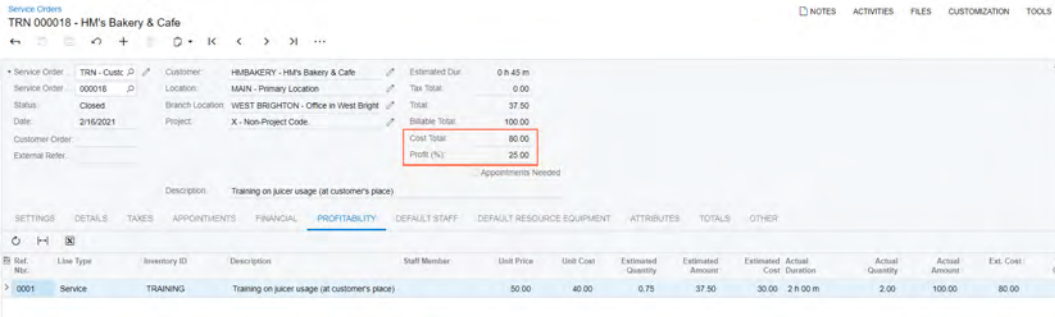


Figure: New boxes in the Summary area of the Service Orders form

Also, the **Service Order Total** box has been moved from the Summary area to the **Totals** tab (**Service Order Total** section), and renamed to **Total**.

### Changes on the Appointments Tab of the Service Orders Form

On the **Appointments** tab of the *Service Orders* (FS300100) form, the following columns have been added (as the screenshot below shows):

- **Billable Total:** The value in the **Appointment Total** box of the Summary area of the *Appointments* (FS300200) form for the corresponding appointment.
- **Cost Total:** The value in the **Cost Total** box of the Summary area of the *Appointments* form for the corresponding appointment.

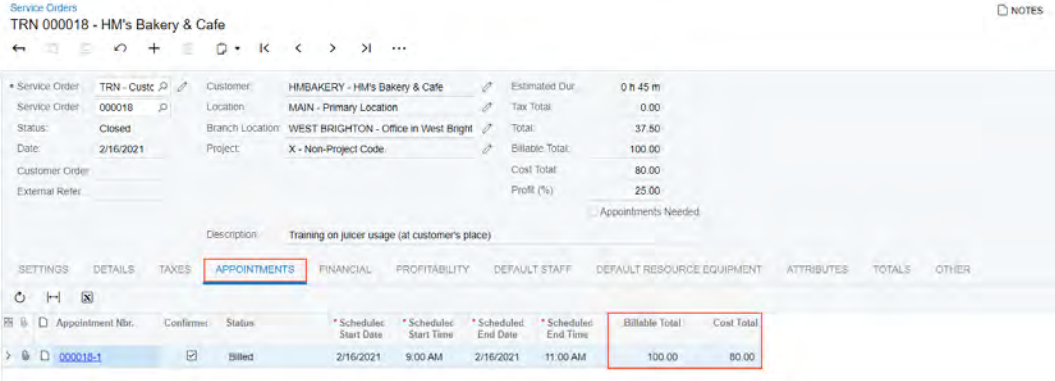


Figure: New columns on the Appointments tab

### Changes on the Totals Tab of the Service Orders Form

On the **Totals** tab of the *Service Orders* (FS300100) form, the **Service Order Totals** section has been modified, and two new sections, **Appointment Totals** and **Billable Total**, have been added (see the following screenshot).

Service Orders  
TRN 000018 - HM's Bakery & Cafe

Customer: HMBAKERY - HM's Bakery & Cafe  
Location: MAIN - Primary Location  
Branch Location: WEST BRIGHTON - Office in West Bright  
Project: X - Non-Project Code

Estimated Dur: 0 h 45 m  
Tax Total: 0.00  
Total: 37.50  
Billable Total: 100.00  
Cost Total: 80.00  
Profit (%): 25.00

Description: Training on juicer usage (at customer's place)

SETTINGS DETAILS TAXES APPOINTMENTS FINANCIAL PROFITABILITY DEFAULT STAFF DEFAULT RESOURCE EQUIPMENT ATTRIBUTES **TOTALS** OTHER

SERVICE ORDER TOTALS		APPOINTMENT TOTALS	
Estimated Duration:	0 h 45 m	Appointment Duration:	2 h 00 m
Estimated Total:	37.50	Line Total:	100.00
Line Total:	37.50	Tax Total:	0.00
VAT Exempt Total:	0.00	Total:	100.00
VAT Taxable Total:	0.00	<b>BILLABLE TOTAL</b>	
Tax Total:	0.00	Billing By:	Appointments
Total:	37.50	Line Total:	100.00
		Tax Total:	0.00
		Billable Total:	100.00

Figure: New or modified sections on the Totals tab

Specifically, the following changes have been made to this tab:

- The **Service Order Totals** section has been modified as follows:
  - The **Appointments Total** box has been removed (the box that contains the equivalent value is now located in the new **Appointment Total** section).
  - The **Service Order Total** box has been renamed to **Total**.
  - The **Billable Total** box has been removed (the box that contains the equivalent value is now located in the new **Billable Total** section).
- The new **Appointment Totals** section has been added and contains the following elements:
  - Line Total:** This box holds the sum of totals without tax of appointments related to the service order; appointments are included only if they have the *Completed* or *Closed* status.
  - Tax Total:** This box contains the sum of the tax amounts of appointments related to the service order; appointments are included only if they have the *Completed* or *Closed* status.
  - Total:** This box contains the sum of totals of appointments related to the service order with taxes included; appointments are included only if they have the *Completed* or *Closed* status.
- The new **Billable Total** section has been added and contains the following elements:
  - Billing By:** The value in this box is copied from the **Billing By** box of the **Financial Settings** tab of the current form.
  - Line Total:** If the **Billing By** box contains *Appointments*, then the system populates the **Line Total** box with the value in the **Line Total** box of the **Appointment Totals** section. If the **Billing By** box contains *Service Orders*, then the system populates this box with the value in the **Line Total** box of the **Service Order Totals** section.
  - Tax Total:** If the **Billing By** box contains *Appointments*, then the value in the **Tax Total** box is the same as the value in the **Tax Total** box of the **Appointment Totals** section. If the **Billing By** box contains *Service Orders*, then the value in the **Tax Total** box is the same as the value in the **Tax Total** box of the **Service Order Totals** section.
  - Billable Total:** If the **Billing By** box contains *Appointments*, then the value in the **Billable Total** box is the same as the value in the **Total** box of the **Appointment Totals** section. If the **Billing By** box contains *Service Orders*, then the value in the **Billable Total** box is the same as the value in the **Total** box of the **Service Order Totals** section.

Thus, on this tab, the total amounts related to the selected service order and the associated appointments, as well as the billable totals, which are calculated by the system based on the billing settings are shown.

# Field Services: New Service Contract Billing Types

---

Starting in Acumatica ERP 2021 R2, two new service contract billing types are available in the system. With either of those new billing types, a billing document is generated for a service contract at the beginning of each contract period and contains the fixed price that has been agreed upon. If any additional services or inventory items have been used on the appointment during the contract period, then depending on the specified billing type, they will not be billed or will be billed separately. The new billing types are described in detail in the next section of this topic.

The old service contract billing types (those that were available in the system before Acumatica ERP 2021 R2) have been renamed.

## New Service Contract Billing Types

On the **Summary** tab of the [Service Contracts](#) (FS305700) form, in the **Billing Type** box, the following new options are now available:

- *Beginning-Period Fixed*: The type that is used for contracts for which the billing occurs at the beginning of the contract period. Any additional services or inventory items that have been used in appointments during this period are not billed.

At the beginning of the contract period, the system generates a billing document that contains the items specified in the contract with the agreed price. If any additional services or items have been used during an appointment, the system generates another billing document that contains these additional services or items with the 0 price.

- *Beginning-Period Plus*. The type that is used for contracts for which the billing occurs at the beginning of the contract period. Any additional services or inventory items that have been used in appointments during this period are billed separately.

At the beginning of the contract period, the system generates a billing document that contains the items specified in the contract with the agreed price. If any additional services or items have been used during an appointment, the system generates another billing document that contains these additional items with their actual prices.

The following screenshot shows the current service contract billing types; the last two are the new options.

Service Contracts  
New Record

NOTES ACTIVITIES

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\* Project: X - Non-Project Code: [🔍]

Master Contract: [🔍]

Description: [🔍]

SUMMARY SCHEDULES PRICES CONTRACT HISTORY ATTRIBUTES

**CONTRACT SETTINGS**

\* Start Date: 7/23/2021

Expiration Type: Unlimited

Expiration Date: [🔍]

Schedule Generation T...: Service Orders

Vendor: [🔍] ✎

Contact: [🔍] ✎

Salesperson ID: [🔍] ✎

Commissionable

**AS PERFORMED SETTINGS**

Take Prices From: Regular Price

**BILLING SETTINGS**

\* Branch: PRODWHOLE - Products Wholesale [🔍]

\* Branch Location: BRONX - Bronx Location [🔍] ✎

**Billing Type:** At Time of Service

Bill To: [🔍] ✎

Billing Customer: [🔍] ✎

Billing Location: [🔍] ✎

At Time of Service  
End-Period Plus  
Beginning Period Fixed  
Beginning Period Plus

**Figure: Service contract billing types**

## Renamed Service Contract Billing Types

The names of the billing types that previously existed in the system have been changed in Acumatica ERP 2021 R2 as follows:

- *As Performed Billings* has been renamed to *At Time of Service*.
- *Standardized Plus Usage/Overage* has been renamed to *End-Period Plus*.

The functionality of these billing type options has not been changed.

## Billing Documents

If the *Beginning-Period Fixed* or *Beginning-Period Plus* billing type is specified for the service contract on the [Service Contracts](#) (FS305700) form, then in the beginning of the billing period, the system generates an AR invoice for the service contract. The AR invoice includes the price defined by the contract.

For any additional services or inventory items that have been used during an appointment (if any), the system generates a billing document from an appointment or service order document, depending on the billing cycle specified for a customer.

On the [Service Contracts](#) form, in the table on the **Services per Period** tab, the new **Deferral Code** column has been added. In this column, the system inserts the value that is specified for the item on the **Deferral** tab of the [Non-Stock Items](#) (IN202000) form. When the system generates an AR invoice from the service contract, it copies the deferral code value to the **Deferral Code** column of the **Details** tab on the [Invoices and Memos](#) (AR301000) form.

# Field Services: UI Enhancements

In Acumatica ERP 2021 R2, on multiple service management, equipment management, and route management forms, the form toolbar has been redesigned, and a new workflow engine with a new toolbar has been implemented.

To enhance this functionality, all form-specific commands on the form toolbars of service management, equipment management, and route management forms for data entry and processing have been grouped on one menu and sorted by category. These commands work as they did in the previous versions; only the placement of the commands has changed. The UI on the toolbars of these forms has been enhanced to support the functionality of command categories and a single menu.

## Form Toolbar Enhancements

On multiple forms that provide service management, equipment management, and route management functionality, form-specific commands on the toolbar have been moved to the More menu, which a user can view by clicking the More (...) button on the form toolbar. Commands are now grouped by categories. For example, commands related to document processing are grouped under the **Processing** category. If a command is the primary command according to the document processing workflow (that is, the command most likely to be taken, given the status of the document), it is marked with a green dot on the More menu and is displayed on the form toolbar and highlighted in green. For more information, see [User Interface: Redesigned Form Toolbar](#).

The following screenshot illustrates the [Appointments](#) (FS300200) form with its commands placed on the More menu and organized in categories. The **Start** button, which corresponds to the primary command for an appointment with the *Not Started* status, is displayed on the form toolbar (highlighted in green), and the corresponding menu command is highlighted on the menu. Other menu commands related to the appointment are available for selection on the menu.

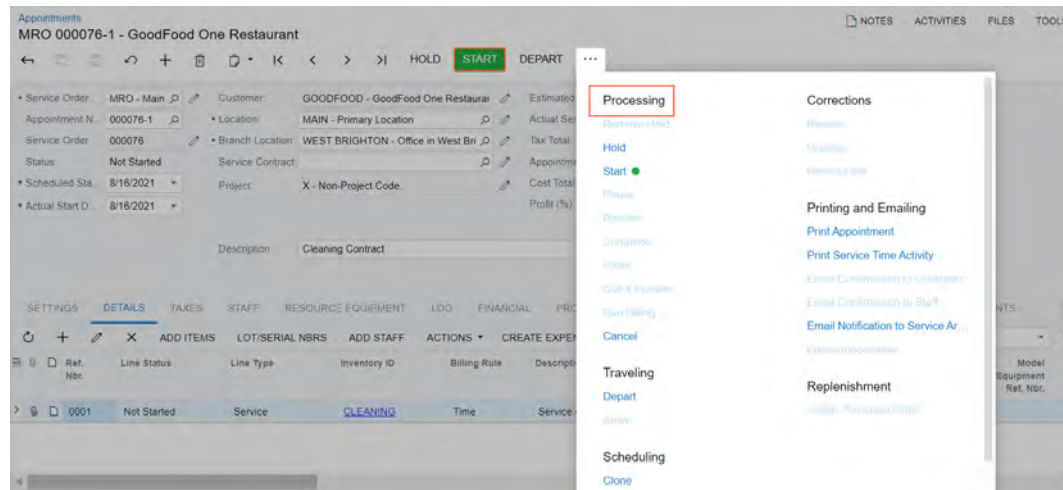


Figure: The categories and menu commands on the More menu of the Appointments form

## Command Name Changes

The following table lists the forms where commands on the More menu have been renamed to unify the command names throughout the system.

Form	Command name in previous version	Command name in 2021 R2
<a href="#">Service Orders</a> (FS300100)	<b>Schedule</b>	<b>Create Appointment</b>

Form	Command name in previous version	Command name in 2021 R2
	<b>Print Appointments in Service Order</b>	<b>Print Appointments</b>
	<b>Purchase</b>	<b>Create Purchase Order</b>
<i>Appointments</i> (FS300200)	<b>Purchase</b>	<b>Create Purchase Order</b>
	<b>Email Signed Appointment</b>	<b>Email Appointment</b>
<i>Service Contracts</i> (FS305700)	<b>Activate Contract</b>	<b>Activate</b>
	<b>Suspend Contract</b>	<b>Suspend</b>
	<b>Cancel Contract</b>	<b>Cancel</b>
<i>Route Document Details</i> (FS304000)	<b>Start Route</b>	<b>Start</b>
	<b>Complete Route</b>	<b>Complete</b>
	<b>Cancel Route</b>	<b>Cancel</b>
	<b>Reopen Route</b>	<b>Reopen</b>
	<b>Unclose Route</b>	<b>Unclose</b>
	<b>Delete Route</b>	<b>Delete</b>
<i>Route Closing</i> (FS304010)	<b>Close Route</b>	<b>Close</b>
	<b>Unclose Route</b>	<b>Unclose</b>

## Tab Name Changes

The field service forms in Acumatica ERP have multiple tabs, which previously sometimes did not fit on the screen. In Acumatica ERP 2021 R2, multiple tabs on these forms have been renamed to make them clearer to users and to get rid of extra words in titles.

The following table lists all the tabs that have been renamed in 2021 R2.

Form	Tab title in previous version	Tab title in version 2021 R2
<i>Service Orders</i> (FS300100)	<b>Tax Details</b>	<b>Taxes</b>
	<b>Financial Settings</b>	<b>Financial</b>
	<b>Related Service Orders</b>	<b>Related Documents</b>
	<b>Other Information</b>	<b>Other</b>
<i>Appointments</i> (FS300200)	<b>Tax Details</b>	<b>Taxes</b>
	<b>Financial Settings</b>	<b>Financial</b>



Form	Tab title in previous version	Tab title in version 2021 R2
	<b>Other Information</b>	<b>Other</b>
<i>Service Management Preferences</i> (FS100100)	<b>General Settings</b>	<b>General</b>
	<b>Calendar and Maps</b>	<b>Calendar &amp; Maps</b>
	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
<i>Branch Locations</i> (FS202500)	<b>Branch Location Details</b>	<b>General</b>
<i>Service Order Types</i> (FS202300)	<b>Preferences</b>	<b>General</b>
	<b>Quick Process Settings</b>	<b>Quick Processing</b>
	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
<i>Equipment Management Preferences</i> (FS100300)	<b>General Settings</b>	<b>General</b>
<i>Equipment</i> (FS205000)	<b>General Info</b>	<b>General</b>
	<b>Purchase Info</b>	<b>Purchase</b>
	<b>Source Info</b>	<b>Source</b>
<i>Service Contracts</i> (FS305700)	<b>Contract History</b>	<b>History</b>
<i>Manufacturers</i> (FS204400)	<b>Manufacturer Details</b>	<b>General</b>
<i>Generate from Service Contracts</i> (FS500300)	<b>Run History</b>	<b>History</b>
	<b>Generation Error Log</b>	<b>Error Log</b>
<i>Route Management Preferences</i> (FS100400)	<b>General Settings</b>	<b>General</b>
<i>Vehicles</i> (FS203600)	<b>General Info</b>	<b>General</b>
	<b>Purchase Info</b>	<b>Purchase</b>
<i>Routes</i> (FS203700)	<b>Execution Days</b>	<b>Execution</b>
	<b>Route Employees</b>	<b>Employees</b>
	<b>Days by Week Codes</b>	<b>Week Codes</b>
<i>Route Service Contracts</i> (FS300800)	<b>Contract History</b>	<b>History</b>
<i>Route Service Contract Schedules</i> (FS305600)	<b>Days by Week Codes</b>	<b>Week Codes</b>

# Field Services: Mobile App Enhancements

In the Acumatica mobile app connected to an instance of Acumatica ERP 2021 R2, the usability of the Appointments screen has been improved. Now on the **Details** tab, a user can filter the items listed for selection, select the needed items, and add the selected inventory items to the appointment simultaneously.

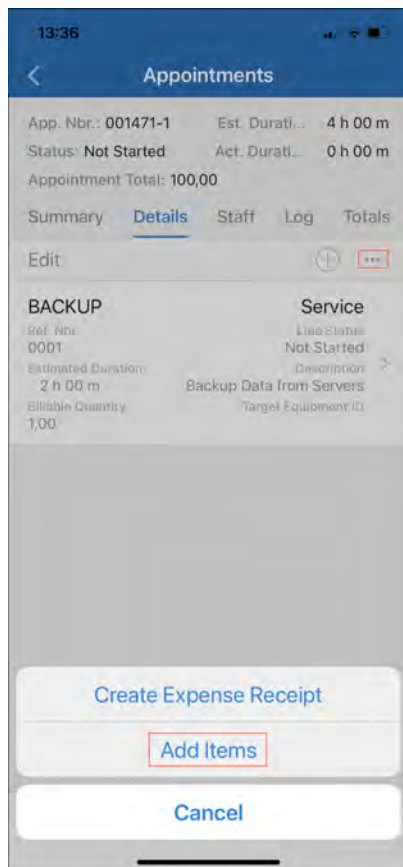
The process of performing an action (such as start, pause, resume, or complete) on selected services on the **Details** tab has also been optimized. The number of screen views for performing the action has been reduced to save the user's time.

## Addition of Multiple Items Simultaneously



In this topic, we are demonstrating the functionality on the Acumatica mobile app for iOS devices. The appearance of the mobile app for Android devices may differ somewhat.

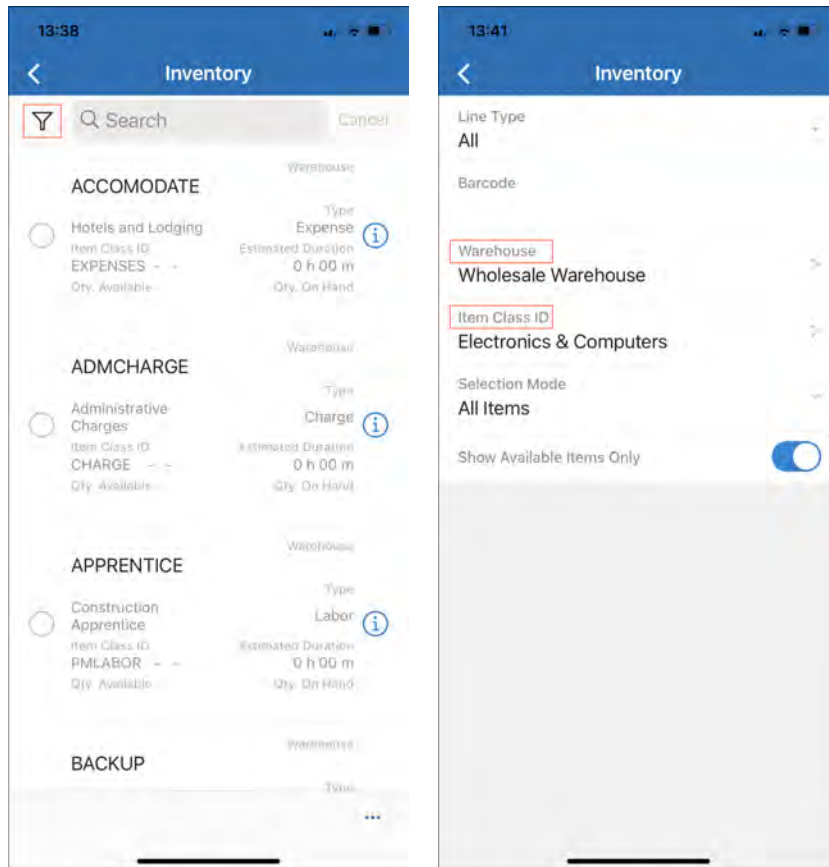
On the **Details** tab of the Appointments screen, the new **Add Items** action has been added (as shown in the following screenshot), which opens the list of inventory items.



**Figure: The new Add Items action**

In the list of inventory items, a user can select the items to be included in the appointment.

The user can narrow the list of items available for selection by clicking the filter icon (shown in the left screenshot below) and specifying filtering settings (as the right screenshot below shows).



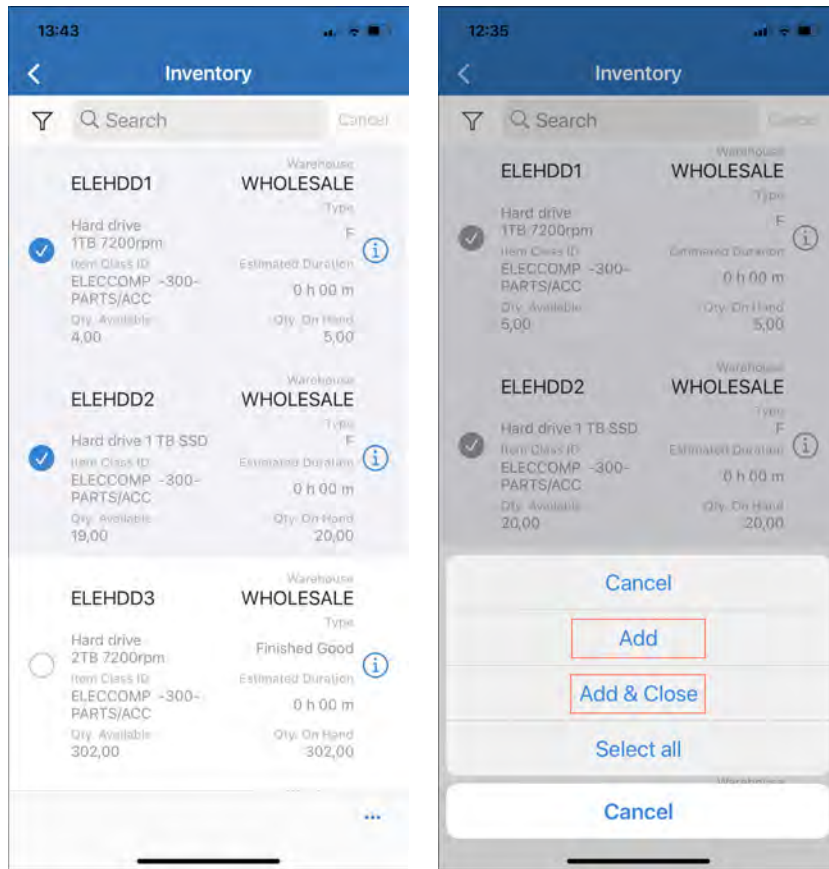
**Figure: Filtering the list of inventory items**

The user can specify any of the following filtering elements:

- **Line Type:** The type of the items to be listed, which is one of the following options: *Service*, *Non-Stock Item*, *Inventory Item*, or *All*.
- **Barcode:** The barcode of the item to be listed, which the user can enter manually (if needed).
- **Warehouse:** The warehouse for which items are listed.
- **Item Class ID:** The item class for which items will be shown.
- **Selection Mode:** One of the following options: *All* (the default option, which does not filter the items further) or *Sold Since* (which filters the items by date). If *Sold Since* is selected, the user specifies the needed date (**Sold Since**).
- **Sold Since:** The date on or after which items sold are listed. This element appears on the screen only if the user selected *Sold Since* as the **Selection Mode**.
- **Show Available Items Only:** A check box that the user selects to cause the system to list only available items.

If filtering settings are specified, the system narrows the list of items based on the filtering criteria. The user can more easily find the needed items in the list and select them (as the left screenshot below shows). Then the user clicks one of the following actions (as the right screenshot below shows):

- **Add:** The system adds the selected items to the **Details** tab for the appointment, but the user continues to view the list of items available for selection.
- **Add & Close:** The system adds the selected items to the **Details** tab for the appointment, closes the list of items, and returns to the **Details** tab.

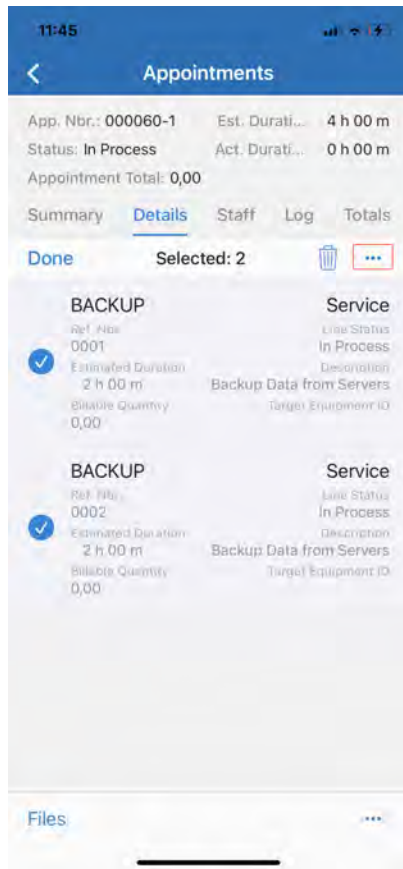


*Figure: Adding filtered items to an appointment*

## Improved Process of Managing the Services Included in an Appointment

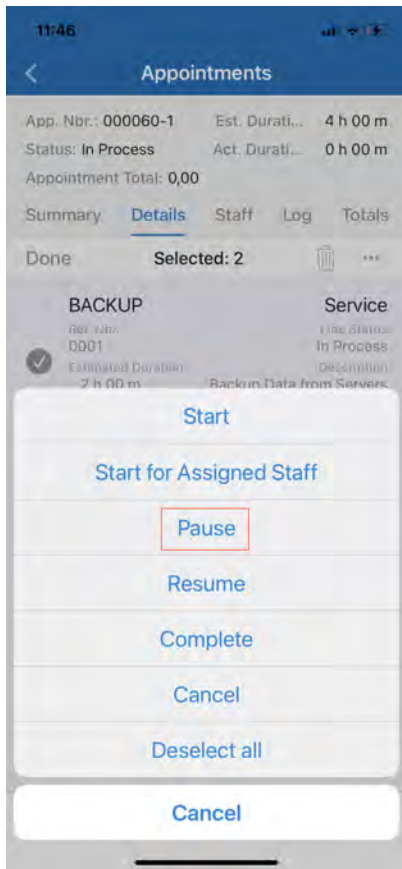
The process of working with the services of an appointment (such as starting, pausing, resuming, and completing these services) in the Acumatica mobile app has been optimized. The number of steps (and screen views) for performing these tasks has been reduced.

Now a user can select one service or multiple services on the **Details** tab, as shown in the following screenshot. The user then selects the ... button to view the Actions screen menu.



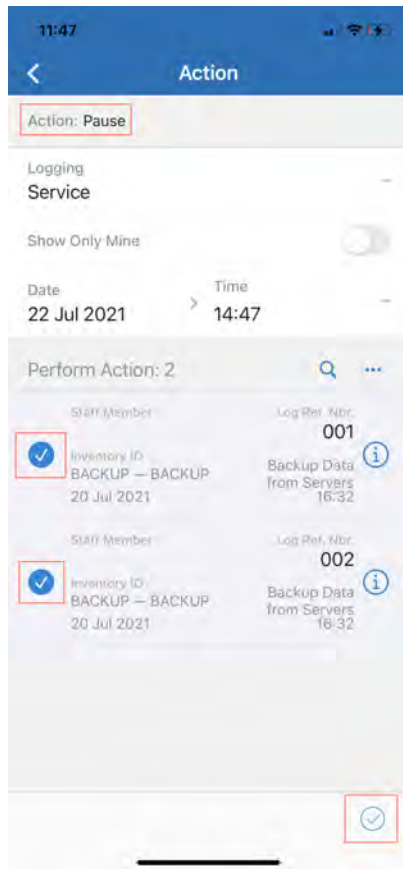
*Figure: Services selected on the Details tab*

On the Actions screen menu, the user taps the needed action (such as **Start**, **Pause**, **Resume**, or **Complete**). As an example, in the following screenshot, the **Pause** action has been selected.



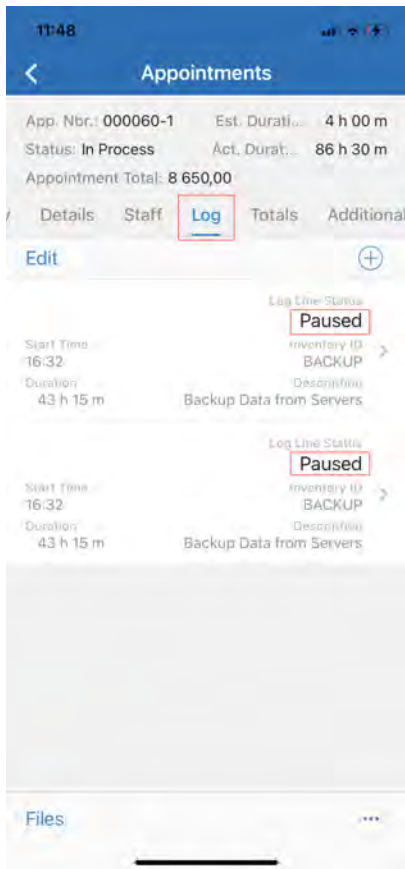
**Figure: The Actions screen menu**

In the next screen view, which has been modified in the Acumatica mobile app connected to an instance of Acumatica ERP 2021 R2, the user completes selected action (see the following screenshot).



**Figure:** The new screen view to perform an action on services

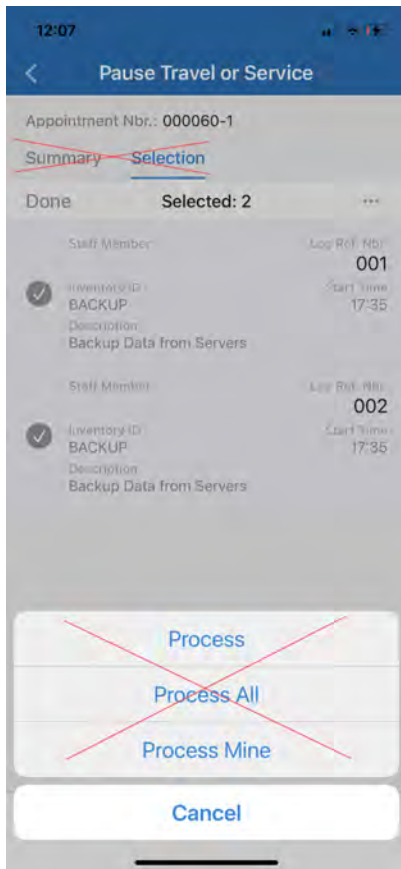
As a result, the selected services have been paused, as shown in the following screenshot.



**Figure: The paused services shown on the Log tab**

The following UI elements have been removed (as the following screenshot shows) starting in the Acumatica mobile app connected to Acumatica ERP 2021 R2 to reduce the number of screen views for performing the actions with the services.





**Figure:** The removed UI elements

# Finance: Application of Unreleased AR Documents to Payments

On the [Invoices and Memos](#) (AR301000) form, during document creation, users can apply unreleased invoices and debit memos to payments on the **Applications** tab.

On the **Applications** tab, the **Add Row** button is now available if a user is creating a new document of the *Invoice* or *Debit Memo* type and the document has the *On Hold* or *Balanced* status. The following screenshot illustrates an unreleased invoice with the *Balanced* status for which the **Add Row** button is available on the table toolbar of the **Applications** tab.

The screenshot shows the 'Invoices and Memos' form for 'Invoice AR009662 - ABC Holdings Inc'. The 'Status' is 'Balanced'. The 'Applications' tab is active, and the 'Add Row' button (a plus sign in a square) is highlighted with a red box. The table below the toolbar is empty.

Branch	Doc. Type	Reference Nbr.	Customer	Amount Paid	Cash Discount Taken	Write-Off Amount	Write-Off Reason Code	Payment Date	Balance	Description
--------	-----------	----------------	----------	-------------	---------------------	------------------	-----------------------	--------------	---------	-------------

**Figure: The Add Row button available for an unreleased AR document**

The following screenshot illustrates the same unreleased AR invoice after the application to a payment has been added.

The screenshot shows the same 'Invoices and Memos' form, but now a row has been added to the 'Applications' table. The row is highlighted with a red box.

Branch	Doc. Type	Reference Nbr.	Customer	Amount Paid	Cash Discount Taken	Write-Off Amount	Write-Off Reason Code	Payment Date	Balance	Description
PRODWOLE	Payment	003487	ABCHOLDING	390.00	0.0000	0.00	BALWOFF	6/22/2021	200.00	Consulting services

**Figure: Unreleased AR invoice applied to a payment**

## Additional Information

For updated information on invoice processing, see [AR Invoices: General Information](#).

For the workflow of processing an invoice with a payment applied to it, see [AR Invoices: To Create an AR Invoice and Apply a Payment to It](#).

# Finance: Customer Refunds with Open Balance

In previous versions of Acumatica ERP, a customer refund could not have an open balance and could be fully applied to a payment, prepayment, or credit memo. When a user created a credit memo on the [Invoices and Memos](#) (AR301000) form, a customer refund could not be applied to this credit memo.

Starting in Acumatica ERP 2021 R2, a customer refund that is released and open can be applied to a sales order or payment. Now when a user creates a customer refund on the [Payments and Applications](#) (AR302000) form and releases it, the status of the refund is changed to *Open*, the corresponding GL transaction is posted, and the refund can be applied partially or in full to a credit memo, payment, or prepayment.

## Changes to the Invoices and Memos Form

On the **Applications** tab of the [Invoices and Memos](#) (AR301000) form, in the **Doc. Type** column, the *Customer Refund* option has been added, as shown in the following screenshot.

Invoices and Memos  
Credit Memo - ABC Holdings Inc

← 📄 📄 ↶ + 🗑️ 📄 > |< < > >| **RELEASE** ⋮

Type:	Credit Me...	Customer:	ABCHOLDING - ABC Holdings Inc	Detail Total:	23.00
Reference Nbr.:	<NEW>	* Location:	MAIN - Primary Location	Discount Total:	0.00
Status:	Balanced	Currency:	USD 1.00 VIEW BASE	VAT Taxable T...:	0.00
* Date:	5/24/2021	Terms:		VAT Exempt T...:	0.00
* Post Period:	05-2021	Due Date:	<input type="checkbox"/> Apply Retainage	Tax Total:	0.00
Customer Ord...:		Cash Discount...:	<input type="checkbox"/> Pay by Line	Balance:	23.00
Description:	Overpaid amount	* Project/Contract:	X - Non-Project Code.	Cash Discount:	0.00

DETAILS FINANCIAL ADDRESSES TAXES COMMISSIONS APPROVALS DISCOUNTS **APPLICATIONS**

BranchID	Doc. Type	*Reference Nbr.	Customer	Amount Paid	Date	Balance	Description
*	Invoice			0.00		0.00	

Invoice  
Debit Memo  
Overdue Charge  
**Customer Refund**

**Figure:** Document types on the Applications tab of the Invoice and Memos form

The numbers of only released and open customer refunds are available for selection in the **Reference Nbr.** column.

For a credit memo selected on the [Invoices and Memos](#) form, the processing of customer refunds to be applied to the credit memo has been modified in 2021 R2 as follows:

- A customer refund with the *Open* status can be applied to a credit memo if the credit memo is unreleased. Regardless of the status of the credit memo and the customer refunds applied to it, all applications of documents to this credit memo are displayed on the **Applications** tab.
- For a customer refund listed on the **Applications** tab of the form, users can edit the application amount in the **Amount Paid** column to partially apply the customer refund to the credit memo.

## Changes to Refund Processing on the Payments and Applications Form

On the *Payments and Applications* (AR302000) form, a user can create and release a document with the *Customer Refund* type without applying it to another document. When the customer refund is released, its status is changed to *Open*, the refund has an open balance (that is, the **Available Balance** box shows a nonzero amount), and the **Add Row** button is available on the **Documents to Apply** tab.

On the **Documents to Apply** tab, users can select a document (payment, prepayment, or credit memo) and edit the application amount in the **Amount Paid** column for this document.

In the example shown in the following screenshot, a customer refund that has not been applied to any document has been released.

Payments and Applications  
Customer Refund 003483 - ABC Holdings Inc

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

← ↻ ⌂ + ⌵ ⌵ ⌵ ⌵ ⌵ VOID ...

Type:	Customer ...	Customer:	ABCHOLDING - ABC Holdings Inc	Payment Amo...	23.00
Reference Nbr:	003483	Location:	MAIN - Primary Location	Applied to Doc...	0.00
Status:	Open	Payment Meth...	CHECK - Check	Applied to Ord...	0.00
* Application Date:	5/24/2021	Card/Account...		Available Bala...	23.00
* Application Pe...	05-2021	Cash Account:	10200 - Company Checking Account	Write-Off Amo...	0.00
Payment Ref:	PMT03134	Currency:	USD 1.00 VIEW BASE	Finance Charg...	0.00
				Deducted Cha...	0.00
Description: Overpaid amount					

DOCUMENTS TO APPLY APPLICATION HISTORY FINANCIAL APPROVALS CHARGES

⌵ + ⌵ × LOAD DOCUMENTS AUTO APPLY ⌵ ⌵

Branch	Doc. Type	*Reference Nbr.	*Line Nbr.	Inventory ID	Project	Project Task	Account	Customer	Amount Paid	Cash Discount Taken
--------	-----------	-----------------	------------	--------------	---------	--------------	---------	----------	-------------	---------------------

**Figure: A released customer refund with no applications**

Because this refund has been released, it can be applied to one document or multiple documents fully or partially. The example in the following screenshot illustrates the customer refund partially applied to a credit memo and a prepayment and still having an available balance after these applications.

Payments and Applications  
Customer Refund 003483 - ABC Holdings Inc

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

← ↻ ⌂ + ⌵ ⌵ ⌵ ⌵ ⌵ RELEASE VOID ...

Type:	Customer ...	Customer:	ABCHOLDING - ABC Holdings Inc	Payment Amo...	23.00
Reference Nbr:	003483	Location:	MAIN - Primary Location	Applied to Doc...	19.00
Status:	Open	Payment Meth...	CHECK - Check	Applied to Ord...	0.00
* Application Date:	5/24/2021	Card/Account...		Available Bala...	4.00
* Application Pe...	05-2021	Cash Account:	10200 - Company Checking Account	Write-Off Amo...	0.00
Payment Ref:	PMT03134	Currency:	USD 1.00 VIEW BASE	Finance Charg...	0.00
				Deducted Cha...	0.00
Description: Overpaid amount					

DOCUMENTS TO APPLY APPLICATION HISTORY FINANCIAL APPROVALS CHARGES

⌵ + ⌵ × LOAD DOCUMENTS AUTO APPLY ⌵ ⌵

Branch	Doc. Type	*Reference Nbr.	*Line Nbr.	Inventory ID	Project	Project Task	Account	Customer	Amount Paid	Cash Discount Taken	Write-Off Amount	Write-Off Reason Code	Date
PRODWHOLE	Credit Memo	AB009654	0					ABCHOLDING	9.00	0.00	0.00		5/24/2021
PRODWHOLE	Prepayment	003484	0					ABCHOLDING	10.00	0.00	0.00	BALWOFF	5/10/2021

**Figure: The customer refund applied to two documents**

When the application to the documents is released, the customer refund will retain its *Open* status, because it will still have an open balance (the amount displayed in the **Available Balance** box), as shown in the example in the following screenshot.

Payments and Applications  
Customer Refund 003483 - ABC Holdings Inc

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

VOID

Type: Customer	Customer: ABCHOLDING - ABC Holdings Inc	Payment Amo...: 23.00
Reference Nbr: 003483	Location: MAIN - Primary Location	Applied to Doc: 0.00
Status: Open	Payment Meth: CHECK - Check	Applied to Ord: 0.00
Application Date: 5/24/2021	Card/Account:	Available Bala...: 4.00
Application Pe...: 05-2021	Cash Account: 10200 - Company Checking Account	Write-Off Amo...: 0.00
Payment Ref: PMT03134	Currency: USD 1.00 - VIEW BASE	Finance Charg...: 0.00
		Deducted Cha...: 0.00

Description: Overpaid amount

DOCUMENTS TO APPLY APPLICATION HISTORY FINANCIAL APPROVALS CHARGES

REVERSE APPLICATION

Branch	Batch Number	Doc. Type	Reference Nbr.	* Line Nbr.	Inventory ID	Project	Project Task	Account	Customer	Amount Paid	Cash Discount Taken
PRODWHOLE		Credit Memo	AR009654	0					ABCHOLDING	9.00	0.00
PRODWHOLE	AR009477	Prepayment	003484	0					ABCHOLDING	10.00	0.00

Figure: The customer refund partially applied to documents

## Changes to Reports and Inquiries

In the [AR Balance by Customer](#) (AR632500), [AR Balance by Customer MC](#) (AR633000), and [AR Balance by GL Account](#) (AR632000) reports for all report formats, and in the [Customer Details](#) (AR402000) inquiry form, the balance calculation has been updated. The balance of documents with the *Customer Refund* and *Voided Refund* types is treated as a payment with a reverse sign.

The [Customer Statement](#) (AR641500) and [Customer Statement MC](#) (AR642000) reports now include the amounts of customer refunds in the aging buckets as invoices. To age the refund balance, the system uses the refund's date, which is specified in the **Payment Date** box on the **Financial** tab of the [Payments and Applications](#) (AR302000) form. A voided refund reduces the bucket amount of overdue charges, invoices, and debit memos, as a payment does.

## Additional Information

For more information about the workflow of processing customer refunds, see [Customer Refunds: General Information](#).

For more information of creating, releasing and partially applying a customer refund, see [Customer Refunds: To Create and Partially Apply a Customer Refund](#).

For more information of creating a credit memo and applying it to a customer refund, see [AR Invoice Correction: To Create a Credit Memo and Apply a Customer Refund to It](#).

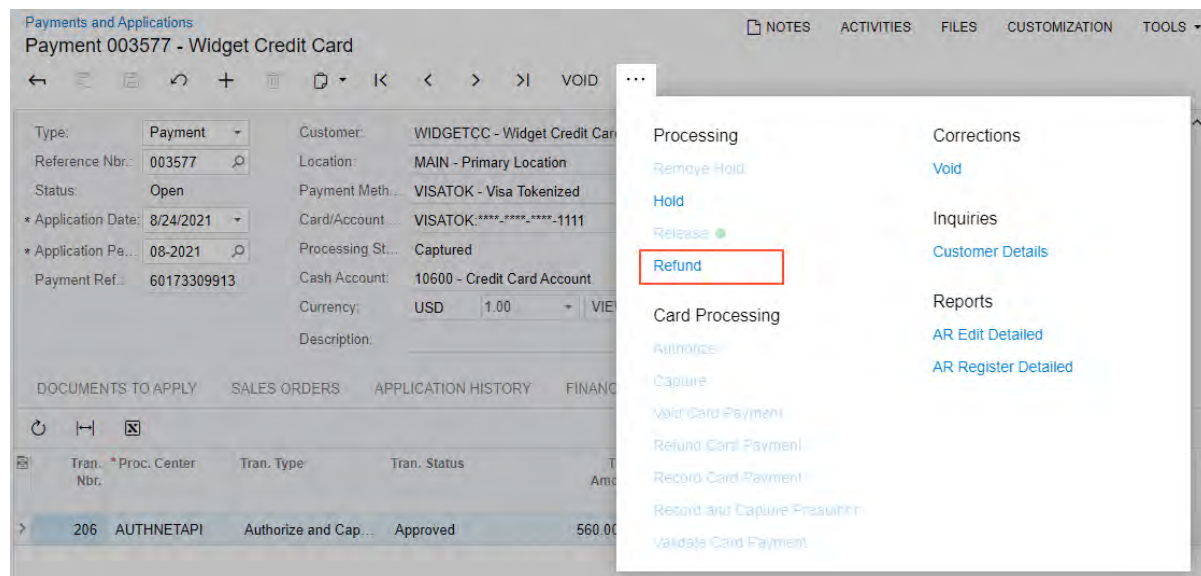
# Finance: Enhancements to the Processing of Refunds

In previous versions of Acumatica ERP, users had to create a customer refund, fill in its details, and then apply it to an open payment, prepayment, or credit memo. The amount of data to be specified in the new customer refund was significant and the process was prone to errors.

In Acumatica ERP 2021 R2, users can create customer refunds for documents of the *Payment*, *Prepayment*, and *Credit Memo* types on the [Payments and Applications](#) (AR302000) form quickly. The system automatically populates settings based on the information from the payment, prepayment, or credit memo to which the customer refund will be applied.

## Changes on the Payments and Applications Form

On the [Payments and Applications](#) (AR302000) form, a new command—**Refund**—has been added under the **Processing** category of the More menu (as shown in the following screenshot).



**Figure:** The new Refund command on the More menu

## Refunding of a Payment or Prepayment

If a payment or prepayment with the *Open* status is opened on the [Payments and Applications](#) (AR302000) form, when a user clicks **Refund** on the More menu, the system performs the following actions:

1. Verifies that the payment or prepayment does not have unreleased applications or unreleased documents of the *Voided Payment* type.  
If at least one unreleased application or voided payment is found, the system displays an error, and the processing is terminated.
2. Creates a document of the *Customer Refund* type.
3. Fills in the details of the customer refund with the default data and the copied information from the original payment or prepayment (See Items 1–4 in the following screenshot).
4. Applies the customer refund to the original payment or prepayment (Item 5).

Payments and Applications  
Customer Refund 003486 - Widget Credit Card

1
2
3

Type: Customer ...

Reference Nbr.: 003486

4 Status: Pending Proc...

\* Application Date: 5/28/2021

\* Application Pe... 05-2021

Payment Ref.:

Customer: WIDGETCC - Widget Credit Card

\* Location: MAIN - Primary Location

Payment Meth... VISATOK - Visa Tokenized

Use Orig. Transaction for Refund

Orig. Transacti... 60168435947

Card/Account ... VISATOK:\*\*\*\*\_\*\*\*\*\_\*\*\*\*-1111

Processing St...

\* Cash Account: 10600 - Credit Card Account

Currency: USD 1.00 VIEW BASE

Description:

3 Payment Amo... 2,000.00

Applied to Doc... 2,000.00

Applied to Ord... 0.00

Available Bala... 0.00

Write-Off Amo... 0.00

Finance Charg... 0.00

Deducted Cha... 0.00

DOCUMENTS TO APPLY    APPLICATION HISTORY    FINANCIAL    APPROVALS    CARD PROCESSING    CHARGES

LOAD DOCUMENTS    AUTO APPLY

Branch	Doc. Type	* Reference Nbr.	* Line Nbr.	Customer	Amount Paid	Date	Due Date
5 > PRODWHOLE	Payment	003486	0	WIDGETCC	2,000.00	5/28/2021	

Figure: A customer refund with automatically populated data

The following tables list the data that is automatically populated when a customer refund is created from a payment or prepayment on the *Payments and Applications* form.

Table: Automatically Filled Data in the Summary Area

UI element	Description
<b>Type</b>	Customer Refund
<b>Application Date</b>	The current business date.
<b>Customer</b>	The customer of the original payment or prepayment.
<b>Location</b>	The location of the original payment or prepayment.
<b>Payment Method</b>	The payment method of the original payment or prepayment.
<b>Use Orig. Transaction for Refund</b>	A check box that appears in the customer refund if unlinked refunds are allowed for the processing center. The check box is selected for card-based payment methods if the original payment or prepayment has an active card transaction.
<b>Orig. Transaction</b>	The number of the original transaction, which is inserted if the original payment or prepayment has an active card transaction.



UI element	Description
<b>Card/Account Nbr.</b>	The customer payment method, which can be either of the following: <ul style="list-style-type: none"> <li>The customer payment method of the original card transaction if this transaction is active.</li> <li>The customer payment method of the original payment or prepayment if there is a value in the <b>Card/Account Nbr.</b> box in the original payment or prepayment and there are no active card transactions associated with the payment or prepayment.</li> </ul>
<b>Proc. Center ID</b>	The identifier of the processing center, which can be either of the following: <ul style="list-style-type: none"> <li>The ID of the processing center of the customer payment method if the customer payment method was identified and inserted in the <b>Card/Account Nbr.</b> box.</li> <li>The ID of the processing center of the original card transaction, if the <b>Card/Account Nbr.</b> box is empty.</li> </ul>
<b>Cash Account</b>	The cash account of the original payment or prepayment.
<b>Currency</b>	The currency of the original payment or prepayment.
<b>Payment Amount</b>	The available balance of the original payment or prepayment.

*Table: Automatically Filled Data on the Financial Tab*

UI element	Description
<b>Branch</b>	The branch of the original payment or prepayment.
<b>AR Account</b>	The AR account of the original payment or prepayment.
<b>AR Subaccount</b>	The subaccount of the original payment or prepayment.

*Table: Automatically Filled Data on the Documents to Apply Tab*

UI element	Description
<b>Branch</b>	The branch of the original payment or prepayment.
<b>Doc. Type</b>	The type of the original document ( <i>Payment</i> or <i>Prepayment</i> ).
<b>Reference Nbr.</b>	The reference number of the original payment or prepayment.
<b>Customer</b>	The customer of the original payment or prepayment.
<b>Amount Paid</b>	The amount of the customer refund.
<b>Date</b>	The current business date.

## Refunding of a Credit Memo

For an open credit memo selected on the [Payments and Applications](#) (AR302000) form, when a user clicks **Refund** on the More menu, the system processes the refund as follows:

1. Verifies that the credit memo does not have unreleased applications.  
If at least one unreleased application is found, the system displays an error, and the processing is terminated.
2. Creates a document of the *Customer Refund* type.
3. Fills in the details of the customer refund with the default data and the copied information from the original credit memo.
4. Applies the customer refund to the original credit memo.

The customer refund document is populated with the same data as is inserted when the refund is initiated on the [Invoices and Memos](#) (AR301000) form.

## Additional Information

For more information about the workflow of processing credit card refunds, see [Credit Card Refunds: General Information](#).

For more information on processing a credit card refund, see [Credit Card Refunds: Process Activity](#).

# Finance: Flexible Statement Generation Options

In Acumatica ERP 2021 R2, the printing of consolidated customer statements has been reworked to support the changes introduced by the *Multiple Base Currencies* feature (described in [Finance: Support of Multiple Base Currencies](#)).

## Changes to the Accounts Receivable Preferences Form

On the [Accounts Receivable Preferences](#) (AR101000) form, the **Consolidate Statements for All Branches** check box on the **General** tab (**Consolidation Settings** section) has been replaced with the **Prepare Statements** box, which is shown in the following screenshot.


The screenshot displays the 'Accounts Receivable Preferences' form with the 'GENERAL' tab selected. The 'CONOLIDATION SETTINGS' section is expanded, showing the 'Prepare Statements' dropdown menu set to 'For Each Branch'. Other sections visible include 'NUMBERING SETTINGS', 'POSTING SETTINGS', 'DATA ENTRY SETTINGS', 'DATA PROCESSING SETTINGS', 'SALESPERSON COMMISSION SETTINGS', 'DEFAULT WRITE-OFF REASON CODES', 'VAT RECALCULATION SETTINGS', and 'RETAINAGE SETTINGS'.

**Figure: The new Prepare Statements box**

The **Prepare Statements** box appears on the form if the *Multi-Branch Support* feature has been enabled on the [Enable/Disable Features](#) (CS100000) form. A user can select one of the following options:

- *For Each Branch*: If this option is selected, statements will be generated for each branch separately. This option corresponds to the **Consolidate Statements for all Branches** check box being cleared in previous versions of Acumatica ERP.
- *Consolidated for Company* (default): If this option is selected, a separate statement will be generated for each company the customer is working with. This statement contains the documents originating from all the branches of the company.
- *Consolidated for All Companies*: If this option is selected, statements from different branches will be consolidated. This option corresponds to the **Consolidate Statements for all Branches** check box being

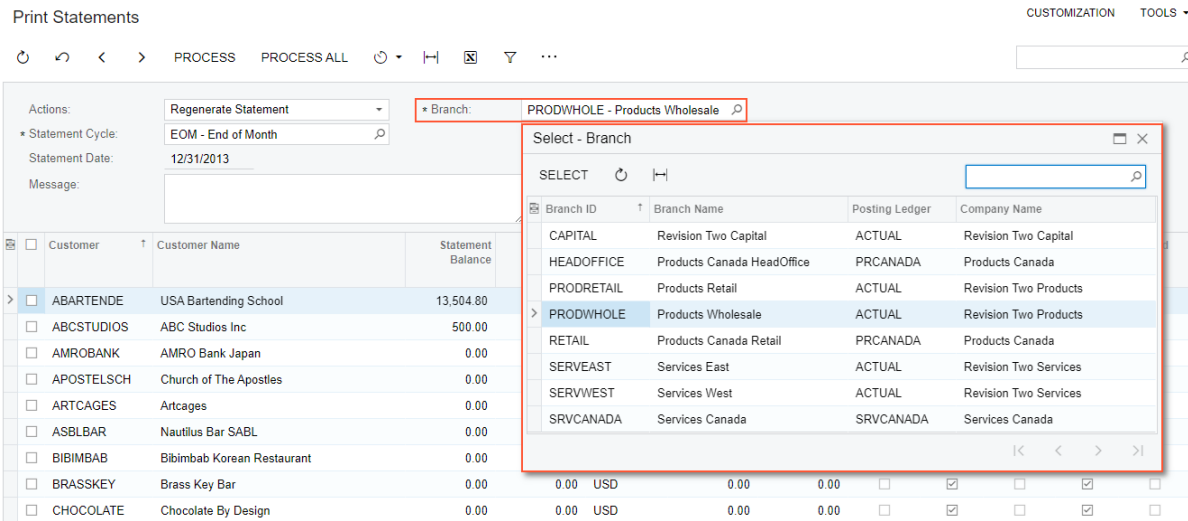
selected in the previous versions of Acumatica ERP. The option appears on the list if the *Multiple Base Currencies* feature is disabled.



If a user attempts to enable the *Multiple Base Currencies* feature on the [Enable/Disable Features](#) form and this option is selected, the system will display an error message that the user should select a different option in this box.

## Changes to the Print Statements Form

On the [Print Statements](#) (AR503500) form, the **Branch** box appears on the form if *For Each Branch* is selected in the **Prepare Statements** box of the [Accounts Receivable Preferences](#) (AR101000) form. The **Branch** box and its lookup table are illustrated in the following screenshot.



Branch ID	Branch Name	Posting Ledger	Company Name
CAPITAL	Revision Two Capital	ACTUAL	Revision Two Capital
HEADOFFICE	Products Canada HeadOffice	PRCANADA	Products Canada
PRODRETAIL	Products Retail	ACTUAL	Revision Two Products
PRODWHOLE	Products Wholesale	ACTUAL	Revision Two Products
RETAIL	Products Canada Retail	PRCANADA	Products Canada
SERVEAST	Services East	ACTUAL	Revision Two Services
SERVWEST	Services West	ACTUAL	Revision Two Services
SRVCANADA	Services Canada	SRVCANADA	Services Canada

**Figure: The new Branch box on the Print Statements form**

This setting is required, and the **Branch** lookup table shows all active branches that can be accessed by the current user. By default, the **Branch** box displays the branch to which the user is signed in. The statements related to the selected branch are loaded to the table.

If *Consolidated for Company* is selected in the **Prepare Statements** box on the [Accounts Receivable Preferences](#) form, the **Company** box appears on the [Print Statements](#) form, as shown in the following screenshot.

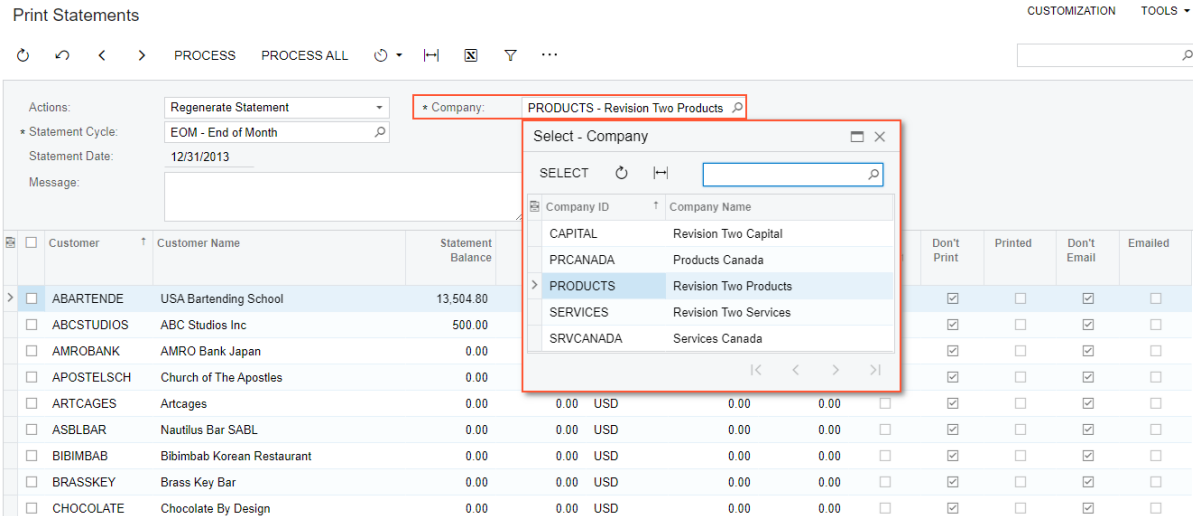


Figure: The new Company box on the Prepare Statements form

This setting is required, and the **Company** lookup table shows all active companies whose branches can be accessed by the current user. By default, the **Company** box displays the company of the branch to which the user is signed in. The statements related to the branches of the selected company are grouped by customer and loaded to the table.

If *Consolidated for All Companies* is selected in the **Prepare Statements** box on the *Accounts Receivable Preferences* form, the **Company** and **Branch** boxes are hidden on the *Print Statements* form. The statements of all branches are grouped by customer and loaded to the table.

### Changes to the Customer Statement History Form

On the *Customer Statement History* (AR404600) form, the **Branch** box in the Selection area has been renamed to **Company/Branch**. The lookup table shows a list of the branches, companies, and company groups to which the current user has access, as shown in the following screenshot.

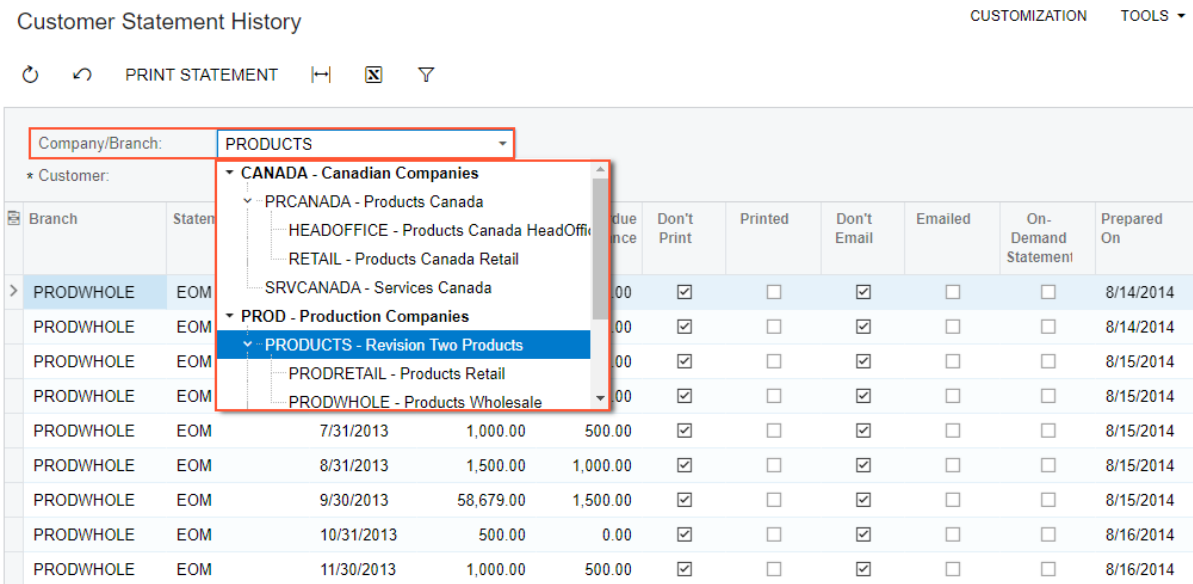


Figure: The Company/Branch box on the Customer Statement History form

Depending on the option selected in the **Prepare Statements** box on the [Accounts Receivable Preferences](#) (AR101000) form, the default value in the **Company/Branch** box can be one of the following:

- If *For Each Branch* is selected, the default value is the branch to which the user is signed in.
- If *Consolidated for Company* is selected, the default value is the company of the branch to which the user is signed in.
- If *Consolidated for All Companies* is selected, the box contains no default value.

Regardless of the settings on the [Accounts Receivable Preferences](#) form, the system loads to the table the statement records, which are grouped by branch for the base currency statements and grouped by branch and currency for the foreign currency statements.

## Other Changes Related to Customer Statements

On the [Customers](#) (AR303000) and [Statement History Details](#) (AR404300) forms, a user clicks the **Print Statement** command to run the [Customer Statement](#) (AR641500) report with the **Branch** and **Company** report parameters left empty. The statements include only data related to the branches to which the current user has access. Depending on the option selected in the **Prepare Statements** box on the **General** tab of the [Accounts Receivable Preferences](#) (AR101000) form, the documents in the statements will be separated by company (if the *Consolidated for Company* option is selected) or by branch (if the *For Each Branch* option is selected), or they will be consolidated (if the *Consolidated for All Companies* option is selected).

Depending on the option selected in the **Prepare Statements** box on the [Accounts Receivable Preferences](#) form, the [Customer Statement](#) and [Customer Statement MC](#) (AR642000) reports will include the transactions listed in the following table.

Option in the Prepare Statements Box	Transactions Displayed in the Reports
<i>For Each Branch</i>	Transactions related to each branch are included in a separate statement.
<i>Consolidate for Company</i>	Transactions related to all branches of the same company are included in a single statement.  In the statement header, the company information will be displayed.
<i>Consolidate for All Companies</i>	Transactions related to all branches are included in a single statement.  In the statement header, the address, phone, email, and tax registration ID of the branch selected in the <b>Statement from Branch</b> box on the <b>General</b> tab of the <a href="#">Accounts Receivable Preferences</a> form will be displayed.

## Upgrade Notes

On the [Accounts Receivable Preferences](#) (AR101000) form, if in an earlier version of Acumatica ERP, the **Consolidate Statements for all Branches** check box was selected, after an upgrade to Acumatica ERP 2021 R2, the *Consolidate for All Companies* option will be selected in the **Prepare Statements** box on this form. If the **Consolidate Statements for all Branches** check box was cleared before the upgrade, the *For Each Branch* option will be selected in the **Prepare Statements** box after the upgrade.

If the [Customer Statement](#) (AR641500) and [Customer Statement MC](#) (AR642000) reports have been customized, after the upgrade to Acumatica ERP 2021 R2, the reports will work as follows:

- If *Consolidated for All Companies* is selected in the **Prepare Statements** box on the [Accounts Receivable Preferences](#) form, the statements will be consolidated for all branches.
- If *For Each Branch* or *Consolidated for Company* is selected in the **Prepare Statements** box on the [Accounts Receivable Preferences](#) form, the statements will be printed separately for each branch.

Customizers should modify the old customized reports to support the new *Consolidated for Company* option in the **Prepare Statements** box of the [Accounts Receivable Preferences](#) form.

# Finance: Integrated Card Processing Feature

In Acumatica ERP, forms and UI elements related to credit card processing are numerous throughout the system. For a tenant in which integrated card processing is not used, these unneeded UI elements could become distracting to users.

In Acumatica ERP 2021 R2, the new *Integrated Card Processing* feature has been introduced on the [Enable/Disable Features](#) (CS100000) form. If this feature is enabled, all the UI elements and forms related to credit card processing are displayed in the system, as was the case in previous Acumatica ERP versions. If an administrative user disables this feature on the [Enable/Disable Features](#) (CS100000) form in Acumatica ERP 2021 R2, the following actions are performed in the system:

- The system displays a warning message that the feature is in use and disabling it may cause unexpected results. This warning is shown if the feature was used in the system before it was disabled.
- When the administrator saves the changes by clicking **Enable**, the UI elements and actions related to integrated card processing become unavailable or hidden. The forms related to card processing become hidden. Users should stop any automation schedules set up for these forms.

## Changes to the Enable/Disable Features Form

On the [Enable/Disable Features](#) (CS100000) form, the **Integrated Card Processing** check box has been added under the *Third Party Integrations* group of features, as shown in the following screenshot.

Enable/Disable Features

↶ MODIFY ENABLE

The screenshot shows the 'Enable/Disable Features' form with a list of features. The 'Integrated Card Processing' checkbox is checked and highlighted with a red box. Other features include 'Image Recognition for Business Cards', 'AP Document Recognition Service', 'Authentication' (with sub-items: 'Two-Factor Authentication', 'Google and Microsoft SSO', 'Active Directory and Other External SSO', 'OpenID Connect'), 'Third Party Integrations' (with sub-items: 'Commerce Integration', 'BigCommerce Connector', 'Shopify Connector', 'Shopify and Shopify POS Connector'), 'Shipping Carrier Integration', 'Exchange Integration', 'External Tax Calculation Integration', and 'Address Validation Integration'.

<input type="checkbox"/>	Image Recognition for Business Cards
<input type="checkbox"/>	AP Document Recognition Service
<input checked="" type="checkbox"/>	Authentication
<input checked="" type="checkbox"/>	Two-Factor Authentication
<input checked="" type="checkbox"/>	Google and Microsoft SSO
<input checked="" type="checkbox"/>	Active Directory and Other External SSO
<input checked="" type="checkbox"/>	OpenID Connect
<input checked="" type="checkbox"/>	Third Party Integrations
<input type="checkbox"/>	Commerce Integration
<input type="checkbox"/>	BigCommerce Connector
<input type="checkbox"/>	Shopify Connector
<input type="checkbox"/>	Shopify and Shopify POS Connector
<input checked="" type="checkbox"/>	Integrated Card Processing
<input checked="" type="checkbox"/>	Shipping Carrier Integration
<input checked="" type="checkbox"/>	Exchange Integration
<input checked="" type="checkbox"/>	External Tax Calculation Integration
<input type="checkbox"/>	Address Validation Integration

Figure: The new *Integrated Card Processing* feature



## Changes to the Payment Methods Form

If the *Integrated Card Processing* feature is disabled, on the *Payment Methods* (CA204000) form, the **Integrated Processing** check box on the **Settings for Use in AR** tab is hidden, as is the **Processing Centers** tab. (See the following screenshot.)

ID	Description	Required	Encrypted	Card/Account Nbr.	Exp. Date	CVV Code	Name on Card	Payment Profile ID	Sort Order	Entry Mask	Validation Reg. Exp.	Display Mask
> 1	CCDNUM Card Number	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	0000-0000-0000-0000		**** * -****-0000
> 5	CCPID Payment Profile ID	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	5			

**Figure: The Settings for Use in AR tab of the Payment Methods form**

In the screenshot, the payment method details—card number and customer profile lines—remain as they were before the feature was disabled. These lines are user data, and all user data remains the same even when a user disables the feature.

## Changes to the Customer Payment Methods Form

If the *Integrated Card Processing* feature is disabled, on the *Customer Payment Methods* (AR303010) form, the following changes have been introduced for payment methods that have the *Credit Card* means of payment and the **Use in AR** and **Integrated Processing** check boxes selected:

- The **Proc. Center ID** box is hidden if no value has been specified or is unavailable if a value has been specified.
- The **Customer Profile ID** and **Expiration Date** boxes are hidden if no values have been specified for them, are not shown for a new record, or are unavailable if values have been specified for them.
- On the **Payment Method Details** tab, the **Create New** and **Edit** buttons are hidden. The *Payment Profile ID* line is hidden if no value has been specified or is unavailable if a value has been specified.

The following screenshot illustrates a customer payment method in which the applicable elements are unavailable after the *Integrated Card Processing* feature has been disabled.

Customer Payment Methods  
 WIDGETCC - VISATOK:\*\*\*\*-\*\*\*\*-\*\*\*\*-1111

← 📄 📁 ↶ + 🗑️ 📄 ▾ ⏪ < > ⏩

* Customer:	WIDGETCC - Widget Credit Card 🔍 ✎
Payment Method:	VISATOK - Visa Tokenized
	<input checked="" type="checkbox"/> Active
Proc. Center ID:	AUTHNETAPI
Customer Profile ID:	1929465214
Cash Account:	🔍
Card/Account Nbr.:	VISATOK:****-****-****-1111
Expiration Date:	11/22

PAYMENT METHOD DETAILS BILLING INFO

🔄 + × ⏪ ⏩

Description	Value
> Payment Profile ID	1841699358

Figure: A customer payment method with boxes disabled

## Changes in Document Processing

After the *Integrated Card Processing* feature has been disabled, the system behavior will change as follows:

- If there are unreleased documents that have credit card transactions, these documents will not be shown on the [Release AR Documents](#) (AR501000) form, so an AR clerk should review each document manually by voiding or releasing the documents without processing a transaction in the system. In this case, the transactions will be processed in an external system, such as an e-commerce solution.  
A user will not be able to delete documents that have credit card transactions associated with them. On the [Payments and Applications](#) (AR302000) form, the system will display an error message if the user tries to delete such a document.
- The [Validate Card Payments](#) (AR513000) form will not be available in the system, so the documents that require validation can no longer be validated. These documents can be voided, released, or deleted, even if they required validation when the feature was in use.
- If a process runs an action that includes credit card processing, the system will display a warning message to inform the user that the action could not be completed because the *Integrated Card Processing* feature is disabled.

With the *Integrated Card Processing* feature disabled, users can create documents with payment methods that have *Credit Card* selected in the **Means of Payment** box on the [Payment Methods](#) (CA204000) form. Documents associated with credit card payment methods will not require integrated processing.

If *Integrated Card Processing* is disabled after it was formerly used, the following actions related to processing of documents that have the *Pending Processing* status are recommended for users:

- If a user is going to close financial periods that may have documents in the *Pending Processing* status, to review the documents, the user should run the [Unreleased AR Documents](#) report on the [Close Financial Periods](#) (AR509000) form by clicking **Unreleased Documents** on the form toolbar.
- On the [Sales Orders](#) (SO301000) form, the sales orders that have the *Pending Processing* status should be further processed by sales managers as if the order payments had the *Balanced* status.

- If there are sales orders with legacy card transactions in the system, sales managers should use the [Generate Payments for Card Transactions](#) (SO511000) form to process these transactions.

## Other UI Changes

If a system administrator disables the *Integrated Card Processing* feature, the following forms will be hidden in the system, and users should stop automation schedules for them:

- **Credit Card Processing** section (**Banking** workspace):
  - [Generate Payments](#) (AR511000)
  - [Capture Payments](#) (AR511500)
  - [Card Payments Pending Review](#) (CA403000)
  - [Deactivate Expired Cards](#) (AR512500)
  - [Notify About Expiring Cards](#) (AR512000)
  - [Payment Method Transaction History](#) (AR406000)
  - [Payment Processing Log](#) (AR406500)
  - [Processing Centers](#) (CA205000)
  - [Synchronize Cards](#) (CA206000)
  - [Validate Card Payments](#) (AR513000)
  - [Import Settlement Batches](#) (CA507000)
- [Settlement Batches](#) (CA307000)
- [Payment Method Converter](#) (CA207000)
- [Credit Card Processing for Sales](#) (SO507000)
- [Credit Card Payments With Multiple Applications](#) (SO401000)

On the listed forms, the following UI elements will be hidden:

- [Customer Classes](#) (AR201000): The **Credit Card Processing Settings** section of the **General** tab
- [Accounts Receivable Preferences](#) (AR101000): The **Enable Integrated CC Processing** check box on the **General** tab (**Data Processing Settings** section)
- [Payments and Applications](#) (AR302000):
  - In the Summary area, the **Processing Status**, **Proc. Center ID**, and **Orig. Transaction** boxes, **New Card**, **Save Card**, and **Use Orig. Transaction for Refund** check boxes
  - On the More menu, the **Card Processing** category and all the actions under it
  - The **Card Processing** tab if the document has no card transactions
- [Cash Sales](#) (AR304000):
  - In the Summary area, **Processing Status** and **Orig. Transaction** boxes, and the **Use Orig. Transaction for Refund** check box if the selected payment method has the **Integrated Processing** check box cleared
  - On the More menu, the **Card Processing** category and all the actions under it
  - The **Card Processing** tab if the document has no card transactions
- [Sales Orders](#) (SO301000), **Payments** tab:
  - On the table toolbar, the **Capture**, **Void Card Payments**, and **Import Card Payments** buttons
  - In the table, the **Proc. Status** column
  - On the Totals pane (the right pane), the **Authorized** box
- [Invoices](#) (SO303000), **Applications** tab:
  - On the table toolbar, the **Capture**, **Void Card Payments**, and **Import Card Payments** buttons
  - In the table, the **Proc. Status** column
  - On the Totals (right) pane: **Authorized** box

- [Process Invoices and Memos](#) (SO505000): In the **Action** box of the Summary area, the *Create and Capture* action. The user should stop the automation schedule for this action.
- [Process Orders](#) (SO501000): In the **Action** box of the Summary area, the *Create and Authorize* and *Create and Capture* actions. The user should stop the automation schedules for these actions.

On the following Commerce Edition forms, the following UI elements will be hidden:

- [BigCommerce Stores](#) (BC201000): On the **Payment Settings** tab, the **Proc. Center ID** column
- [Shopify Stores](#) (BC201010): On the **Payment Settings** tab, the **Proc. Center ID** column

## Upgrade Notes

After an upgrade to Acumatica ERP 2021 R2 from a previous version, the *Integrated Card Processing* feature will be enabled on the [Enable/Disable Features](#) (CS100000) form.

# Finance: Matching of Bank Transactions to Multiple Documents

---

In previous versions of Acumatica ERP, users could match one bank transaction to one document only if they had the exact same amount. As a result, one transaction could be matched to only one document. However, a company may receive one bulk transaction that includes multiple documents from different customers or vendors, so they need the ability to match all documents to one bank transaction.

In Acumatica ERP 2021 R2, users can match one bank transaction to multiple documents. The sum of the document amounts must be equal to the amount of the bank transaction.

## Changes to the Match to Payments Tab

In the Summary area of the **Match to Payments** tab on the [Process Bank Transactions](#) (CA30600) form, the following new UI elements have been added, as shown in the screenshot below:

- **Match to Multiple Payments:** A user selects this check box to match one bank transaction to multiple documents. This check box is cleared by default.

When the user selects this check box, the table on the **Match to Payments** tab lists the outstanding payments that the users can match to the selected bank transaction. These payments include the ones whose amounts are less than or equal to the bank transaction amount and that involve funds moving in the same direction (receipts or disbursements) as the transaction. (For example, a receipt transaction can be matched to an AR payment, a vendor refund, and a CA receipt transaction.)

- **Match to Receipts and Disbursements:** A user selects this check box to match a bank transaction to receipts and disbursements. The check box is available only if the **Match to Multiple Payments** check box is selected, and it is cleared by default.

When the user selects this check box, the system adds available receipts and disbursements to the list of the documents that the user can match to the bank transaction and displays them in the table of the **Match to Payments** tab. With both the **Match to Multiple Payments** check box and the **Match to Receipts and Disbursements** check box selected, documents of any amount and direction are available for matching. The system displays a plus sign for the documents with the same direction as the bank transaction and a minus sign for the documents with the opposite direction.

- **Transaction Amount:** The system inserts the bank transaction amount in this read-only box.
- **Matched Amount:** This read-only box contains the amount of the selected matched documents. The matching is successful only when the sum of the matched document amounts (**Matched Amount**) equals the amount of the bank statement transaction (**Transaction Amount**). Otherwise, the system cannot process the bank transaction.
- **Unmatched Amount:** In this read-only box, the system inserts the amount of the bank transaction that has not been matched yet—that is, the amount that the user has yet to match to the bank transaction.

MATCH TO PAYMENTS    MATCH TO INVOICES    CREATE PAYMENT

<input checked="" type="checkbox"/> Match to Multiple Payments	Transaction Amount:	53,372.66
<input type="checkbox"/> Match to Receipts and Disbursements	Matched Amount:	0.00
	Unmatched Amount:	53,372.66

Matched	Match Relevance, %	* Orig. Doc. Number	* Doc. Date	Document Ref.	Module	Tran. Type
<input type="checkbox"/>	90.000	<a href="#">001820</a>	11/15/2016	001	AP	Vendor Refund
<input type="checkbox"/>	29.631	<a href="#">AR004592</a>	11/10/2016	CS01	AR	Cash Sale
<input type="checkbox"/>	19.604	<a href="#">000779</a>	11/14/2016	PMT00525	AR	Payment
<input type="checkbox"/>	18.462	<a href="#">000775</a>	11/17/2016	PMT00521	AR	Payment

Figure: UI changes on the Match to Payments tab

## Changes to the Match to Invoices Tab

In the Summary area of the **Match to Invoices** tab on the *Process Bank Transactions* (CA30600) form, the following new UI elements have been added, as shown in the screenshot below:

- Match to Multiple Documents:** A user selects this check box to match one bank transaction to multiple invoices. This check box is cleared by default.
 

When the user selects this check box, the table on the **Match to Invoices** tab lists the outstanding invoices that the user can match to the selected bank transaction. These invoices include the ones whose amounts are less than or equal to the bank transaction amount and that are made in the same direction as the transaction. However, one transaction can be matched to multiple invoices only if they are from the same customer. When the user selects the **Matched** check box in the row of an invoice in the table, the system refreshes the table with the invoices for the same customer, and the user cannot select invoices of any other customer for matching.
- Business Account:** This box contains the business account (vendor or customer) of the selected document. This box is read-only.
- Transaction Amount:** This read-only box contains the bank transaction amount.
- Matched Amount:** In this read-only box, the system inserts the amount of the selected matched invoices. The matching is successful only when the sum of the matched invoice amounts (**Matched Amount**) equals the amount of the bank statement transaction (**Transaction Amount**). Otherwise, the system cannot process the bank transaction.
- Unmatched Amount:** This read-only box contains the amount of the bank transaction that has not been matched yet—that is, the amount that the user has yet to match to the bank transaction.



Process Bank Transactions

← ↻ 📄 ↺ AUTO-MATCH PROCESS MATCH SETTINGS UPLOAD FILE

2 ⚠ Not all records have been processed, please review

Cash Account: 10200 - Company Checking Account

UNMATCH All Records

	Ext. Ref. Nbr.	*Tran. Date	Receipt	Disbursement
<input checked="" type="checkbox"/>	0001	11/15/2016	53,372.66	0.00

3 CA Error: The total amount of the selected payments (4000.0000) is not equal to the bank transaction amount (53372.6600). Select payments with the total amount equal to the bank transaction amount.

1 Transaction Amount: 53,372.66  
Matched Amount: 4,000.00  
Unmatched Amount: 49,372.66

MATCH TO PAYMENTS MATCH TO INVOICES CREATE PAYMENT

Match to Multiple Payments  
 Match to Receipts and Disbursements

Matched	Match Relevance, %	*Orig. Doc. Number	*Doc. Date	Document Ref.
<input checked="" type="checkbox"/>	90.000	<a href="#">001820</a>	11/15/2016	001
<input type="checkbox"/>	29.631	<a href="#">AR004592</a>	11/10/2016	CS01
<input type="checkbox"/>	19.604	<a href="#">000779</a>	11/14/2016	PMT00525
<input type="checkbox"/>	18.462	<a href="#">000775</a>	11/17/2016	PMT00521

Transaction is matched to an existing document.

Figure: Error on the Bank Statement Processing form

## The Process of Matching a Bank Transaction to Multiple Invoices

Starting in Acumatica ERP 2021 R2, to match a selected bank transaction to multiple invoices, a user performs the following steps on the **Match to Invoices** tab of the *Process Bank Transactions* (CA30600) form:

1. The user selects the **Match to Multiple Documents** check box. The system displays the list of outstanding invoices for matching.
2. The user selects the **Matched** check box in the row of an invoice to be matched to the selected bank transaction. The table is refreshed with the invoices of the same customer.

With every document the user selects, the system updates the values in the **Matched Amount** and **Unmatched Amount** boxes. The user needs to proceed with matching until the sum of the amounts of the selected invoices becomes the same as the amount of the bank transaction—that is, until **Matched Amount** equals **Transaction Amount**. Only then is the matching successfully complete; the user can process it.

## Changes to the Bank Transaction History Form

The **Matched Receipt** and **Matched Disbursement** columns have been added to the table of the *Bank Transactions History* (CA402000) form. In these columns, users can see the respective matched amounts of the bank transactions, as shown in the following screenshot.



Bank Transactions History CUSTOMIZATION TOOLS

Cash Account: 10200 - Con Statement Nbr:

From Date: 11/15/2016 To Date: 4/30/2021

Statement Nbr.	Ext. Ref. Nbr.	Match Type	Tran. Date	Receipt	Disbursemen	Invoice Nbr.	Entry Type ID	Applied Rule	Module	Location	Matched Receipt	Matched Disbursement
> 000004	0001	Matched to Payment	11/15/2016	53,372.66	0.00				AR		15,000.00	0.00
000004	0001	Matched to Payment	11/15/2016	53,372.66	0.00				AR		19,000.00	0.00
000004	0001	Matched to Payment	11/15/2016	53,372.66	0.00				AR		15,372.66	0.00
000004	0001	Matched to Payment	11/15/2016	53,372.66	0.00				AP		4,000.00	0.00
000004	0002	Matched to Payment	11/30/2016	5,939.00	0.00				AP		0.00	1,040.00
000004	0002	Matched to Payment	11/30/2016	5,939.00	0.00				AR		14,000.00	0.00
000004	0002	Matched to Payment	11/30/2016	5,939.00	0.00				CA		0.00	21.00

Figure: New columns on the Bank Transaction History form

### Additional Information

For more information about the matching of a bank transaction to multiple documents, see [Bank Reconciliation: Transaction Matching](#).

For more information about the workflow of matching a bank transaction to multiple documents, see Step 5 in [Bank Reconciliation: To Process a Bank Statement in OFX Format and Reconcile a Cash Account](#).

# Finance: Matching of Bank Transactions to Invoices with Charges

In previous versions of Acumatica ERP, if a bank transaction included a payment (or multiple payments) and bank charges, it was impossible to match the bank transaction to an invoice (or multiple invoices) and immediately create a cash transaction for the charges. A user needed to change the amount of the bank transaction and add a new bank transaction on the [Import Bank Transactions](#) (CA306500) form. The user would then need to match the first bank transaction to the invoice and create a cash transaction from the second bank transaction on the [Process Bank Transactions](#) (CA306000) form. This process required a lot of clicks, and the resulting list of imported bank transactions no longer corresponded to the bank statement, which could cause problems with audits.

Starting in Acumatica ERP 2021 R2, users can match one bank transaction to an invoice or multiple invoices (from a single customer or multiple customers that are in a parent-child relationship) and immediately create a cash transaction for one associated charge.

## Changes to the Match to Invoices Tab

In the Summary area of the **Match to Invoices** tab on the [Process Bank Transactions](#) (CA30600) form, the following new UI elements have been added, as shown in the screenshot below:

- **Charge Type:** The entry type with which the cash transaction will be created for the charge. This box is displayed if the **Match to Multiple Documents** check box is selected.
- **Charge Amount:** The amount of the charge, including tax. This box becomes available for editing when a user fills in the **Charge Type** box.
- **Charge Tax Amount:** The amount of tax in the charge amount. The system calculates this value based on the tax zone specified for the entry type in the cash account settings and the default tax category of the tax zone. This box is read-only.

MATCH TO PAYMENTS    **MATCH TO INVOICES**    CREATE PAYMENT

Match to Multiple Documents

Business Account: SQUEEZO - Squeezeo Inc. 🔍

Location: MAIN - Primary Location 🔍

Payment Method: CHECK - Check Payment 🔍

Charge Type: **BANKFEE - Bank Fees** 🔍

Transaction Amount: 582.40

Matched Amount: 582.40

**Charge Amount: 22.40**

**Charge Tax Amount: 0.00**

Unmatched Amount: 0.00

Matched	Module	Type	* Reference Nbr.	Ext. Ref. Nbr.	* Doc. Date	Amount	Cash Discount
<input type="checkbox"/>	AP	Bill	<a href="#">000031</a>		1/23/2021	190.00	0.00
<input type="checkbox"/>	AP	Bill	<a href="#">000035</a>		1/16/2021	400.00	0.00
<input checked="" type="checkbox"/>	AP	Bill	<a href="#">000036</a>		1/17/2021	560.00	0.00
<input type="checkbox"/>	AP	Bill	<a href="#">000055</a>		1/15/2021	480.00	0.00
<input type="checkbox"/>	AP	Bill	<a href="#">000056</a>		1/25/2021	320.00	0.00

Figure: UI changes on the Match to Invoices tab

## The Process of Matching of a Bank Transaction to an Invoice with a Charge

Starting in Acumatica ERP 2021 R2, to match a selected bank transaction to an invoice and enter a charge, a user performs the following steps on the **Match to Invoices** tab of the [Process Bank Transactions](#) (CA30600) form:

1. The user selects the **Match to Multiple Documents** check box. The system displays the list of outstanding invoices for matching.
2. The user selects the **Matched** check box in the row of an invoice to be matched to the selected bank transaction. The table is refreshed with the invoices of the selected customer and its child companies.
3. The user selects an entry type in the **Charge Type** box and fills in the **Charge Amount** box. The amount entered in this box updates the values in the **Matched Amount** and **Unmatched Amount** boxes.
4. When the **Matched Amount** becomes equal to the **Transaction Amount**, the user processes the transaction.

When the matched transaction is processed, the system creates a payment and applies it to the matched documents. Based on the charge type and charge amount that the user has specified, on the [Transactions](#) (CA304000) form, the system creates a cash transaction with the following settings:

- **Tran. Date:** The date of the original bank transaction.
- **Entry Type:** The entry type selected as the charge type.
- **Document Ref.:** The external reference number of the original bank transaction.
- **Price:** The price, which is calculated as follows:
  - If the *Net/Gross Entry Mode* feature is enabled, the price is calculated as if the *Gross* tax calculation mode was set up.
  - If the *Net/Gross Entry Mode* feature is disabled, the price is calculated as the charge amount minus the amount of exclusive charge taxes.
- **Amount:** The amount, which is calculated as follows:
  - If the *Net/Gross Entry Mode* feature is enabled, the amount is calculated as if the *Gross* tax calculation mode was set up.
  - If the *Net/Gross Entry Mode* feature is disabled, the amount is calculated as the charge amount minus the amount of exclusive charge taxes.
- **Tax Zone:** The tax zone of the entry type and cash account.
- **Tax Category:** The default tax category of the tax zone.

When the cash transaction is created, taxes are automatically recalculated, and the transaction is automatically released.



Adding charges as described in this topic is recommended only if Acumatica ERP is used for tax calculation. If an external tax provider is used, taxes on the cash transaction will be calculated incorrectly.

### Additional Information

For more information about the matching of a bank transaction to multiple documents, see [Bank Reconciliation: Transaction Matching](#).

For more information about the workflow of matching a bank transaction to an invoice and creating a charge, see Step 8 in [Bank Reconciliation: To Process a Bank Statement in OFX Format and Reconcile a Cash Account](#).

# Finance: Negative Write-Offs on the Process Bank Transactions Form

In previous versions of Acumatica ERP, a user could create only write-offs with positive amounts on the **Create Payment** tab of the *Process Bank Transactions* (CA306000) form. Starting in Acumatica ERP 2021 R2, in addition to creating positive write-offs, users can create negative write-offs while processing bank transactions. When a user is matching a bank transaction to a customer's AR invoice during bank reconciliation, a write-off with a negative amount can be used to record an amount overpaid by a customer.

## Changes to the Process Bank Transactions Form

On the **Create Payment** tab of the *Process Bank Transactions* (CA306000) form, if the *AR* option is selected in the **Module** box, the following UI changes have been introduced:

- In the **Write-Off Reason Code** column, the *Credit Write Off* option has been added. The user must select this option if the amount specified in the **Write-Off Amount** column is negative; otherwise, the system displays an error message.
- If the amount specified in the **Write-Off Amount** column is positive, the user must select the *Balance Write-Off* option (which was available in previous versions of the system); otherwise, the system displays an error message.

## Usage Example

Suppose that a user is performing a bank reconciliation on February 28, 2021. The bank statement includes a bank receipt transaction for \$201 from the *ABCHOLDING* customer, as shown in the following screenshot.

Process Bank Transactions

← 🗨️ 📄 ↺ AUTO-MATCH PROCESS MATCH SETTINGS UPLOAD FILE

\* Cash Account: 10200 - Company Checking Account 🔍 ✎

🔄 UNMATCH UNMATCH ALL HIDE TRANSACTION |⇄| All Records 🔽 🔍

	<input type="checkbox"/>	<input type="checkbox"/>	Ext. Ref. Nbr.	*Tran. Date	Receipt	Disbursement	Card Number	Tran. Desc
	<input type="checkbox"/>	<input type="checkbox"/>	1231	2/2/2021	9,000.00	0.00		Deposited checks
	<input type="checkbox"/>	<input type="checkbox"/>	1627	2/3/2021	0.00	2,300.00		Payment to Arktak Networks
	<input type="checkbox"/>	<input type="checkbox"/>	1628	2/10/2021	0.00	7,500.00		Payment to Datacenter Services
	<input type="checkbox"/>	<input type="checkbox"/>	010101	2/15/2021	8,500.00	0.00		Wire transfer from Kamm System France
>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1630	2/17/2021	201.00	0.00		Bank transfer from ABCHOLDING
	<input type="checkbox"/>	<input type="checkbox"/>	0009	2/28/2021	0.00	50.00		KeyBank Service fee February 2021

**Figure: Bank transaction to be matched to an invoice**

This transaction is the customer's payment of a \$200 invoice. The user needs to match the transaction to the invoice and write off the overpaid amount of \$1 directly on the *Process Bank Transactions* (CA306000) form.

On the **Create Payment** tab of the form, the user should do the following:

1. In the Summary area, select the following settings:
  - **Module:** *AR*
  - **Business Account:** *ABCHOLDING*
2. Click **Load Documents** so that the system loads the invoice and displays it in the table.

3. In the row with the \$200 invoice, specify the following settings:
  - **Amount Paid:** 201 (the amount specified in the bank transaction)
  - **Balance Write-Off:** -1 (the overpaid amount to be written off)
  - **Write-Off Reason Code:** *CRWOFF - Credit Write Off*

The following screenshot illustrates the \$200 invoice being matched to the \$201 bank transaction with the overpayment of \$1 written off.

MATCH TO PAYMENTS    MATCH TO INVOICES    **CREATE PAYMENT**

Create

Module: AR

\* Payment Date: 2/17/2021

\* Fin. Period: 02-2021

Business Account: ABCHOLDING - ABC Holdings Ir

Location: MAIN - Primary Location

Payment Method: CHECK - Check

Invoice Nbr.:

Tran. Desc: Bank transfer from ABCHOLDING

CLEAR RULE    CREATE RULE

Total Amount: 201.00

Application Amount: 201.00

Unapplied Balance: 0.00

Write-Off Amount: -1.00

Document Type	*Reference Nbr.	Customer	Amount Paid	Balance	Balance Write-Off	Write-Off Reason Code	Date	Currency
> Invoice	<a href="#">AR009655</a>	ABCHOLDING	201.00	0.00	-1.00	CRWOFF	2/10/2021	USD

**Figure:** The invoice with a written-off amount

### Additional Information

For more information about the creation of documents during bank transaction processing, see [Bank Reconciliation: Uploading and Processing of Bank Transactions](#).

For more information about the workflow of matching a bank transaction to an invoice and creating a negative write off, see Step 6 in [Bank Reconciliation: To Process a Bank Statement in OFX Format and Reconcile a Cash Account](#).

# Finance: Redesigned Calculation of Balance and Retainage in AR and AP Documents

---

In Acumatica ERP, the data related to the invoices and payments applied to each other is stored in different columns of two database tables (`ARAdjust` and `APAdjust`). In previous versions, the system calculated a document's balance by using a query from the `ARAdjust` or `APAdjust` table that subtracted the total of the applications from the document amount. For a payment or credit memo that was partially applied to an invoice and partially refunded, the balance calculation was performed by a complicated query, which could lead to performance issues.

To address this issue, in Acumatica ERP 2021 R2, the `ARTranPost` and `APTranPost` tables have been added to the database to hold the transactions related to a document so that the document balance can be calculated with a simple query from these tables. The new tables are populated with data by the system on document release.

## Affected Forms

In Acumatica ERP 2021 R2, the balance amounts on the following forms are calculated based on data from the new `ARTranPost` and `APTranPost` tables:

- [Customer Details](#) (AR402000)
- [Vendor Details](#) (AP402000)
- [Payments and Applications](#) (AR302000), the **Application History** tab
- [Checks and Payments](#) (AP302000), the **Application History** tab

## Upgrade Notes

During an upgrade of Acumatica ERP to 2021 R2, the new `ARTranPost` and `APTranPost` tables will be populated with the data from the `ARAdjust` and `APAdjust` tables.



The `ARAdjust` and `APAdjust` tables will not be removed from the system.

# Finance: Search for a Vendor by Email Address

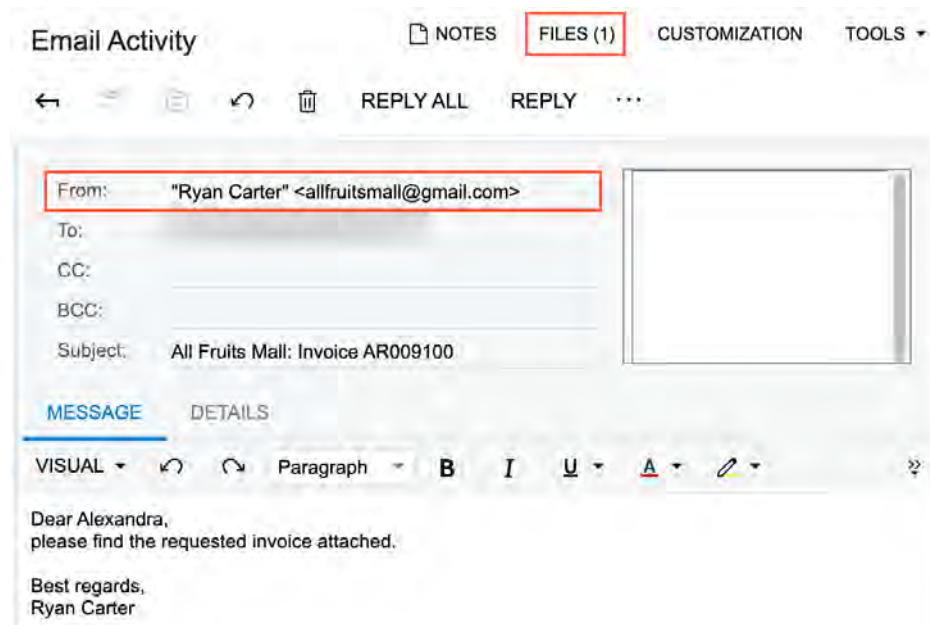
In Acumatica ERP 2021 R2, the system now searches for a vendor by email address during the recognition of incoming AP documents.

## Search for a Vendor by Email Address

Suppose that automatic PDF submission for recognition is configured in your system for a system email account on the [System Email Accounts](#) (SM204002) form. In this case, the system processes all incoming emails and submits any PDF attachment for recognition. The recognition results can be then reviewed on the [Incoming Documents](#) (AP301100) form.

Also, your company may use the Acumatica add-in for Outlook for processing incoming emails. Company employees can submit PDF attachments for recognition using the **Create AP Document** button on the add-in form.

If the vendor was not recognized by the recognition service, the system starts searching for the vendor. It uses the email address of the sender of the email with the PDF attachment submitted for the recognition, as shown in the following screenshot.



*Figure: The sender's email address, which is used to search for a vendor*

The system compares the sender's email address with the email addresses specified for vendors on the [Vendors](#) (AP303000) form until it finds a matching email address. The vendor email addresses the system uses for comparison are specified in the **Account Email** box on the **General** tab. Also, the system compares the sender's email address with the email addresses of all contacts listed for the vendor on the **Contacts** tab of the form. (See the following screenshot.)

Vendors

ALLFRUITS - All Fruits Mall

NOTES FILES CUSTOMIZATION TOOLS

Vendor ID: ALLFRUITS Balance: 1,139.10

Vendor Status: Active Prepayment Balance: 0.00

Vendor Class: DEFAULT - Default Vendor Class Retained Balance: 0.00

GENERAL FINANCIAL PAYMENT PURCHASE SETTINGS ATTRIBUTES LOCATIONS CONTACTS ACTIVITIES

ACCOUNT INFO

Account Name: All Fruits Mall

ACCOUNT ADDRESS

VIEW ON MAP

Address Line 1: 3340 Deans Lane, Arlington

Address Line 2:

City: New York

State: NY - NEW YORK

Postal Code: 12603

Country: US - United States of America

ADDITIONAL ACCOUNT INFO

Business 1: +1 914 853 4879

Cell:

Fax:

Account Email: allfruitsmall@gmail.com

Web:

Ext Ref Nbr:

Parent Account:

PRIMARY CONTACT

Name: Ryan Carter

Job Title: Accountant

Email: rc.allfruitsmall@gmail.com

Business 1:

Cell:

VENDOR PROPERTIES

Landed Cost Vendor

Vendor is Tax Agency

PROJECT DEFAULTS

Cost Code:

Inventory ID:

*Figure: An email address specified for a vendor account*

If no matches were found, the system compares the domain part of the sender's email address with the domain part of the email address specified for each vendor account (in the **Account Email** box of the **General** tab) and the email address specified for each vendor's primary contact (that is, the contact for which the **Primary** check box is selected on the **Contacts** tab).

If a match was found, the system inserts the value in the **Vendor** box of the *Incoming Documents* (AP301100) form for the recognized document, along with other vendor-related settings, as the following screenshot demonstrates.



Incoming Documents  
All Fruits Mall: Invoice AR009100: All\_Fruits\_Invoice\_Inv\_ID.pdf

NOTES FILE (1) CUSTOMIZATION TOOLS

← + 🗑️ SAVE AND CONTINUE

Status: Recognized  
Type: Bill  
\* Vendor: ALLFRUITS - All Fruits Mall  
\* Location: MAIN - Primary Location  
Currency: USD 1.00 VIEW BASE  
Terms: 30D - 30 Days  
\* Date: 11/30/2020  
\* Post Period: 11-2020  
Due Date: 12/30/2020  
Vendor Ref.: AR009100  
Description:  
Detail Total: 810.60  
Amount: 810.60

1 / 1 57%

INVOICE

Fruit Mail

11/30/2020

ITEM	QTY	UNIT	EXT. AMOUNT	AMOUNT
Fresh apples 1 lb 0%	123.00	2.5000	307.50	307.50
Fresh oranges 1 lb 0%	234.00	2.1500	503.10	503.10

LINK LINE

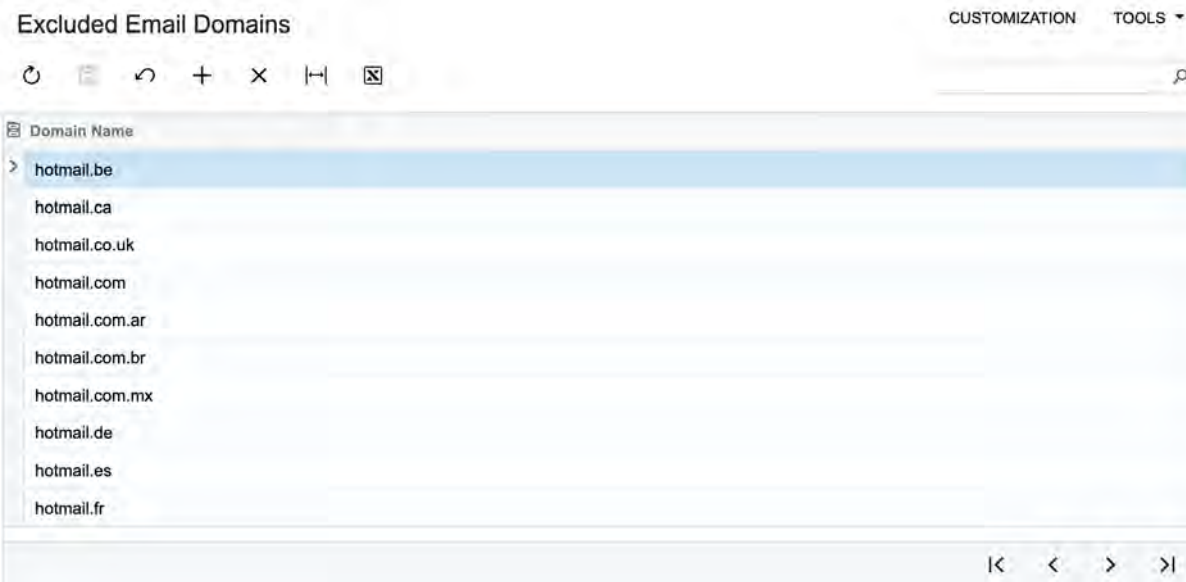
Alternat ID	Inventory ID	Transaction Descr.	Quantil	UOM	Unit Cost	Ext. Cost	Amoun	PO Number	PO Receipt Nbr.
>		Fresh apples 1 lb 0%	123.00		2.5000	307.50	307.50		
		Fresh oranges 1 lb 0%	234.00		2.1500	503.10	503.10		

Figure: The vendor-related values filled in for the recognized document

If multiple matches were found, the system will display a warning message with the list of possible matches next to the **Vendor** box. If multiple matches were found or no match was found, the user should manually select a vendor account in the **Vendor** box of the form.

## The List of Excluded Domains

To optimize the search for a vendor account by the domain part of a sender's email address, the new [Excluded Email Domains](#) (SM209600) form has been added to the system; see the following screenshot. By default, the form lists the most popular domains used for registering an email account. A system administrator of the company can modify the list if needed.



**Figure:** The list of excluded email domains

While searching for a vendor account by the domain part of a sender's email address, the system verifies that the domain is not listed on this form and then proceeds with the search. If the domain is listed, then the system stops searching for possible matches.

The ability to exclude email domains can be useful in the following circumstances:

- Your company works with multiple small vendors with email addresses registered by using the Gmail or Yahoo providers.
- The email was sent by an employee who forgot to switch from a personal email account to the corporate one.

# Finance: Improvements in Detail Mapping

In most cases, an invoice from a vendor has details—a list of items to be purchased. If the document recognition service of Acumatica ERP is in use, it may not recognize invoice details at all, or it may recognize them partially or incorrectly. For example, some columns or rows remained empty, and some values were mapped incorrectly or merged into one cell. Also, invoice details may be printed on multiple pages—that is, broken into multiple tables vertically (by columns) or horizontally (by rows). A user can manually enter data in the Details area of the *Incoming Documents* (AP301100) form or map the values cell by cell.

Acumatica ERP 2021 R2 introduces a built-in table mapping mechanism to ease the processing of invoice details mapping. The remainder of this topic describes various scenarios in which the recognition service does not perform as expected and the ways the user can use the new table mapping mechanism to ease document entry.

## Mapping All Details

Suppose that the recognition service did not recognize the details of an invoice at all. That is, no columns in the Preview area were mapped to the columns in the Details area of the *Incoming Documents* form; the table is empty.

Acumatica ERP 2021 R2, to start mapping the details, a user adds a new empty row to the table by clicking the standard **Add Row** button on the table toolbar. In the Preview area of the form, the system adds a column with light green cleared check boxes to the left of the list with the invoice details, as the following screenshot shows.



**Figure: Addition of a new empty row to the table**

In the Preview area, the user specifies the rows that need to be added to the table in the Details area of the form by selecting the corresponding check boxes. (When the user has selected at least one check box, the system switches to table mapping mode and displays the **Exit Table Mapping** button on the table toolbar.) The system highlights the selected rows in light green. Then in the tooltip that appears, the user clicks **Next** (see the following screenshot) to proceed to column mapping.



**Figure: Selection of two rows with invoice details in the Preview area**



To select multiple sequential check boxes at once, the user selects the check box for the first row, holds the Shift key, and selects the check box for the last needed row.

After the user has clicked **Next**, in the Preview area, the system hides the check boxes and changes the highlighting of the selected details to blue.

In the Details area, the user sets focus to the cell in the column that needs to be mapped (see Item 1 in the following screenshot) and clicks the corresponding column in the Preview area (Item 2). The system adds values to the column cells in the Details area and clears the highlighting for the mapped columns in the Preview area (Items 3 and 4).



**Figure: The process of table mapping**

When the mapping of the columns is completed, the user clicks **Exit Table Mapping** on the table toolbar to save changes and exit mapping mode.

If the system has mapped some values incorrectly, the user can perform manual adjustments.

If the list of details in an invoice is quite long and spans more than a page, the service may recognize the list as multiple tables. In this case, after the first table has been mapped, the user clicks **Add Row** on the table toolbar, scrolls down the document in the Preview area, and selects the rows to map in the next table. The user repeats this operation for every table that needs to be mapped.

## Updating Column Mapping

Suppose that the service has partially recognized the invoice details. That is, the number of rows added to the Details area is correct, but some columns in the Preview area were not mapped to the columns in the Details area or were mapped incorrectly.



If a user is not satisfied with the recognition results at all and it is easier to map all the details from a scratch, the user can click the **Clear Table** button on the table toolbar to delete all the rows that were added by the recognition process.

Acumatica ERP 2021 R2, to start the mapping process, on the table toolbar (in the Details area), a user clicks **Mapping Options > Update Column Mapping**. The **Mapping Options** menu is available if the table has at least one row with some values filled in.

The system switches to mapping mode, highlights the mapped area in the Preview area in blue and displays the **Exit Table Mapping** button on the table toolbar.

In the Details area, the user sets focus to a cell in the column for which the user wants to update or add mapping and clicks the corresponding column in the Preview area. (This process is the same as the process for adding mapping for the whole table, which was described earlier in the topic.)

## Adding Column Mapping from Another Table

Suppose that the table with invoice details is wider than a page and some columns were printed on the next page. The service has partially recognized the invoice details. That is, the number of rows added to the Details area is correct, but some columns in the Preview area were not mapped to the columns in the Details area.

Acumatica ERP 2021 R2, to start the mapping process, on the table toolbar (in the Details area), a user clicks **Mapping Options > Add Columns**. The **Mapping Options** menu is available if the table has at least one row with some values filled in.

In the Preview area of the form, the system adds a column with the light green cleared check boxes to the left of the list with invoice details. The user may need to scroll down to the next page to find the table with the next columns. In this table, the user selects the same number of rows that has already been added to the table in the Details area and clicks **Next** (in the tooltip that appears) to proceed to column mapping.

In the Details area, the user sets focus to the cell in the column for which the user wants to update or add mapping and clicks the corresponding column in the Preview area. This process is the same as the process for adding mapping for the whole table, which is described earlier in the topic.

# Finance: Support of Multiple Base Currencies

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In previous versions of Acumatica ERP, all companies within one tenant had the same base currency. If system administrators wanted to implement a related company that has a base currency that is different from the base currency of the parent company, they had to implement the related company in a separate tenant. As a result, because implementation spanned multiple tenants, it was difficult to maintain a shared list of items, there was no single place to manage approvals, and it was impossible to have joint projects that involved the employees of multiple companies.

In Acumatica ERP 2021 R2, in one tenant, users can implement multiple companies with different base currencies.

## Changes to the Enable/Disable Features Form

On the [Enable/Disable Features](#) (CS100000) form, the *Multiple Base Currencies* feature has been added as shown in the following screenshot.

## Enable/Disable Features

↶ MODIFY ENABLE

Activation Status: Validated

---

Finance

- Standard Financials
  - Multi-Branch Support
  - Business Account Locations
  - Multicurrency Accounting
  - Centralized Period Management
  - Volume Pricing
  - Expense Reclassification
  - Tax Entry from GL Module
  - VAT Reporting
  - 1099 Reporting
  - Net/Gross Entry Mode
  - Invoice Rounding
  - Expense Management
- Advanced Financials
  - Subaccounts
  - General Ledger Allocation Templates
  - Inter-Branch Transactions
  - Customer and Vendor Visibility Restriction
  - Multiple Base Currencies

**!** This feature is currently in **Managed Availability** and some scenarios may not be supported yet. We recommend testing it before enabling it on a production instance.

- Customer Discounts
- Vendor Discounts

**Figure:** The new feature on the Enable/Disable Features form

The system displays a warning message near the **Multiple Base Currencies** check box, informing users that the feature needs to be tested before enabling it on a production instance.

For the *Multiple Base Currencies* feature to be enabled, the following features need to be enabled on the [Enable/Disable Features](#) (CS100000) form:

- *Multi-Branch Support*
- *Multicurrency Accounting*
- *Customer and Vendor Visibility Restriction*

In 2021 R2, multiple base currencies are supported for a limited set of financial areas—general ledger, accounts payable, accounts receivable, cash management, currency management, time and expenses, and taxes.



The following features are not supported if the *Multiple Base Currencies* feature has been enabled:

- *Deferred Revenue Management*
- *Contract Management*
- *Fixed Asset Management*
- *Dunning Letter Management*
- *Purchase Requisitions*
- *Time Management*
- *Projects*
- *Customer Portal*
- *Customer Management*
- *Service Management*
- *Payroll*
- *Manufacturing*
- *Commerce Integration*
- *Procore Integration*

If the *Multiple Base Currencies* feature is enabled and the user selects a check box corresponding to one of the listed features, the system displays an error message.

If one or all of the listed features are enabled and the user selects the check box corresponding to the *Multiple Base Currencies* feature, the system displays an error message that the feature cannot be enabled.

## Changes to the Companies Form

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, on the [Companies](#) (CS101500) form, if a user is creating a new company, the **Base Currency ID** setting is required; no default value is inserted in this box. When the user saves the new company, the **Base Currency ID** box becomes unavailable for editing.

If the *Multiple Base Currencies* feature is disabled, when a new company record is being created, the **Base Currency ID** setting is required; the box has no default value if no other companies have been defined in the tenant. (For subsequent companies in the tenant, the box is populated with the base currency selected for the first company and cannot be modified.)

The following screenshot illustrates a new company with the *CAD* base currency being created.



Companies  
PRCANADA - Products Canada

NOTES FILES CUSTOMIZATION TOOLS

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\* Company ID: PRCANADA    Active

\* Company Name: Products Canada

Company Type: With Branches Not Requiring Balancing

COMPANY DETAILS BRANCHES EMPLOYEES LEDGERS VISUAL APPEARANCE COMPANY GROUPS

**MAIN CONTACT**

Account Name: Products Canada

Attention:

Email:

Web:

Phone 1:

Phone 2:

Fax:

**MAIN ADDRESS**

ADDRESS LOOKUP

Address Line 1:

Address Line 2:

City:

\* Country: US - United States of America

State:

Postal Code:

**BASE CURRENCY SETTINGS (SHARED)**

\* Base Currency ID: CAD - Canadian Dollars

**TAX REGISTRATION INFO**

\* Legal Name: Products Canada

Tax Registration ID:

Tax Exemption Number:

Entity Usage Type: **Default**

1099-MISC Reporting Entity

**CONFIGURATION SETTINGS**

Access Role:

Default Country:

**MISCELLANEOUS SETTINGS (SHARED)**

Quantity Decimal Places:

Price/Cost Decimal Pla...

Phone Mask:

**Figure:** A new company created with the CAD base currency

On the **Ledgers** tab, the lookup table in the **Ledger** column contains ledgers of the *Actual* type only if the company's base currency is specified for them; it also contains all ledgers of other types. If a user clicks **Create Ledger** on the form toolbar, the system creates a ledger with the company's base currency.

On the **Company Groups** tab, the lookup table in the **Group ID** column shows only groups with the same currency as the base currency of the company.

## Changes to the Ledgers Form

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, on the [Ledgers](#) (GL201500) form, the **Currency** box is available for an actual ledger if there are no companies associated with the ledger. If a user is creating a new ledger of the *Actual* type, the **Currency** setting is required; the box is empty by default.

For an actual ledger, on the **Companies** tab, a user can select only a company with the same base currency as the ledger's currency.

If the *Multiple Base Currencies* feature is disabled, the **Currency** box is disabled for an actual ledger. When an actual ledger is being created, the system inserts the currency used for all companies of the tenant.

## Changes to the Company Groups Form

If the *Multicurrency Accounting* feature has been enabled on the [Enable/Disable Features](#) (CS100000) form, the **Currency ID** box appears in the Summary area of the [Company Groups](#) (CS102500) form, as shown in the following screenshot.

Company Groups  
CANADA - Canadian Companies

NOTES FILES CUSTOMIZATION TOOLS

← ↻ 📄 ↶ + 🗑️ 📄 ▶️ < > >> CREATE LEDGER

\* Group ID: CANADA

\* Group Name: Canadian Companies

\* Currency ID: CAD

↻ + × |←| 🗑️

Company ID	Company Name	Primary Group	Actual Ledger

**Figure: The Currency ID box on the Company Groups form**

If the *Multiple Base Currencies* feature is enabled, when a user is creating a new company group, the **Currency ID** setting is required; the box is empty by default. The currency can be selected from the list of active currencies. The currency can be changed for an empty company group (a company group with no companies listed) only if the company group is not associated with any customer or vendor. If the *Multiple Base Currencies* feature is disabled, the **Currency ID** box contains the base currency used for all companies in the tenant and is unavailable for editing.

A user can add to the group only companies that have the same base currency as the currency of the group, as shown in the following screenshot.

Company Groups  
CANADA - Canadian Companies

NOTES FILES CUSTOMIZATION TOOLS

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\* Group ID: CANADA

\* Group Name: Canadian Companies

Currency ID: CAD

↻ + × |←| 🗑️

Company ID	Company Name	Primary Group	Actual Ledger
> PRCANADA	Products Canada		PRCANADA
SRVCANADA	Services Canada		SRVCANADA

**Figure: Companies added to a group with the CAD currency**

## Changes to the Customers Form

If the *Multiple Base Currencies* feature is enabled on the *Enable/Disable Features* (CS100000) form, the **Restrict Visibility To** setting on the **Financial** tab of the *Customers* (AR303000) form becomes required for regular customers. Users should associate each customer with an appropriate entity by selecting it in the **Restrict Visibility To** box. The base currency of the entity with which the customer is associated will be the currency in which the system stores the customer's balance and credit limit. As a result, customers can be used only in the transactions originating from the branches that have the same base currency as the customer has.

On the *Customers* form, if the *Multiple Base Currencies* feature is enabled, the base currency symbol in parenthesis is displayed for the **Balance**, **Prepayment Balance**, and **Retained Balance** boxes in the Summary area, and the **Write-Off Limit**, **Credit Limit**, **Unreleased Balance**, and **Remaining Credit Limit** boxes on the **Financial** tab.

On the **Child Accounts** tab, the **Currency** column has been added to the table, as shown in the following screenshot.

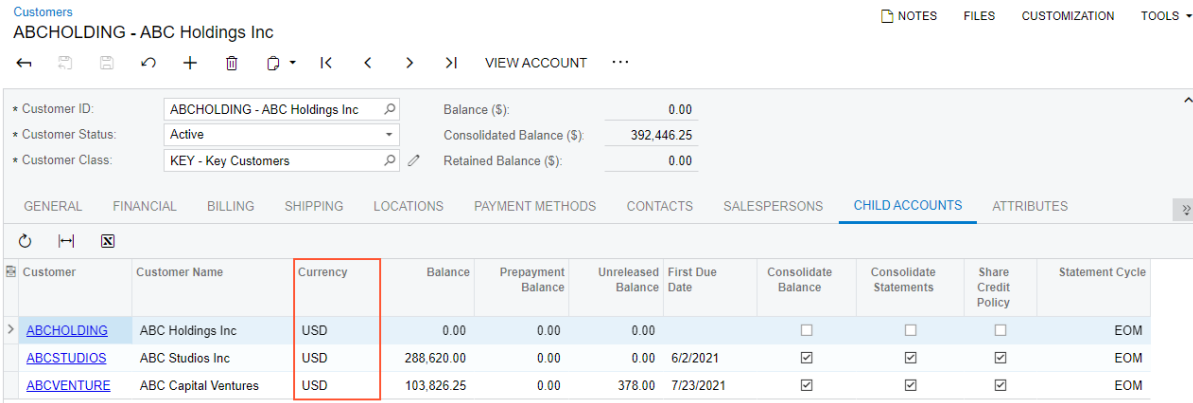


Figure: The Currency column on the Child Accounts tab

If the *Multiple Base Currencies* feature is enabled, on the *Customers* form, the following changes have been implemented for customers extended from a branch:

- The **Restrict Visibility To** setting on the **Financial** tab is not required. If a customer is not associated with any entity, it is visible and can be used by any company in the tenant. A user can select an entity in the **Restrict Visibility To** box if no transactions have been posted for the customer in a currency different from the base currency of the selected entity.
- The credit verification rules cannot be used for customers extended from a branch. That is, the **Credit Verification Rules** section and its boxes do not appear on the **Financial** tab of the *Customers* form.
- The **Balances** tab is now visible on the *Customers* form, as shown in the following screenshot. The tab is shown only if the current user is assigned to a role that gives users the ability to access companies with different base currencies.

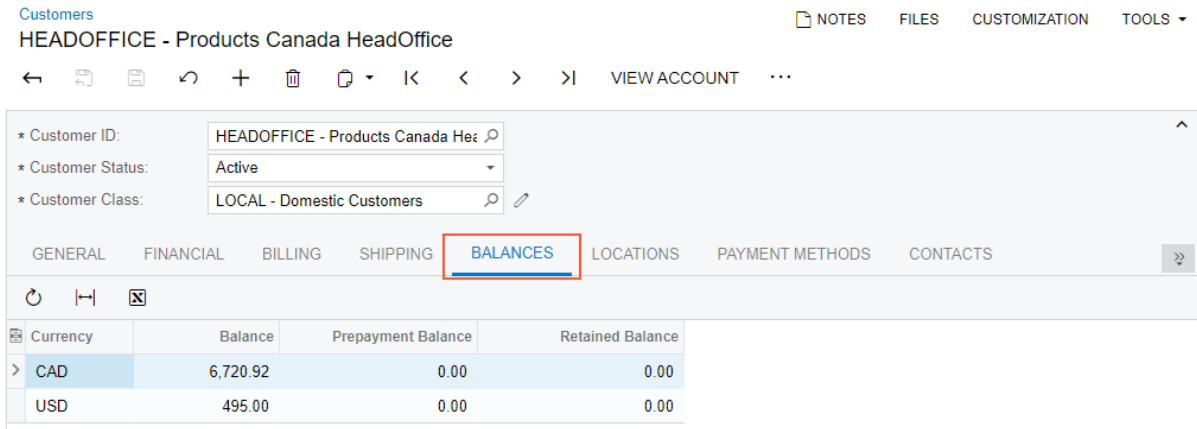


Figure: The Balances tab on the Customers form

The table on the **Balances** tab displays the balances of the customer grouped by base currency.

## Changes to the Vendors Form

If the *Multiple Base Currencies* feature is enabled on the *Enable/Disable Features* (CS100000) form, the **Restrict Visibility To** setting on the **Financial** tab of the *Vendors* (AP303000) form becomes required for regular vendors. Users should associate each vendor with an appropriate entity by selecting it in the **Restrict Visibility To** box. The base currency of the entity with which the vendor is associated will be the currency in which the system stores the vendor's balance. As a result, vendors can be used only in the transactions originating from the branches that have the same base currency as the vendor has.

In the Summary area of the [Vendors](#) form, if the *Multiple Base Currencies* feature is enabled, the base currency symbol in parenthesis is displayed for the **Balance**, **Prepayment Balance**, and **Retained Balance** boxes.

If the *Multiple Base Currencies* feature is enabled, on the [Vendors](#) form, the following changes have been implemented for vendors extended from a branch:

- The **Restrict Visibility To** setting on the **Financial** tab is not required.  
If a vendor is not associated with any entity, it is visible and can be used by any company in the tenant. A user can select an entity in the **Restrict Visibility To** box if no transactions have been posted for the vendor in a currency different from the base currency of the selected entity.
- The **Balances** tab is now visible on the [Vendors](#) form, as shown in the following screenshot. The table on this tab displays the balances of the vendor grouped by base currency. The tab is shown only if the current user is assigned to a role that gives users the ability to access companies with different base currencies.

Currency	Balance	Prepayment Balance	Retained Balance
> CAD	410.00	0.00	0.00
USD	1,679.16	0.00	0.00

*Figure: The Balances tab on the Vendors form*

## Changes to the Accounts Receivable Preferences Form

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, on the [Accounts Receivable Preferences](#) (AR101000) form, the *Consolidated for All Companies* option is not available for selection in the **Prepare Statements** box. For more details about the changes on this form, see [Finance: Flexible Statement Generation Options](#).

## Support of Prices in Base Currencies

If multiple related companies with multiple base currencies are configured in the same tenant and the companies share the inventory item records, users can perform the following operations:

- Upload a list of non-stock items with the default prices in a specific currency; this list will be valid for the companies with this base currency
- Review and edit the default prices in the currency of the current branch
- Maintain the MSRP for the products in different currencies that will be used by the companies with these base currencies
- Maintain the standard cost of the non-stock items that are valid for a specific base currency

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, on the [Non-Stock Items](#) (IN202000) form, item default price, MSRP, pending cost, standard cost, and last cost are displayed in the base currency of the branch to which the user is signed in. The currency symbol of the base currency is now displayed for the following boxes: **MSRP**, **Default Price**, **Pending Cost**, **Current Cost**, and **Last Cost**, as shown in the following screenshot. (In this example, the Canadian dollar is the applicable base currency.)

Non-Stock Items

DEPOSIT - Contract Deposit

Inventory ID: DEPOSIT - Contract Deposit    Product Workgroup:   
 Item Status: Active    Product Manager:   
 Description: Contract Deposit

GENERAL    **PRICE/COST**    VENDORS    PACKAGING    GLACCOUNTS    ATTRIBUTES    DESCRIPTION

**PRICE MANAGEMENT**

Price Class:    Pending Cost (C\$): 0.00   
 Price Workgroup:    Pending Cost Date:   
 Price Manager:    Current Cost (C\$): 125.00   
 Subject to Commission    Effective Date: 7/19/2021   
 Min. Markup %: 0.000000    Last Cost (C\$): 0.00   
 Markup %: 0.000000   
 MSRP (C\$): 10.00   
 Default Price (C\$): 120.00

**STANDARD COST**

Accrue Cost   
 Cost Based On: Standard Cost   
 Percent of Sales ... 0.000000

Figure: The added base currency symbols

On the [Sales Price Worksheets](#) (AR202010) form, in the **Calculate Pending Prices** dialog box, the **Currency** box has been added, as shown in the following screenshot.

Sales Price Worksheets

000003 - Sales Prices for Canadian Companies

Reference Nbr.: 000003    Effective Date: 7/19/2021    Promotional   
 Status: On Hold    Expiration Date:   
 Overwrite Overlapping Prices

Description: Sales Prices for Canadian Companies

Price Type    Price Code    Alternate ID   
 Customer Price Class    WHOLESALE   
 Customer Price Class    WHOLESALE   
 Customer Price Class    WHOLESALE

**Calculate Pending Prices**

**PRICE ADJUSTMENT**

% of Original Price: 105.000000   
 Decimal Places: 2   
 Update with Zero Price when Basis is Zero

**PRICE BASIS**

Last Cost + Markup %   
 Avg./Std. Cost + Markup %   
 Source Price   
 MSRP   
 Pending Price

\* Currency: USD

**Select - Currency**

Currency ID	Description
CAD	Canadian Dollars
USD	U.S. Dollars

Figure: The Currency box in the Calculate Pending Prices dialog box

The lookup table shows the list of the base currencies set for the branches to which the user has access. The **Currency** box is available and this setting is required if one of the following option buttons is selected: **Avg./Std. Cost + Markup %** or **MSRP**. By default, the base currency of the current branch is displayed in the box. The system will use the standard cost or MSRP in the selected currency, respectively, as a price basis.

On the [Invoices and Memos](#) (AR301000) and [Cash Sales](#) (AR304000) forms, the system will insert the applicable price according to the following criteria:

- If the **Always Calculate Price from Base Currency Price** check box is selected on the [Accounts Receivable Preferences](#) (AR101000) form, the system will look for a sales price of the item in the base currency of the document's originating branch effective on the document date and convert it to the document currency.
- If the sales price is not found, the default price in the base currency of the document's originating branch will be used if this price has been specified. The price will be converted to the document currency.

In the transactions that write off the accrued cost of the non-stock items for which the **Accrue Cost** check box is selected and *Standard Cost* is selected in the **Cost Based On** box on the **Price/Cost** tab of the [Non-Stock Items](#) form, the standard cost specified in the base currency of the document's originating branch will be used.

On the [Bills and Adjustments](#) (AP301000) and [Quick Checks](#) (AP304000) forms, when the system searches for an applicable price that is effective on the document date, the standard cost in the base currency of the document's originating branch will be used if this cost has been specified.

## Support of Company-Specific Base Currencies on Data Entry Forms

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, the system converts each transaction to the base currency of the company by using the exchange rate effective on the transaction date.

On data entry forms, all branches involved in the transaction must have the same base currency. The system performs validation for manually created documents and for documents generated automatically.

To ensure that the base currency of the branches and customers or vendors involved in a transaction is the same, on transaction release, the system validates that the base currency of the customer or vendor and of the branches is the same as the base currency saved for the transaction. These and other validations have been implemented on the following forms:

- [Allocations](#) (GL204500)
- [Journal Transactions](#) (GL301000)
- [Budgets](#) (GL302010)
- [Trial Balance](#) (GL303010)
- [Journal Vouchers](#) (GL304000)
- [Reclassify Transactions](#) (GL506000)
- [Cash Accounts](#) (CA202000)
- [Funds Transfers](#) (CA301000)
- [Transactions](#) (CA304000)
- [Process Bank Transactions](#) (CA306000)
- [Reclassify Payments](#) (CA506500)
- [Bills and Adjustments](#) (AP301000)
- [Checks and Payments](#) (AP302000)
- [Vendors](#) (AP303000)
- [Vendor Locations](#) (AP303010)
- [Quick Checks](#) (AP304000)
- [Bills Pending Payments](#) (AP403000)
- [Checks Pending Printing](#) (AP404000)
- [Prepare Payments](#) (AP503000)
- [Invoices and Memos](#) (AR301000)
- [Payments and Applications](#) (AR302000)
- [Customers](#) (AR303000)
- [Customer Payment Methods](#) (AR303010)
- [Cash Sales](#) (AR304000)

- [Write Off Balances and Credits](#) (AR505000)
- [Calculate Overdue Charges](#) (AR507000)
- [Tax Adjustments](#) (TX301000)
- [Tax Bills and Adjustments](#) (TX303000)
- [Prepare Tax Report](#) (TX501000)
- [Release Tax Report](#) (TX502000)
- [Recognize Output VAT](#) (TX503000)
- [Recognize Input VAT](#) (TX503500)
- [Employees](#) (EP203000)
- [Expense Receipt](#) (EP301020)
- [Expense Claim](#) (EP301000)

## Changes in Reports and Inquiries

If the *Multiple Base Currencies* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, the **Company/Branch** setting is required on multiple report and inquiry forms related to accounts payable, accounts receivable, currency management, and taxes.

By default, the **Company/Branch** box displays the branch to which the user is signed in. The user can select another branch, company, or company group to which they have access.

## Other UI Changes

To support the *Multiple Base Currencies* feature, the following UI changes have been introduced:

- On the [Calculate Commissions](#) (AR505500) and [Close Commission Period](#) (AR506500) forms, the **Currency** column has been added to the table, showing the base currency of the documents and commissions. The column is visible if the *Multiple Base Currencies* feature has been enabled. All commissionable documents and commission history records are now grouped by their base currency.
- On the [Commission Details](#) (AR403000) form, the **Currency** column has been added to the table, showing the base currency of the documents. The column is visible if the *Multiple Base Currencies* feature has been enabled.
- On the [Salespersons](#) (AR205000) form, the **Currency** column has been added to the table on the **Commission History** tab, which shows the currency of the commissions. The column is visible if the *Multiple Base Currencies* feature has been enabled. All commission history records are now grouped by their currency.
- On the [Release AR Retainage](#) (AR510000) and [Release AP Retainage](#) (AP510000) forms, the **Branch** box in the Selection area has been replaced with the **Company/Branch** box; this setting is required if the *Multiple Base Currencies* feature has been enabled. Users can select a branch, company, or company group to which they have access. If a company or a branch is selected in the **Company/Branch** box, the **Post Period** box shows the periods from the company calendar. If a company group is selected or the box is empty, the periods from the master calendar are shown.
- On the [Generate Intercompany Documents](#) (AP503500) form, if the base currencies of the selling company and the purchasing company are different, the rate is not copied from an AR document to the corresponding AP document.
- On the [Cash Flow Forecast](#) (CA401000) form, the **Company/Branch** box has been added to limit the cash accounts used in a forecast to the accounts that belong to the branches with the same base currency. The setting is required if the *Multiple Base Currencies* feature has been enabled. Users can select a branch, company, or company group to which they have access.
- On the [Revalue AP Accounts](#) (CM504000), [Revalue AR Accounts](#) (CM505000), and [Revalue GL Accounts](#) (CM506000) forms, the **Company/Branch** box has been added to the Selection area. The setting is required if the *Multiple Base Currencies* feature has been enabled. In this box, users can select a branch, company,

or company group to which they have access. If a company or a branch is selected in the **Company/Branch** box, the **Fin. Period** box shows the periods from the company calendar. If a company group is selected or the box is empty, the periods from the master calendar are shown.

The base currency symbol in parenthesis has been added to the **Revaluation Total** box in the Selection area.

- On the [Vendor Summary](#) (AP655000) report, the **Currency** column has been renamed to **Vendor Currency**, and the **Balance Currency** column has been added, which shows the currency of the vendor balance.
- On the [Vendor Profiles](#) (AP655500) report, the **Currency** column has been renamed to **Vendor Currency**.
- On the [Customer Summary](#) (AR650500) report, the **Currency** column has been renamed to **Customer Currency**, and the **Balance Currency** column has been added, which shows the currency of the customer balance.
- On the [Customer Profiles](#) (AR651000) report, the **Currency** column has been renamed to **Customer Currency**. The currency ID of the customer's base currency has been added in parentheses to the **Write-Off Limit** and **Credit Limit** rows.
- On the [Employees](#) (EP203000) form, the **Base Currency ID** box has been added. For more information, see [Projects and Construction: Multiple Base Currencies in Expense Receipts and Claims](#).

## Upgrade Notes

During an upgrade of Acumatica ERP to 2021 R2, for customers and vendors, the value in the **Restrict Visibility To** box on the **Financial** tab of the [Customers](#) (AR303000) and [Vendors](#) (AP303000) forms will not be changed.

Users should associate each customer and vendor with the appropriate company or company group this customer or vendor will work with, by selecting the needed entity in the **Restrict Visibility To** box on the [Customers](#) (AR303000) and [Vendors](#) (AP303000) form respectively.

## Additional Information

For details on configuring the multiple base currencies functionality, see [Multiple Base Currencies: General Information](#), [Customer Visibility: General Information](#), [Vendor Visibility: General Information](#), and [Company Groups: General Information](#).



# Finance: Tax Support in Cash Transactions on the Process Bank Transactions Form

In previous versions, Acumatica ERP did not support the creation of taxable cash entries on the *Process Bank Transactions* (CA306000) form. Users could not review or edit the applied taxes, tax zones, tax categories, or the tax calculation mode of the cash transaction, and could not apply an exclusive tax to a document when they created creating a new cash transaction during bank transaction processing.

Starting in Acumatica ERP 2021 R2, on the *Process Bank Transactions* form, a user can create a cash transaction with one tax or multiple taxes applied automatically or manually to the transaction. Taxes associated with different tax categories can be added to each line in the table on the **Create Payment** tab of the form. If the user manually changes the settings of the applied taxes, the system automatically recalculates the corresponding amounts and updates the total amounts on the **Create Payment** tab.

This topic describes the changes that have been made to the *Process Bank Transactions* (CA306000) form to provide this support.

## UI Changes on the Process Bank Transactions Form

On the **Create Payment** tab of the *Process Bank Transactions* (CA306000) form, if CA is selected in the **Module** box, the system displays new UI elements, as shown in the following screenshot.

The screenshot displays the 'CREATE PAYMENT' tab of the 'Process Bank Transactions' form. The 'Module' is set to 'CA'. The 'Amount' is 50.00, 'Detail Total' is 45.45, and 'Tax Total' is 4.55. The 'Discrepancy' is 0.00. The table below shows a single line item with a 'Tax Category' of 'TAXABLE'.

* Branch	Description	Quantity	Price	Amount	* Offset Account	Description	* Offset Subaccount	Tax Category
> PRODWHOLE	KeyBank Service fee February 2021	1.00	45.45	45.45	61100	Bank Service Charges	000-000	TAXABLE

**Figure: UI changes on the Create Payment tab**

The following new UI elements have been added to the form:

- **Amount:** This box displays the automatically calculated sum of the amounts in the **Detail Total** box and in the **Tax Total** box, if any exclusive taxes are used. This box is always displayed on the form, and its value cannot be overridden.



In rare cases, both inclusive and exclusive taxes can be calculated. In this case, the **Tax Total** will include both types of taxes, but only exclusive taxes will be reflected in the **Detail Total** box.

- **Tax Total:** This box displays the automatically calculated sum of the tax amounts of all lines in the table. This box is always displayed on the form, and its value cannot be overridden. The value is a link that the user can click to open the new **Tax Details** dialog box.
- **Tax Category:** This column of the table shows the tax category of the document, which is filled in automatically when a line is added, although the user can override the inserted category. The system selects the tax category as follows:

- From the corresponding **Tax Zone** if no item is selected for the line and the selected offset account does not have a tax category
- From the **Offset Account** if no item is selected for the line and the offset account has a tax category
- From the item if it is selected for the line and has a tax category specified in the **Tax Category** box on the **General** tab of the *Non-Stock Items* (IN202000) form

Other changes have been made to the *Process Bank Transactions* form as well. The **Total Amount** box has been removed from the tab and the **Balance Left** box has been renamed to **Discrepancy**. The amount in the **Discrepancy** box is calculated as  $\text{Transaction Amount} - \text{Amount}$ . Also, the calculation of amounts in the **Price** and **Amount** columns and the **Detail Total** box has been changed according to the *diminishing* calculation rule described below.

## The Tax Details Dialog Box

On the **Create Payment** tab of the *Process Bank Transactions* (CA306000) form, if a user clicks the link in the **Tax Total** box, the new **Tax Details** dialog box opens, as shown in the following screenshot.

**Figure:** The new Tax Details dialog box

In this dialog box, the user can specify a tax zone and tax calculation mode for the taxes to be applied to the document line. If a user specifies values in the boxes, the taxes associated with the selected tax zone appear in the table. For taxes that have been applied automatically, the user can change their settings in the table of the dialog box, as well as add a new tax or remove an automatically added tax.

The **Tax Details** dialog box has the following boxes:

- **Tax Zone:** The tax zone specified for the selected cash account and entry type on the **Entry Types** tab of the *Cash Accounts* (CA202000) form. The user can override this value.
- **Tax Calculation Mode:** The tax calculation mode specified for the selected cash account and entry type on the **Entry Types** tab of the *Cash Accounts* form. The user can override this value.

This box appears in the dialog box if the *Net/Gross Entry* mode feature has been enabled on the *Enable/Disable Features* (CS100000) form.

The dialog box has a table, which lists taxes, with the following columns:

- **Tax ID:** The tax ID of the tax associated with the selected tax zone
- **Tax Rate:** The tax rate of the tax associated with the selected tax zone

- **Taxable Amount:** The taxable amount of the line
- **Tax Amount:** The amount of the tax calculated automatically by the system based on the tax ID or specified manually by the user
- **Deductible Tax Rate:** The revision of the deductible tax rate, which is actual as of the expense date
- **Expense Amount:** The non-deductible tax amount that is recorded as an expense

## Rules of Diminishing Calculation

On the **Create Payment** tab of the [Process Bank Transactions](#) (CA306000) form, if a user updates the tax category for a line, the system uses the *Diminishing* calculation rule to update the line amounts for *Exclusive* and *Net* taxes. The line amounts are calculated as follows:

- If a new line is added, the initial amount is the amount of the discrepancy; if the tax category for the current line is added, the initial amount is the current line amount.
- The preliminary line amount is calculated as follows:  $(\text{Initial Amount} * (1 + \text{Total Inclusive Tax Rate})) / (1 + \text{Total Inclusive Tax Rate} + \text{Total Exclusive Tax Rate})$
- Inclusive taxes are calculated based on the preliminary line amount, and rounding is applied
- The taxable amount is calculated as follows:  $\text{Preliminary Line Amount} - \text{Inclusive Taxes}$
- Exclusive taxes are calculated for the line based on the taxable amount, and rounding is applied
- The line amount is calculated as follows:  $\text{Initial Amount} - \text{Exclusive Taxes}$
- If the quantity in the **Quantity** column is 1,  $\text{Price} = \text{Amount} / \text{Quantity}$  rounded to the number of decimals specified in the **Price/Cost Decimal Places** box on the [Companies](#) (CS101500) form for the current company.
- If the user changes the **Quantity** or **Price**,  $\text{Amount} = \text{Quantity} * \text{Price}$  rounded to the number of decimals set up for the currency in the **Decimal Precision** box on the [Currencies](#) (CM202000) form.

## Limitations

The diminishing calculation rule will not be applied for the following taxes:

- A tax for which a nonzero value is specified in the **Min. Taxable Amount** or **Max. Taxable Amount** column on the **Tax Schedule** tab on the [Taxes](#) (TX205000) form
- A tax for which the *Compound Line-Level* or *Compound Document-Level* option is selected in the **Calculation Rule** box on the [Taxes](#) form

If the user updates the **Tax Amount** for an *Inclusive* tax or for a tax that has the *Gross* tax calculation mode, and a rounding difference is calculated, the system displays an error message that this option is not available when the user tries to save the changes in the **Tax Details** dialog box.

## Additional Information

For details on how to create a disbursement cash transaction with an automatically applied tax during bank reconciliation, see Step 9 in [Bank Reconciliation: To Process a Bank Statement in OFX Format and Reconcile a Cash Account](#).

# Finance: Other Improvements

In Acumatica ERP 2021 R2, multiple improvements to the UI and financial management processes have been introduced, as described below.

## Price Class Box on the Customer Classes Form

Users often create different customer classes and price classes for customers of the business-to-business (B2B) and business-to-customer (B2C) types. In previous versions of Acumatica ERP, because the price class was not copied by default from the customer class, users had to select it manually for customers on the [Customers](#) (AR303000) form, which required extra work and could lead to incorrect prices in the sales orders and invoices for these customers.

In Acumatica ERP 2021 R2, on the [Customer Classes](#) (AR201000) form, the new **Price Class** box has been added to the **General** tab, as shown in the following screenshot.

Customer Classes  
KEY - Key Customers

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\* Class ID:  🔍  
Description:

**GENERAL** | GL ACCOUNTS | ATTRIBUTES | MAILING & PRINTING

---

**DEFAULT GENERAL SETTINGS**

Country:  🔍  
Restrict Visibility To:   
Tax Zone ID:  🔍  
 Require Tax Zone  
\* Entity Usage Type:  🔍  
 Require Entity Usage Type  
 Default Location ID from Branch

**Price Class:**  🔍

Default Restriction Group:  🔍  
Salesperson ID:  🔍

**DEFAULT DELIVERY SETTINGS**

Ship Via:  🔍  
Shipping Terms:  🔍  
Shipping Rule:

**DEFAULT CREDIT VERIFICATION SETTINGS**

Credit Verification:   
Credit Limit:   
Over-Limit Amount:   
Credit Days Past Due:

**DEFAULT FINANCIAL SETTINGS**

Terms:  🔍  
Statement Cycle ID:  🔍  
Payment Method:  🔍  
 Auto-Apply Payments  
 Apply Overdue Charges  
Overdue Charge ID:   
 Enable Write-Offs  
Write-Off Limit:   
Currency ID:  🔍  Enable Currency Override  
Currency Rate Type:  🔍  Enable Rate Override  
Group/Document Disco...:   
 Pay by Line  
 Apply Retainage

**DEFAULT PRINT AND EMAIL SETTINGS**

Send Invoices by Email  Print Invoices  
 Send Dunning Letters by Email  Print Dunning Letters  
 Send Statements by Email  Print Statements  
Statement Type:   
 Multi-Currency Statements

**CREDIT CARD PROCESSING SETTINGS**

Save Payment Profiles:

Figure: Price Class box on the Customer Classes form

The new box is optional and is empty by default. If a user selects a specific price class for the selected customer class, when a new customer of the class is created, on the **Shipping** tab of the [Customers](#) (AR303000) form, the **Price Class** value will be copied from the selected customer class.

If a user changes the customer class for a customer, the system displays a warning message asking if the user wants to confirm this change; the system changes the existing price class if the user answers **Yes**. Otherwise, the system keeps the customer settings that were previously specified. In the following screenshot, the user is changing the customer class from *KEY* (for which the *WHOLESALE2* price class is specified) to *LOCAL* (for which no price class is specified). The system displays the warning dialog box.

The screenshot shows the 'Customers' form for 'ABCSTUDIOS - ABC Studios Inc' on the 'SHIPPING' tab. The 'Customer Class' is currently set to 'LOCAL - Domestic Customers'. A warning dialog box is displayed in the foreground, asking for confirmation to update current customer settings with the customer class defaults. The 'Price Class' field is highlighted with a red box, showing 'WHOLESALE2'. The dialog box has 'YES' and 'NO' buttons.

Figure: The warning dialog box when the user attempts to change the customer class

## Batch Payment Information for Checks

In previous versions of Acumatica ERP, users could not see if a check was included in any batch payment. To improve the user experience, the **Batch Payment Nbr.** box has been added to the **Remittance** tab of the [Checks and Payments](#) (AP302000) form, as shown in the following screenshot.

Checks and Payments  
Check 001821 - Arktak Networks

NOTES ACTIVITIES FILES

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Type: <b>Check</b>	Vendor: <b>ARKTAK - Arktak Networks</b>	Payment Amount: <b>116.00</b>
Reference Nbr.: <b>001821</b>	Location: <b>MAIN - Primary Location</b>	Unapplied Balance: <b>0.00</b>
Status: <b>Closed</b>	Payment Meth...: <b>FEDWIRE</b>	Application Amount: <b>0.00</b>
Application Date: <b>5/26/2021</b>	Cash Account: <b>10200 - Company Checking Account</b>	Finance Charges: <b>0.00</b>
Application Pe...: <b>05-2021</b>	Currency: <b>USD 1.00</b> <span>VIEW BASE</span>	
Payment Ref.: <b>00457</b>	Description:	

DOCUMENTS TO APPLY APPLICATION HISTORY FINANCIAL APPROVALS **REMITTANCE** CHARGES

**REMITTANCE CONTACT** PRINT OPTIONS

Override Contact  Print Check

Account Name: **Arktak Networks** Batch Payment Nbr.: **000083**

Attention:

Phone 1: **+1 (777) 634-8787**

Email: **networks@arktak.com** ✉

**REMITTANCE ADDRESS**

Override Address ADDRESS LOOKUP

Address Line 1: **1 Kalisa Way**

Address Line 2:

City: **Paramus**

Country: **US - United States of America**

State: **NJ - NEW JERSEY**

Postal Code: **07652**

Figure: Batch Payment Nbr. box on the Remittance tab

The **Batch Payment Nbr.** column has been added to the *Cash Account Details* (CA303000) form, as shown in the following screenshot.

Cash Account Details

RELEASE CLEAR

CUSTOMIZATION TOOLS

\* Cash Account: **10200 - Company Checking Account**

Start Date: **5/1/2021** Show Summary

End Date: **5/31/2021** Include Unreleased

Currency: **USD**

ALL TRANSACTIONS		CLEARED ONLY	
Beginning Balance:	69,415,576.44	Beginning Balance:	67,903,883.62
Acct. Debit Total:	453.00	Acct. Debit Total:	0.00
Acct. Credit Total:	459.00	Acct. Credit Total:	0.00
Ending Balance:	69,415,570.44	Ending Balance:	67,903,883.62

Doc. Date	Post Period	Module	*Orig. Doc. Number	Document Ref.	Tran. Type	Batch Number	Status	Receipt	Disbursement	Ending Balance	Batch Payment Nbr.	Cleared	Clear Date	Reconciled
5/10/2021	05-2021	AR	<a href="#">003484</a>	PMT03135	Prepayment	<a href="#">AR009476</a>	Posted	453.00	0.00	69,416,029.44		<input type="checkbox"/>		<input type="checkbox"/>
5/24/2021	05-2021	AR	<a href="#">003483</a>	PMT03134	Customer Refund	<a href="#">AR009474</a>	Posted	0.00	23.00	69,416,006.44		<input type="checkbox"/>		<input type="checkbox"/>
5/26/2021	05-2021	AP	<a href="#">001820</a>	00456	Check	<a href="#">AP004373</a>	Posted	0.00	320.00	69,415,686.44	<a href="#">000083</a>	<input type="checkbox"/>		<input type="checkbox"/>
5/26/2021	05-2021	AP	<a href="#">001821</a>	00457	Check	<a href="#">AP004374</a>	Posted	0.00	116.00	69,415,570.44	<a href="#">000083</a>	<input type="checkbox"/>		<input type="checkbox"/>

Figure: Batch Payment Nbr. column on Cash Account Details

Both the box on the *Checks and Payments* form and the column on the *Cash Account Details* form display a link to the batch payment in which the check has been included. If the user clicks the link, the system opens the batch on the *Batch Payments* (AP305000) form.

**Removed Filtering by Open Amount on the Convert Purchases to Assets Form**

In previous versions of Acumatica ERP, on the *Convert Purchases to Assets* (FA504500) form, it was possible to filter the lines in the upper table by the values in the **Open Amount** column. Because the amount in this column was

recalculated each time a line was added to the lower table, both tables were cleared when a user added a new line to the lower table, which was confusing.

To fix this issue in 2021 R2, filtering by the **Open Amount** in the upper table has been prohibited. Users cannot apply a filter when they click the **Open Amount** column or click the Filter Settings button on the table toolbar of the upper table.

## Increased Length of the Tax ID and Tax Category Identifiers

In previous versions of Acumatica ERP, the length of the **Tax ID** box on the [Taxes](#) (TX205000) form was 30 characters, and the length of the **Tax Category ID** box on the [Tax Categories](#) (TX205500) form was 10 characters. These settings were not suitable for working with some external tax providers, such as TaxJar and Vertex. Also, orders created in eCommerce platforms such as BigCommerce and Shopify could not be imported to Acumatica ERP because of this limitation.

In Acumatica ERP 2021 R2, the length of the **Tax ID** box on the [Taxes](#) form has been increased to 60 characters, and the length of the **Tax Category ID** box on the [Tax Categories](#) form has been increased to 15 characters.

## Postal Code of Tax Zones Linked to Ship-To Address

In previous versions of Acumatica ERP, for the documents created directly on the [Invoices and Memos](#) (AR301000) or [Invoices](#) (SO303000) form, the tax zone was determined by the postal code of the billing address, whereas in sales orders on the [Sales Orders](#) (SO301000) form, the tax zone was appropriately determined by the postal code of the shipping address. On the [Invoices](#) form, if a user changed the postal code in the **Bill-To Address** section for an invoice created based on the sales order, the system changed the document's tax zone copied from the sales order to the one associated with the postal code of the billing address. As a result, the taxes calculated for the invoice differed from the taxes calculated for the sales order, although the shipping address remained the same.

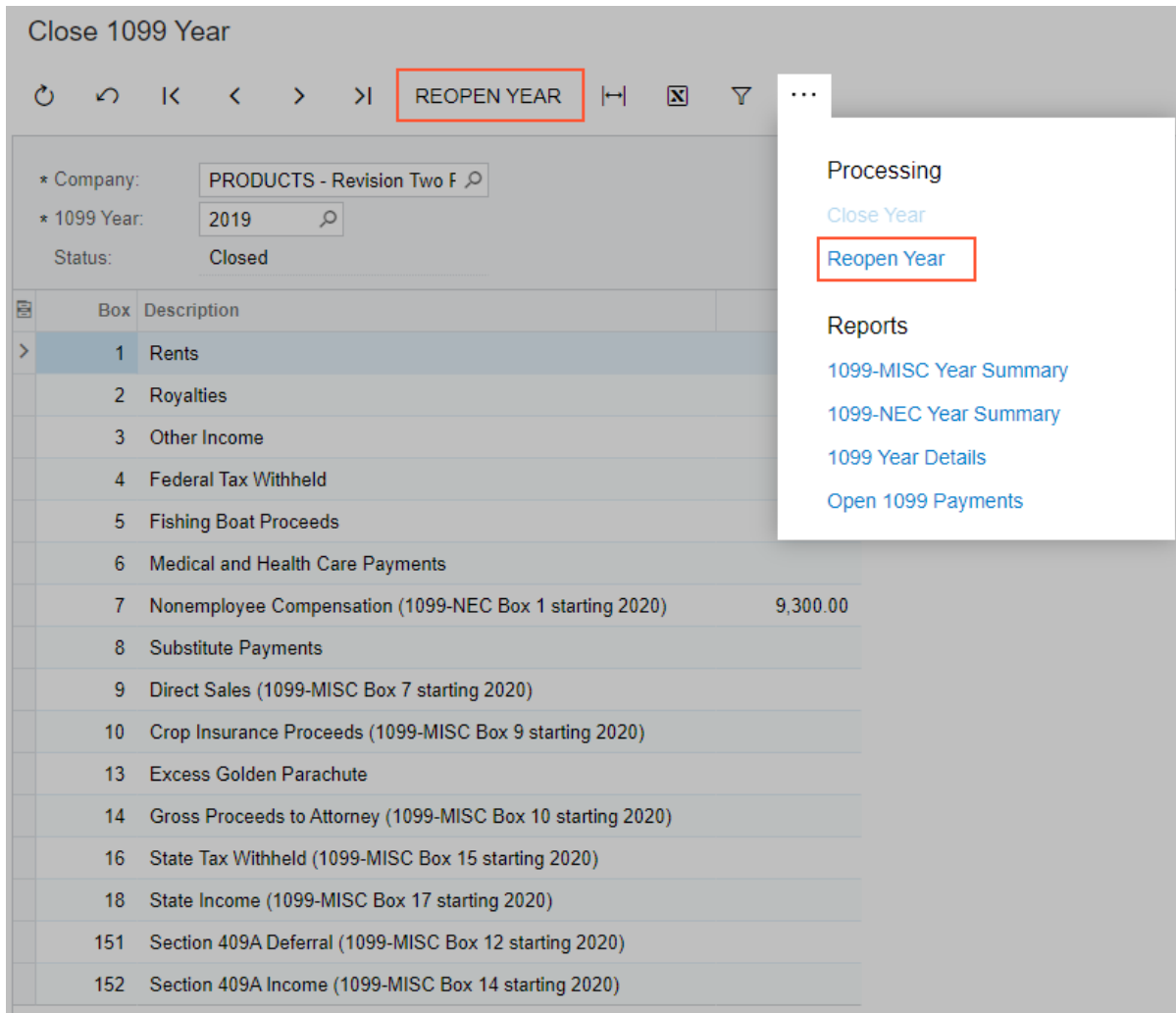
Starting in Acumatica ERP 2021 R2, on the [Invoices and Memos](#) and [Invoices](#) forms, the system determines the tax zone based on the postal code of the customer's ship-to address, which is specified in the **Ship-To Address** section on the **Addresses** tab. The system now copies the tax zone of a document from the following entities:

- The customer location, if it is specified in the **Tax Zone** box on the **Shipping** tab of the [Customer Locations](#) (AR303020) form
- If a tax zone is not specified for the customer location, the tax zone associated with the zip code of the ship-to address
- If a tax zone for the zip code is not found, the tax zone of the shipping branch

## Reopening of 1099 Years on the UI

In previous versions of Acumatica ERP, users could not reopen a closed 1099 year from the Acumatica ERP UI, although years could be reopened by running a script.

In Acumatica ERP 2021 R2, the **Reopen Year** button has been added to the form toolbar and the command has been added to the More menu of the [Close 1099 Year](#) (AP507000) form, as shown in the following screenshot.



**Figure: The new button and command on the Close 1099 Year form**

The new button and command are available if the selected 1099 year has the *Closed* status and if the current user is assigned to the *Financial Supervisor* role.

### UI Changes on the Cash Flow Forecast Form

In Acumatica ERP 2021 R2, on the *Cash Flow Forecast* (CA401000) form, the following UI elements have been renamed.

UI element name in previous version	UI element name in 2021 R2
<b>Convert to Currency</b>	<b>Forecast Currency</b>
<b>Include AP, AR Documents with No Cash Account Specified</b>	<b>Include Documents Without Cash Account</b>
<b>Convert Curr. Rate Type</b>	<b>Currency Rate Type</b>



# Finance: UI Enhancements

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In Acumatica ERP 2021 R1, the user interface of multiple forms has been redesigned, and a new workflow engine with a new toolbar has been implemented.

In Acumatica ERP 2021 R2, to enhance this functionality, all form-specific commands on the form toolbars of finance forms for data entry and processing have been grouped on one menu and sorted by category. These commands work as they did in the previous versions; only the placement of the commands has changed. The UI on the toolbars of these forms has been enhanced to support the functionality of command categories and a single menu.

## Form Toolbar Enhancements

On multiple forms related to accounts payable, accounts receivable, contract management, general ledger, tax management, fixed assets, and cash management, form-specific commands on the toolbar have been moved to the More menu, which a user views by clicking the More (...) button on the form toolbar. Commands are now grouped by categories. For example, commands related to document processing are grouped under the **Processing** category, and commands related to the reclassification of transactions and write-offs are grouped under the **Corrections** category. If a command is the primary command according to the document processing workflow (that is, the command most likely to be taken, given the status of the document), it is marked with a green dot on the More menu and is displayed on the form toolbar and highlighted in green. For more information, see [User Interface: Redesigned Form Toolbar](#).

The following screenshot illustrates the [Invoices and Memos](#) (AR301000) form with its commands on the More menu organized in categories. The **Pay** button, which corresponds to the primary command for an invoice with the *Open* status, is displayed on the form toolbar (highlighted in green), and the corresponding menu command is highlighted on the menu. Other menu commands related to the invoice are available for selection on the menu.

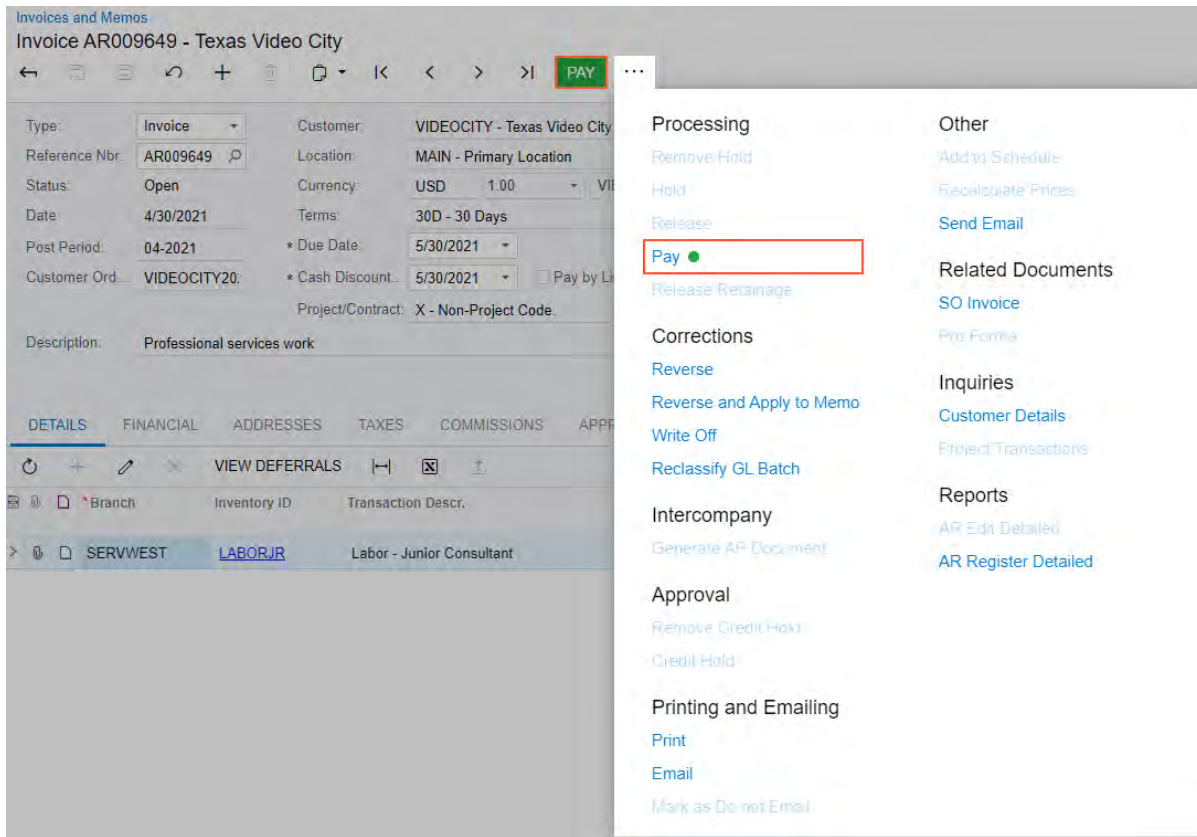


Figure: The categories and menu commands on the More menu of the Invoices and Memos form

### Command Name Changes

The following table lists the forms where commands on the More menu have been renamed to unify the command names throughout the system.

Form	Applicable to document type or entity	Command name in previous version	Command name in 2021 R2
<a href="#">Bills and Adjustments</a> (AP301000)	Debit Adjustment	<b>Vendor Refund</b>	<b>Refund</b>
<a href="#">Checks and Payments</a> (AP302000)	All types	<b>AP Document Register Detailed</b>	<b>AP Register Detailed</b>
<a href="#">Vendors</a> (AP303000)	Vendors	<b>View Restriction Groups</b>	<b>Manage Restriction Groups</b>
<a href="#">Invoices and Memos</a> (AR301000)	All types	<b>View Pro Forma</b>	<b>Pro Forma</b>
		<b>View Project Transactions</b>	<b>Project Transactions</b>
	Credit Memo	<b>Customer Refund</b>	<b>Refund</b>
<a href="#">Customers</a> (AR303000)	Customers	<b>View Restriction Groups</b>	<b>Manage Restriction Groups</b>

Form	Applicable to document type or entity	Command name in previous version	Command name in 2021 R2
		<b>Generate Statement on Demand</b>	<b>Generate on Demand</b>
		<b>Customer Statement History</b>	<b>Statement History</b>
		<b>Customer Statement</b>	<b>Print Statement</b>
<a href="#">Subaccounts</a> (GL203000)	Subaccounts	<b>View Restriction Groups</b>	<b>Manage Restriction Groups</b>
<a href="#">Chart of Accounts</a> (GL202500)	Chart of accounts	<b>View Restriction Groups</b>	<b>Manage Restriction Groups</b>

## Tab Name Changes

The finance-related forms in Acumatica ERP have multiple tabs, which previously sometimes did not fit on the screen, even on a high-resolution device. In Acumatica ERP 2021 R2, multiple tabs on these forms have been renamed to make them clearer to users and to get rid of extra words in titles, which makes it possible to fit more tabs on the screen. Also, the order of tabs on some forms has been changed to make the forms more user-friendly.

The following table lists all the tabs on finance forms that have been renamed in 2021 R2.

Form	Tab title in previous version	Tab title in version 2021 R2
<a href="#">Contract Items</a> (CT201000)	<b>Used in Contract Templates</b>	<b>Contract Templates</b>
<a href="#">Contract Usage</a> (CT303000)	<b>Transactions History</b>	<b>Billed</b>
	<b>Unbilled Transactions</b>	<b>Unbilled</b>
<a href="#">Fixed Asset Classes</a> (FA201000)	<b>Depreciation Settings</b>	<b>Depreciation</b>
	<b>General Settings</b>	<b>General</b>
<a href="#">Fixed Assets</a> (FA303000)	<b>Depreciation History</b>	<b>Depreciation</b>
	<b>General Settings</b>	<b>General</b>
	<b>Location History</b>	<b>Locations</b>
	<b>Purchase/Tangible Info</b>	<b>Other Info</b>
	<b>Transaction History</b>	<b>Transactions</b>
<a href="#">Accounts Payable Preferences</a> (AP101000)	<b>General Settings</b>	<b>General</b>
	<b>Price/Discount Settings</b>	<b>Pricing</b>
	<b>Reporting Settings</b>	<b>Mailing &amp; Printing</b>
<a href="#">Vendor Classes</a> (AP201000)	<b>General Settings</b>	<b>General</b>

Form	Tab title in previous version	Tab title in version 2021 R2
	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
<i>Bills and Adjustments</i> (AP301000)	<b>Approval Details</b>	<b>Approvals</b>
	<b>Discount Details</b>	<b>Discounts</b>
	<b>Document Details</b>	<b>Details</b>
	<b>Financial Details</b>	<b>Financial</b>
	<b>Tax Details</b>	<b>Taxes</b>
<i>Checks and Payments</i> (AP302000)	<b>Approval Details</b>	<b>Approvals</b>
	<b>Finance Charges</b>	<b>Charges</b>
	<b>Financial Details</b>	<b>Financial</b>
	<b>Orders to Apply</b>	<b>Orders</b>
	<b>Remittance Information</b>	<b>Remittance</b>
<i>Vendors</i> (AP303000)	<b>Tax Agency Settings</b>	<b>Tax Agency</b>
	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
<i>Quick Checks</i> (AP304000)	<b>Approval Details</b>	<b>Approvals</b>
	<b>Document Details</b>	<b>Details</b>
	<b>Finance Charges</b>	<b>Charges</b>
	<b>Financial Details</b>	<b>Financial</b>
	<b>Remittance Information</b>	<b>Remittance</b>
	<b>Tax Details</b>	<b>Taxes</b>
<i>Accounts Receivable Preferences</i> (AR101000)	<b>Dunning Settings</b>	<b>Dunning</b>
	<b>General Settings</b>	<b>General</b>
	<b>Price/Discount Settings</b>	<b>Pricing</b>
	<b>Reporting Settings</b>	<b>Mailing &amp; Printing</b>
<i>Customers</i> (AR303000)	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
<i>Customer Classes</i> (AR201000)	<b>General Settings</b>	<b>General</b>
	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
<i>Invoices and Memos</i> (AR301000)	<b>Address Details</b>	<b>Addresses</b>

Form	Tab title in previous version	Tab title in version 2021 R2
	<b>Approval Details</b>	<b>Approvals</b>
	<b>Discount Details</b>	<b>Discounts</b>
	<b>Document Details</b>	<b>Details</b>
	<b>Financial Details</b>	<b>Financial</b>
	<b>Salesperson Commission</b>	<b>Commissions</b>
	<b>Tax Details</b>	<b>Taxes</b>
<i>Payments and Applications</i> (AR302000)	<b>Approval Details</b>	<b>Approvals</b>
	<b>Credit Card Processing Info</b>	<b>Card Processing</b>
	<b>Finance Charges</b>	<b>Charges</b>
	<b>Financial Details</b>	<b>Financial</b>
	<b>Orders to Apply</b>	<b>Sales Orders</b>
	<b>Service Orders to Apply</b>	<b>Service Orders</b>
<i>Cash Sales</i> (AR304000)	<b>Address Details</b>	<b>Addresses</b>
	<b>Approval Details</b>	<b>Approvals</b>
	<b>Credit Card Processing Info</b>	<b>Card Processing</b>
	<b>Document Details</b>	<b>Details</b>
	<b>Finance Charges</b>	<b>Charges</b>
	<b>Financial Details</b>	<b>Financial</b>
	<b>Salesperson Commission</b>	<b>Commissions</b>
	<b>Tax Details</b>	<b>Taxes</b>
<i>Tax Adjustments</i> (TX301000)	<b>Document Details</b>	<b>Details</b>
	<b>Financial Details</b>	<b>Financial</b>
<i>Tax Bills and Adjustments</i> (TX303000)	<b>Financial Details</b>	<b>Financial</b>

Additionally, the order of tabs on some of the forms has been changed as follows:

- On the *Checks and Payments* form, the **Orders** tab has been moved after **Documents to Apply**.
- On the *Payments and Applications* form, the **Sales Orders** tab has been moved after **Documents to Apply**. The **Service Orders** tab has been moved after **Sales Orders**.
- On the *Fixed Assets* form, the tabs have been rearranged and are now in the following order:

- **General**
- **GL Accounts**
- **Balance**
- **Components**
- **Other Info**
- **Depreciation**
- **Transactions**
- **Locations**
- **Reconciliation**

# Integration: Address Geolocation

---

Acumatica ERP 2021 R2 introduces support for address geolocation for systems integrated with Avalara. Now a user can specify the latitude and longitude coordinates (that is, the geographical location) for a customer location with no postal address or when a postal address cannot be validated. In this case, the system passes the latitude and longitude coordinates to AvaTax, which automatically calculates the taxes for the tax jurisdiction, which it determines based on the coordinates.

## Configuration of the Address Geolocation Functionality

To make the address geolocation functionality available, an administrative user needs to do the following:

- Enable the *External Tax Calculation Integration* feature on the [Enable/Disable Features](#) (CS100000) form.
- Enable the automatic calculation of taxes by configuring the integration of Acumatica ERP with the AvaTax service by Avalara. For details on the configuration of AvaTax, see [Integrating Acumatica ERP with External Tax Providers](#).

## Use of the Address Geolocation Functionality

Once the *External Tax Calculation* functionality has been configured, a user can specify a particular customer location by entering either the postal code or the latitude and longitude coordinates to specify a particular customer location. If a user provides both the postal address and the latitude and longitude coordinates, the AvaTax service specifies the tax jurisdiction based on the postal code. If the postal code is unknown, the user can provide only the latitude and longitude coordinates, and the AvaTax service specifies the tax jurisdiction based on the provided coordinates. If the postal code and the latitude or longitude coordinate (or both coordinates) are missing, the AvaTax service cannot identify the tax jurisdiction, and the system displays an error message.

After an address with latitude and longitude coordinates is saved, the system copies these coordinates between the appropriate documents. For example, when the user creates an invoice based on a sales order, the system copies the address information, including the latitude and longitude coordinates, from the sales order to the invoice. The user can override the copied coordinates if needed.

The following screenshot shows an invoice on the [Invoices and Memos](#) (AR301000) form with the latitude and longitude coordinates that have been defined for calculation of taxes.



The latitude and longitude coordinates should be specified with six decimal places.

Invoices and Memos

Invoice AR009657 - Alta Ace

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

RELEASE

Type: Invoice	Customer: AACUSTOMER - Alta Ace	Detail Total: 550.00
Reference Nbr.: AR009657	* Location: MAIN - Primary Location	Discount Total: 0.00
Status: Balanced	Currency: USD 1.00 VIEW BASE	VAT Taxable T...: 0.00
* Date: 5/27/2021	* Terms: 30D - 30 Days	VAT Exempt T...: 0.00
* Post Period: 05-2021	* Due Date: 6/26/2021 <input type="checkbox"/> Apply Retainage	Tax Total: 39.88
Customer Ord...:	* Cash Discoun...: 6/26/2021 <input type="checkbox"/> Pay by Line	Balance: 589.88
Description:	* Project/Contract: X - Non-Project Code.	Rounding Diff.: 0.00
		Cash Discount: 0.00

DETAILS FINANCIAL ADDRESSES TAXES COMMISSIONS APPROVALS DISCOUNTS APPLICATIONS COMPLIANCE

**BILL-TO CONTACT**

Override Contact

Account Name: Alta Ace

Attention: Amelia Armstrong

Phone 1: +1 (212) 555-6724

Email: ap@altaace.con

**SHIP-TO CONTACT**

Override Contact

Account Name: Alta Ace

Attention: Amelia Armstrong

Phone 1: +1 (212) 555-6724

Email: ap@altaace.con

**BILL-TO ADDRESS**

Override Address

ADDRESS LOOKUP

Address Line 1: 156 10th Ave

Address Line 2:

City: New York

Country: US - United States of America

State: NY - NEW YORK

Postal Code: 10011

**SHIP-TO ADDRESS**

Override Address

ADDRESS LOOKUP

Address Line 1:

Address Line 2:

City: Pana

\* Country: US - United States of America

State:

Postal Code:

Latitude: 39.392918

Longitude: -89.011523

Figure: The Latitude and Longitude boxes on the Invoices and Memos form

The following screenshot demonstrates the calculation of an invoice's taxes on the *Invoices and Memos* form based on the defined latitude and longitude coordinates.



Invoices and Memos

Invoice AR009657 - Alta Ace

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

RELEASE

Type: Invoice Customer: AACUSTOMER - Alta Ace Detail Total: 550.00

Reference Nbr.: AR009657 \* Location: MAIN - Primary Location Discount Total: 0.00

Status: Balanced Currency: USD 1.00 VIEW BASE VAT Taxable T... 0.00

\* Date: 5/27/2021 \* Terms: 30D - 30 Days VAT Exempt T... 0.00

\* Post Period: 05-2021 \* Due Date: 6/26/2021  Apply Retainage Tax Total: 39.88

Customer Ord... \* Cash Discount... 6/26/2021  Pay by Line Balance: 589.88

\* Project/Contract: X - Non-Project Code. Rounding Diff.: 0.00

Description: Cash Discount: 0.00

DETAILS FINANCIAL ADDRESSES TAXES COMMISSIONS APPROVALS DISCOUNTS APPLICATIONS COMPLIANCE

* Tax ID	Tax Rate	Taxable Amount	Tax Amount
> IL COUNTY TAX	1.000000	550.00	5.50
IL STATE TAX	6.250000	550.00	34.38

Figure: Taxes calculated based on the provided coordinates

## Reports and Forms that Use Latitude and Longitude Coordinates

The latitude and longitude coordinates are displayed on the reports that are generated on the following report forms:

- [Invoice & Memo](#) (SO643000)
- [Invoice/Memo](#) (AR641000)
- [Service Order](#) (FS641000)
- [Appointment](#) (FS642000)
- [Sales Order](#) (SO641010)
- [Shipment Confirmation](#) (SO642000)
- [Appointments in Service Order](#) (FS642500)

The following screenshot illustrates a report with the provided latitude and longitude coordinates on the [Invoice/Memo](#) (AR641000) report.



## INVOICE

Reference Nbr.: AR009657  
 Date: 27-May-2021  
 Due Date: 26-Jun-2021  
 Customer ID: AACUSTOMER  
 Currency: USD

Products Wholesale  
 11235 SE 6th St.  
 Suite 140  
 Bellevue, WA, 98004  
 Phone: 206-555-1212  
 Web: www.revisiontwo.com

**BILL TO:**

Alta Ace  
 156 10th Ave  
 New York NY 10011  
 United States of America  
 Attn: Amelia Armstrong

**SHIP TO:**

Alta Ace  
 Pana  
 United States of America  
 Latitude: 39.392918  
 Longitude: -89.011523  
 Attn: Amelia Armstrong

CUSTOMER REF. NBR.	TERMS	CONTACT				
	30 Days					
NO.	ITEM	QTY.	UOM	UNIT PRICE	DISC.	EXTENDED PRICE
1		0.00		0.00	0%	450.00
2		0.00		0.00	0%	100.00

*Figure: The latitude and longitude coordinates on the Invoice/Memo report form*

The **Latitude** and **Longitude** boxes have been added on the following forms.

Form	Location
<a href="#">Invoices and Memos</a> (AR301000)	In the <b>Ship-To Address</b> section of the <b>Addresses</b> tab
<a href="#">Customers</a> (AR303000)	In the <b>Ship-To Address</b> section of the <b>Shipping</b> tab
<a href="#">Customer Locations</a> (AR303020)	In the <b>Ship-To Address</b> section of the <b>Shipping</b> tab
<a href="#">Cash Sales</a> (AR304000)	In the <b>Ship-To Address</b> section of the <b>Addresses</b> tab
<a href="#">Business Accounts</a> (CR303000)	In the <b>Ship-To Address</b> section of the <b>Shipping</b> tab
<a href="#">Account Locations</a> (CR303010)	In the <b>Location Addresses</b> section of the <b>General</b> tab
<a href="#">Opportunities</a> (CR304000)	In the <b>Ship-To Address</b> section of the <b>Shipping</b> tab
<a href="#">Sales Quotes</a> (CR304500)	In the <b>Ship-To Address</b> section of the <b>Shipping</b> tab
<a href="#">Service Orders</a> (FS300100)	In the <b>Address</b> section of the <b>Settings</b> tab
<a href="#">Appointments</a> (FS300200)	In the <b>Address</b> section of the <b>Settings</b> tab
<a href="#">Project Quotes</a> (PM304500)	In the <b>Ship-To Address</b> section of the <b>Shipping</b> tab
<a href="#">Sales Orders</a> (SO301000)	In the <b>Ship-To Address</b> section of the <b>Addresses</b> tab
<a href="#">Shipments</a> (SO302000)	In the <b>Ship-To Address</b> section of the <b>Shipping</b> tab
<a href="#">Invoices</a> (SO303000)	In the <b>Ship-To Address</b> section of the <b>Addresses</b> tab

# Integration: Enhancements to the OpenID Providers Functionality

In Acumatica ERP 2021 R2, the functionality related to OpenID identity providers has been greatly extended. Now a system administrator can configure a user binding rule, a user creation rule, and a role mapping rule; the system administrator can also forbid the user to sign in with a password.

The configuration of this integration is available if the *OpenID Connect* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

## Configuring a User Binding Rule

On the [OpenID Providers](#) (SM303020) form, the **User Binding Rules** tab has been added. On this tab, the system administrator can create a user binding rule, which can automatically bind a user identity to an existing user profile in the tenant the first time this user signs in to the system using the OpenID provider.

To configure a user binding rule, the system administrator adds a new row in the table and specifies the following settings:

- **User Field:** The appropriate box from the **User Settings** section on the [User Profile](#) (SM203010) form.
- **Claim Type:** Data that the system receives from the OpenID provider in the ID token.

To activate the rule, the system administrator selects the **Automatically Bind Users** check box on the **User Binding Rules** tab of the [OpenID Providers](#) form.

With the user binding rule activated, when each user signs in using the OpenID provider, the system checks if there is a user profile corresponding to the user information in the ID token received from the OpenID provider, based on the data defined in the user binding rule. If there is, the system then binds the user identity to the corresponding user profile.

The following screenshot demonstrates a user binding rule configured on the **User Binding Rules** tab.

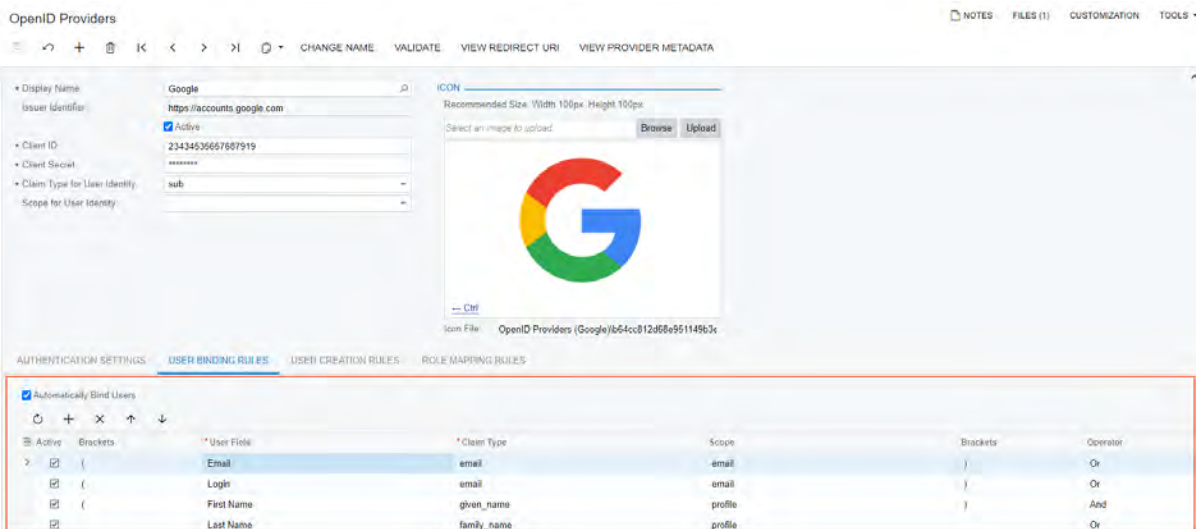


Figure: A user binding rule configured on the OpenID Providers form

## Configuring a User Creation Rule

On the [OpenID Providers](#) (SM303020) form, the **User Creation Rules** tab has been added. On this tab, the system administrator configures a user creation rule. During a user's initial sign-in using the OpenID provider, if the

system cannot find a corresponding user profile, it creates a user profile in the selected tenant, based on the user information from the ID token and rules defined on the **User Creation Rules** tab.

To configure a user creation rule, the system administrator can select a user type in the **User Type** box to define the roles that will be assigned to the new user (see the screenshot below). If the system administrator does not select the user type in the **User Type** box, the system does not assign any roles to the user. Then the system administrator adds a new row and specifies the following settings:

- **User Field:** The appropriate box from the **User Settings** section on the *User Profile* (SM203010) form. For the user creation rule it is required to specify *Login* and *Email*.
- **Claim Type:** Data that the system receives from the OpenID provider in the ID token.

To activate the rule, the system administrator selects the **Automatically Add Users** check box on the **User Creation Rules** tab of the *OpenID Providers* form.

With the user creation rule is activated, during the first time a user signs in using the OpenID provider, if the system cannot find a corresponding user account, it creates a new user profile in the tenant the user selected and binds it to the external account. For the new user, based on the user creation rule and information received in ID token, the system fills in settings on the *Users* (SM201010) form as follows:

- In the **User Type** box, the user type is selected based on the user type specified on the **User Creation Rules** tab of the *OpenID Providers* form.
- The **Login**, **First Name**, **Last Name**, **Email**, and **Phone** boxes are filled with data configured according to the user creation rule.
- The account status is set to *Active*.
- The **Forbid Login with Password** check box is selected.

The screenshot shows the 'OpenID Providers' form with the 'USER CREATION RULES' tab selected. The 'Automatically Add Users' checkbox is checked. The 'User Type' is set to 'General Employee'. Below this, a table lists user fields and their corresponding claim types and scopes.

Active	User Field	Claim Type	Scope
<input checked="" type="checkbox"/>	Login	preferred_username	profile
<input checked="" type="checkbox"/>	Email	email	email
<input checked="" type="checkbox"/>	Phone	phone_number_verified	phone
<input checked="" type="checkbox"/>	First Name	given_name	profile
<input checked="" type="checkbox"/>	Last Name	family_name	profile

Figure: The user creation rule configured on the OpenID Providers form

## Configuring a Role Mapping Rule

On the *OpenID Providers* (SM303020) form, the **Role Mapping Rules** tab has been added. On this tab, the system administrator can configure a role mapping rule, and the system will automatically override user roles for a new or existing user based the user information from the ID token based on the mapping rule.

To configure a role mapping rule, the system administrator enters the value that will be received from the OpenID provider (see the screenshot below). Then the system administrator specifies the following settings for the rule:

- **Active:** A check box that activates the condition, if it is selected.

- **Claim Value:** A specific user role value, defined on the provider side, and passed in *Claim Type* from the ID token.
- **Role Name:** The name of a role specified in Acumatica ERP.

To activate the rule, the system administrator selects the **Use Roles from Provider Settings** check box on the **Role Mapping Rules** tab of the *OpenID Providers* form.

With the activated role mapping rules, the system deals with the roles assignment in dependence of the restrictions, specified for the user on the *Users* (SM201010) form.

The screenshot shows the 'OpenID Providers' form with the 'Role Mapping Rules' tab selected. The 'Use Roles from Provider Settings' checkbox is checked. The 'Claim Type' is set to 'Everyone' and the 'Scope' is 'Roles'. A table below shows a mapping from 'Everyone' to 'Internal Employee'.

Active	Claim Value	Role Name
<input checked="" type="checkbox"/>	Everyone	Internal Employee

Figure: The role mapping rule configured on the OpenID Providers form

## Configuring User Restrictions

To provide the system administrator with the ability to forbid any of the users to sign in with a password and allow the system to override user roles from provider settings, the **Forbid Login with Password** check box has been added to the *Users* (SM201010) form. When the system administrator selects the **Forbid Login with Password** check box, the system automatically makes the **Allow Password Recovery**, **Allow Password Changes**, and **Password Never Expires** check boxes unavailable and makes the **Use Roles from Provider Settings** check box available (see the following screenshot). If the user does not have any other sign-in options, the system displays a warning message.

The screenshot shows the 'Users' management interface. At the top, there are navigation tabs: LOG IN AS USER, MEMBERSHIP, RESET PASSWORD, and DISABLE USER. The main content area is divided into several sections:

- Logins:** A list of login methods for user 'bujacek'. The 'Forbid Login with Password' checkbox is checked. A yellow tooltip points to this checkbox with the text: 'The user does not have any sign-in options available without a password.'
- Status:** The user is 'Active'. There are checkboxes for 'Allow Password Recovery', 'Allow Password Changes', and 'Password Never Expires'. A 'Force User to Change Password on Next Login' checkbox is also present.
- Personal Information:** Fields for 'Linked Entity' (Michal Bujacek), 'First Name' (Michal), 'Last Name' (Bujacek), 'Email' (mbujacek@revisiontwo.com), and 'Comment'.
- Allowed Number of Sessions:** Set to 3.
- TWO-FACTOR AUTHENTICATION:** A checkbox for 'Use Roles from Provider Settings' is checked. Below it, there is an 'Override Security Preferences' checkbox and a 'Two-Factor Authentication' dropdown set to 'None'.
- ROLES:** A table listing various roles with checkboxes for selection. The roles include AcumaticaSupport, Administrator, AP Admin, AP Clerk, AP Viewer, AR Admin, AR Clerk, AR Viewer, BI, BRANCH CAP, BRANCH HQ, and BRANCH VA.

Figure: The selected **Forbid Login with Password** check box on the **Users** form

If the **Forbid Login with Password** check box is selected on the **Users** form for a particular user, the following UI elements become unavailable in the user profile on the **General Info** tab on the **User Profile** (SM203010) form:

- The **Password** box
- The **Password Recovery Question** box
- The **Change Password** button
- The **Change Answer** button

## Viewing Information in the Provider Name and OIDC Columns on the User Profile Form

On the **User Profile** (SM203010) form, on the **External Identities** tab, the **OIDC** and **Provider Name** columns have been added to the table. In the **Provider Name** column, the system displays the display name of the OpenID provider. The check box in the **OIDC** column is selected for the active OpenID Provider and cannot be edited.

## Using the Autoconfiguration and Validate Buttons on the OpenID Providers form

On the **OpenID Providers** (SM303020) form, on the **Authentication Settings** tab, the new **Autoconfiguration** button has been added (see the following screenshot). When a system administrator specifies the **Issuer Identifier** in the Summary area and clicks the **Autoconfiguration** button on the **Authentication Settings** tab, the system receives a metadata document. Based on the data from this document, the system specifies settings in the following boxes on the **Authentication Settings** tab:

- **Authorization Endpoint**
- **Flow**
- **Token Endpoint**
- **JWK Set Location**

In the **Flow** box, the system can specify one of the following flow types:

- *Authorization Code Flow*
- *Implicit Flow (Form Post)*
- *Implicit Flow (Fragment)*

The screenshot shows the 'OpenID Providers' management interface. The toolbar at the top includes buttons for 'CHANGE NAME', 'VALIDATE', 'VIEW REDIRECT URI', and 'VIEW PROVIDER METADATA'. The 'VALIDATE' button is highlighted with a red box. The form displays configuration for a 'Google' provider, including fields for Display Name, Issuer Identifier, Client ID, Client Secret, Claim Type, and Scope. An 'ICON' section shows a Google logo with a 'Browse' and 'Upload' button. Below the form, the 'AUTHENTICATION SETTINGS' tab is active, showing an 'AUTOCONFIGURATION' section with fields for Authorization Endpoint, Flow, Token Endpoint, and JWKS Set Location.

**Figure: The Autoconfiguration button on the OpenID Providers form**

On the *OpenID Providers* form, on the form toolbar, the new **Validate** button has been added (see the following screenshot). When the system administrator clicks the **Validate** button on the form toolbar, the system receives a metadata document and then validates settings on the form in accordance with data from the metadata document. If the system detects any discrepancies, an error message is displayed.

This screenshot is identical to the previous one, showing the 'OpenID Providers' form. The 'VALIDATE' button in the toolbar is now highlighted with a red box, indicating it is the focus of the figure. The rest of the form, including the provider details, icon upload section, and authentication settings, remains the same.

**Figure: The Validate button on the OpenID Providers form**

# Integration: External Email Services

---

Acumatica ERP 2021 R2 introduces integration with the [SendGrid](#) email platform. With this integration configured, a user can send emails by using the SendGrid account and can track the following:

- The status of email delivery
- An email bouncing and an email being marked as spam
- The opening of each email and the clicking of links within it

A user can view the tracking details by using the SendGrid portal or within Acumatica ERP.

## Setup of Integration

To start using the service provided by the SendGrid platform, a company should set up an account with SendGrid and obtain API keys for the email accounts to be configured.

To make the integration functionality available in Acumatica ERP, an administrative user enables the *SendGrid Integration* feature on the [Enable/Disable Features](#) (CS100000) form. With the feature enabled, *SendGrid* (the SendGrid email service plug-in) becomes available for selection in the **Email Service Plug-In** box on the [System Email Accounts](#) (SM204002) form. The plug-in is used for configuring SendGrid email accounts in Acumatica ERP.

## Configuration of a SendGrid Email Account

A company may use multiple email addresses for sending emails with SendGrid. For each email address an administrative user can configure a corresponding email account in Acumatica ERP using the same API key.

On the [System Email Accounts](#) (SM204002) form, an administrative user creates an email account and selects *SendGrid* in the **Email Service Plug-In** box (see Item 1 in the following screenshot). With the plug-in selected, the system changes the layout of the form to display the settings that are relevant to the SendGrid integration only. At minimum, the administrator needs to specify an API key in the *APIKey* row on the **Plug-In** tab of the form to start sending emails with the SendGrid account (Item 2).



System Email Accounts

Marketing account - Email Service Plug-In

NOTES FILES CUSTOMIZATION TOOLS

TEST ...

Email Account ID: Marketing account

Account Name: Marketing account

Active

Email Address: allfruitsmall@gmail.com

Reply Address:

Email Service Plug-In: PX.DataSync.SendGrid.SendGridPlugin

PLUG-IN SENDER NAME

RELOAD SETTINGS

Setting	Description	Value
ApiKey	SendGrid API key	*****
ApiKeyName	API Key Name	
Categories	SendGrid email categories to be applied to emails...	Marketing, Summit, NY_Campaign
TrackEmailOpens	Allows tracking if the email was opened by includi...	<input checked="" type="checkbox"/>
TrackClicksInEmail	Allows tracking if a recipient clicked a link in the e...	<input checked="" type="checkbox"/>
EnableWebhooks	Receive SendGrid events via webhooks.	<input type="checkbox"/>
WebhookID	Webhook ID	
WebhookUrl	URL of the webhook registered in Acumatica ERP	
ProcessedEvent	Receive the Processed events that are sent by S...	<input checked="" type="checkbox"/>
DeferredEvent	Receive the Deferred events that are sent by Sen...	<input checked="" type="checkbox"/>
DeliveredEvent	Receive the Delivered events that are sent by Se...	<input checked="" type="checkbox"/>
DroppedEvent	Receive the Dropped events that are sent by Sen...	<input checked="" type="checkbox"/>
BouncedEvent	Receive the Bounced events that are sent by Sen...	<input checked="" type="checkbox"/>
OpenEvent	Receive the Open events that are sent by SendGr...	<input checked="" type="checkbox"/>
ClickEvent	Receive the Click events that are sent by SendGri...	<input checked="" type="checkbox"/>
SpamReportEvent	Receive the Spam Report events that are sent by ...	<input checked="" type="checkbox"/>
UnsubscribeEvent	Receive the Unsubscribe events that are sent by ...	<input checked="" type="checkbox"/>

Figure: Configuration of a SendGrid email account

Also, an administrative user can specify several settings that will be used by default for every email sent from this email account (the settings can be overridden for a particular email). The following parameters (Item 3 in the screenshot above) are available:

- *Categories*: The list of SendGrid email categories (with a comma used as the separator) to be used for reporting purposes in the company's SendGrid portal.
- *TrackEmailOpens*: A check box that indicates (if selected) that a system will include a single-pixel image in the body of email to track whether a recipient opened the email.
- *TrackClicksInEmail*: A check box that indicates (if selected) that SendGrid will collect information about navigation to all URLs included in the body of email.

With this configuration, users of Acumatica ERP can send emails by using the email account and review tracking results by using the SendGrid portal.

## Configuration of Receiving Tracking Results for an Email

For the results of email tracking to be displayed in Acumatica ERP, the system needs to receive the corresponding information from SendGrid. This connection is implemented by using webhooks. For webhooks to be used, an Acumatica ERP instance should be accessible through the web, or a proxy server should be configured.

On the [System Email Accounts](#) (SM204002) form, an administrative user who configures the corresponding system email account enables the receipt of information from SendGrid by selecting the check box in the *EnableWebhooks* row on the **Plug-In** tab of the form (see Item 1 the following screenshot).

With this check box selected, the system automatically creates a webhook that is associated with the API key specified for the email account. On the **Plug-In** tab of the form, the system inserts the identifier of the created

webhook in the *WebhookID* row and the webhook's URL in the *WebhookURL* row (also shown in Item 1). The administrative user can manually select another webhook or specify the webhook's URL for an email account.



An administrative user can review the details of a webhook or configure a new one manually on the [Webhooks](#) (SM304000) form.

Additionally, an administrative user can configure what tracking information should be sent to Acumatica ERP by selecting or clearing the check boxes in the corresponding rows on the **Plug-In** tab of the form (Item 2).

System Email Accounts  
Marketing account - Email Service Plug-In

NOTES FILES CUSTOMIZATION TOOLS

TEST ...

Email Account ID: Marketing account  
Account Name: Marketing account  
Active:   
Email Address: allfruitsmall@gmail.com  
Reply Address:  
Email Service Plug-In: PX.DataSync.SendGrid.SendGridPlugin

PLUG-IN SENDER NAME

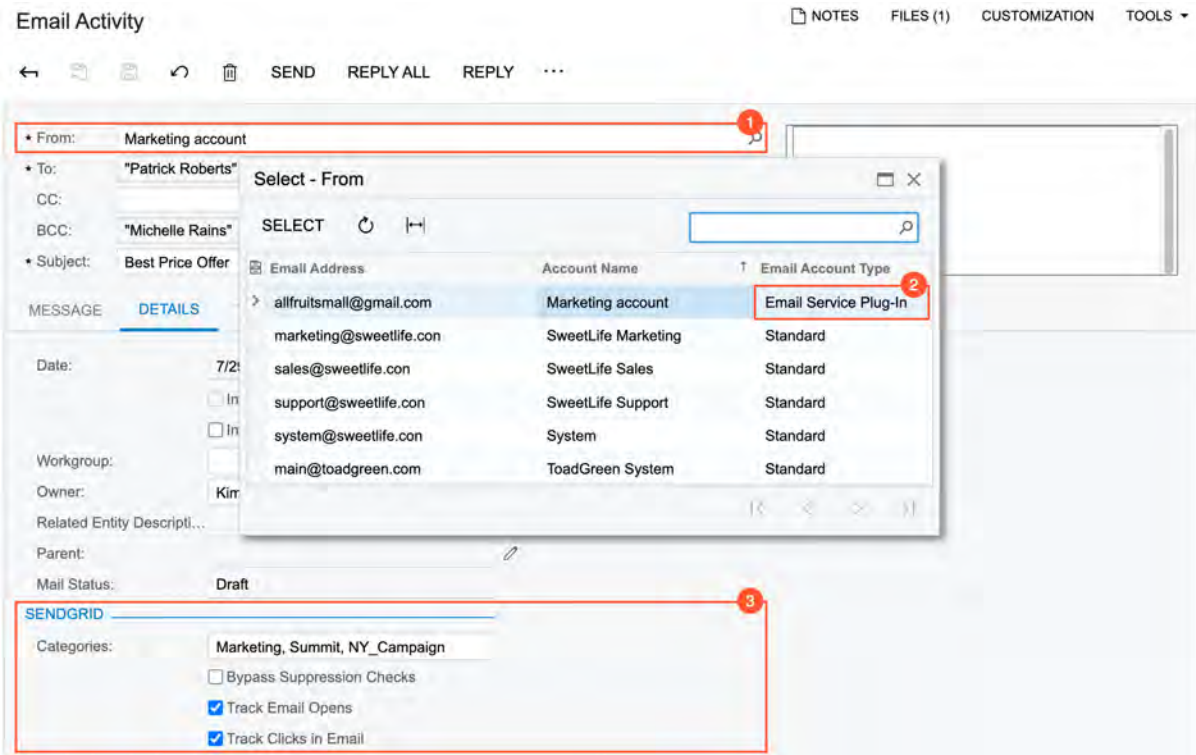
RELOAD SETTINGS

Setting	Description	Value
ApiKey	SendGrid API key	*****
ApiKeyName	API Key Name	
Categories	SendGrid email categories to be applied to emails...	Marketing, Summit, NY_Campaign
TrackEmailOpens	Allows tracking if the email was opened by includi...	<input checked="" type="checkbox"/>
TrackClicksInEmail	Allows tracking if a recipient clicked a link in the e...	<input checked="" type="checkbox"/>
EnableWebhooks	Receive SendGrid events via webhooks.	<input checked="" type="checkbox"/>
WebhookID	Webhook ID	SendGrid Webhook - Marketing account
WebhookUrl	URL of the webhook registered in Acumatica ERP	http://msk-app-001/tw-2021R2Beta/Webhooks/U100/8fff5109-0189-...
ProcessedEvent	Receive the Processed events that are sent by S...	<input checked="" type="checkbox"/>
DeferredEvent	Receive the Deferred events that are sent by Sen...	<input checked="" type="checkbox"/>
DeliveredEvent	Receive the Delivered events that are sent by Se...	<input checked="" type="checkbox"/>
DroppedEvent	Receive the Dropped events that are sent by Sen...	<input checked="" type="checkbox"/>
BouncedEvent	Receive the Bounced events that are sent by Sen...	<input checked="" type="checkbox"/>
OpenEvent	Receive the Open events that are sent by SendGr...	<input checked="" type="checkbox"/>
ClickEvent	Receive the Click events that are sent by SendGri...	<input checked="" type="checkbox"/>
SpamReportEvent	Receive the Spam Report events that are sent by ...	<input checked="" type="checkbox"/>
UnsubscribeEvent	Receive the Unsubscribe events that are sent by ...	<input checked="" type="checkbox"/>

Figure: The settings of a system email account related to tracking results

## Sending and Tracking of an Email

On the [Email Activity](#) (CR306015) form, a user creates a new email. In the **From** box (see Item 1 in the following screenshot), the user selects an email account of the *Email Service Plug-In* type (Item 2). With an account of this type selected, the system displays the **SendGrid** section (Item 3) on the **Details** tab of the form.



**Figure:** The SendGrid settings available for an email

In the section, the user can edit the list of categories and override the default tracking settings. Additionally, by selecting the **Bypass Suppression Checks** check box, the user can specify whether the system should send the email to the specified addresses even if these addresses are in the **Suppressions** list of SendGrid. The **Suppressions** list includes email addresses that have unsubscribed, email addresses that have marked the email as spam, email addresses to which the system failed to deliver emails (because they bounced, are blocked, or are invalid).

After the email has been sent, the user can review the tracking results in the SendGrid portal. If receipt of the tracking results was configured for the email account on the [System Email Accounts](#) (SM204002) form, the user can review the tracking results of a particular email on the **Tracking** tab of the [Email Activity](#) (CR306015) form.

# Integration: Support for EasyPost Carrier

In Acumatica ERP 2021 R2, the EasyPost integration has been implemented. From now on, the customization is not required to use the service. A system administrator can configure integration with EasyPost to access more than 100 carriers across the world.

The configuration of the EasyPost integration is available if the *Shipping Carrier Integration* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

With the EasyPost integration, it is also possible to generate the shipping manifest required by some carriers. Also, additional upgrades to the previous customizations specific to certain carriers have been added to the integration.

## Configuring the EasyPost Carrier

The following requirements must be met to configure the EasyPost carrier:

- Customers must have an EasyPost account and the corresponding Production and Test API keys.
- The *Shipping Carrier Integration* feature must be enabled on the [Enable/Disable Features](#) form.
- The **Ship via** codes that will be used with EasyPost must be created as described in [Ship via Codes](#).

The supported list of Service Method via EasyPost integration is available in the EasyPost [Service Levels & Parcels article](#).

To add the EasyPost carrier to the system, the administrator needs to add a new record on the [Carriers](#) (CS207700) form and configure the EasyPost plug-in on the **Plug-In Parameters** tab (shown on the following screenshot).

The screenshot shows the 'Carriers' form in Acumatica ERP. The carrier is named 'EASYPST - EasyPost carrier'. The configuration includes the following fields:

- Carrier ID:** EASYPST
- Description:** EasyPost carrier
- Plug-In (Type):** PX EasyPostCarrier.EasyPos
- Carrier Units:** Kilogram
- SI Units (Kilogram):** KG
- Centimeter:** CM
- Warehouse:** RETAIL - Retail Ware

The **PLUG-IN PARAMETERS** tab is active, showing a table of parameters:

ID	Description	Value
EASYPST PRODUCT	EasyPost API Key (Production)	
EASYPST TEST API ...	EasyPost API Key (Test)	
USE TEST KEY	Generate sample labels without real value	<input type="checkbox"/>
EASYPST CARRIER	Select Connected Carrier	
LOG TRACE	If checked the requests and results of the web calls will be saved in trace	<input type="checkbox"/>
SHIPPER FROM	Shipper Contact & Address information source	Company Branch
CONFIRMATION	Confirmation	None
INSURANCE	Insurance	Carrier
LABEL FORMAT	Provides the type of data stream or bitmap to be returned for Label	PNG

**Figure: Configuration of a new carrier**

In the Summary area of the form, the administrator specifies the carrier ID and description in the **Carrier ID** and **Description** boxes. In the **Plug-In (Type)** box, the administrator selects the PX.EasyPostCarrier.EasyPostCarrier plug-in. The system displays the available plug-in parameters on the **Plug-In Parameters** tab. In the **Carrier Units** box, the administrator selects the type of the carrier's units of measure. In the **Warehouse** box, the administrator specifies the default warehouse to use with the carrier.

When the carrier's settings are configured and the carrier is saved, the administrator can validate the credentials of the EasyPost account specified in the EasyPost plug-in parameters by clicking **Test Connection** on the form toolbar. If the test connection is successful, the EasyPost carrier can be used in processing of shipments.

## New Create Manifest (SO50600) form

The *Create Manifest (SO506000)* form has been added to Acumatica ERP with the EasyPost integration in order to be able to create a shipping manifest (shown on the following screenshot). The form is available in the **Processes** group of the **Sales Orders** workspace when the *Shipping Carrier Integration* feature is enabled in the [Enable/Disable Features](#) (CS100000) form. Users with the following roles will have access to the form: *AcumaticaSupport*, *Administrator*.

Create Manifest

\* Carrier:

Shipment Date:

Shipment Nbr.	Customer	Customer Name	Ship Via
<input type="checkbox"/> 003806	ABARTENDE	USA Bartending School	EASYPOSTUSPS - ...

**Figure: The Create Manifest form**

Some carriers require a printed manifest for their driver to speed up the pick-up process. A manifest is a document that gathers the shipments that were created for a carrier on a specific calendar date. When picking up the packages, the driver can scan the barcode to process all the packages at once instead of scanning them all one by one.

The following commands and UI elements are available on the *Create Manifest* form

- **Create:** This command creates a manifest for the selected records.
- **Create All:** This command creates a manifest for all records.
- **Carrier:** This box defines the carrier used for the shipments.
- **Shipment Date:** This box defines the date of the shipments.
- **Printing with DeviceHub:** This check box indicates whether a DeviceHub printer will be used to print the manifest.
- **Printer:** This box defines the printer for printing the manifest.

## Changes to the Shipments form

On the **Shipping** tab of the *Shipments* (SO302000) form (shown on the following screenshot), the following elements have been added:

- **Terms of Sale (Incoterm):** The incoterm used by customs to identify the party responsible for the international taxes and duties.
- **Billing Ref# (DHL):** The DHL label which is a reference number that enables DHL eCommerce's grouped invoicing feature. This option allows the customer viewing the reference on the bill from DHL.

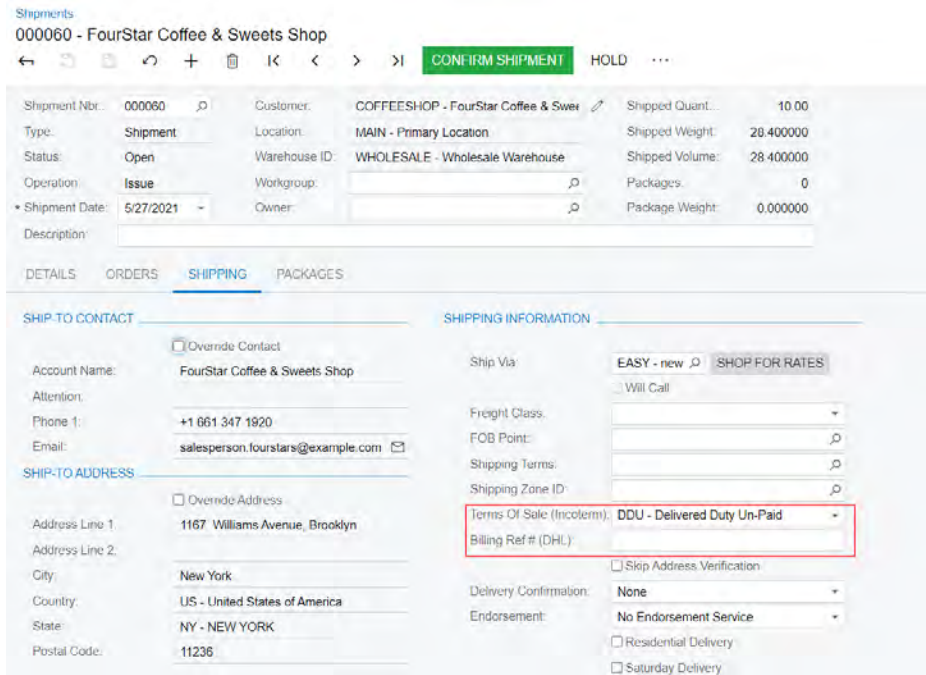


Figure: The Shipping tab

On the **Packages** tab of the *Shipments* (SO302000) form (shown on the following screenshot), the following elements have been added:

- **Tracking URL:** The tracking URL returned from the EasyPost label purchase process. The URL is only visible for a Ship via code of the *EasyPost* type.
- **EEL/PFC (EasyPost):** The code that indicates the value of the goods shipped.

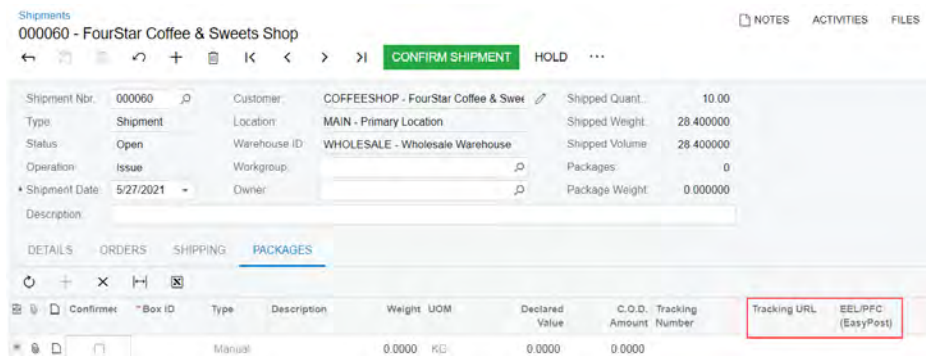


Figure: The Packages tab

The **View Manifest/Scanform** command has been added to the More menu. The command can be used to open the manifest document in the browser or initiate a download of the document in the PDF format.

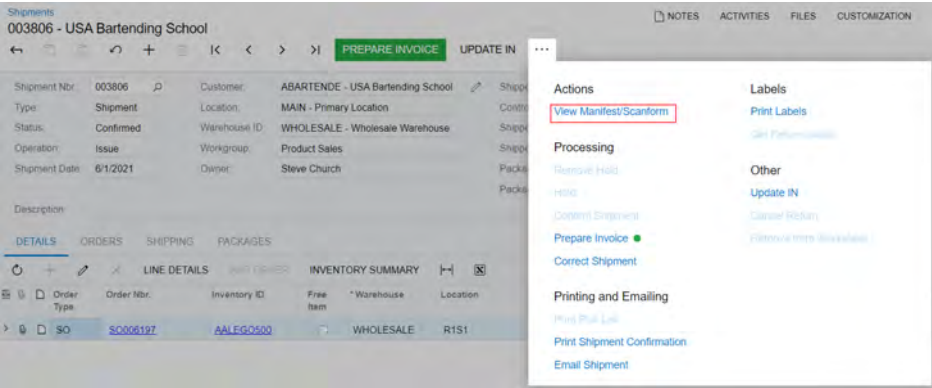


Figure: The View Manifest/Scanform command

### Changes to Companies, Branches, and Warehouses Forms

The **Carrier Facility** box has been added to several forms (shown on the following screenshot). The box contains the facility code used by Canada Post for the shipping addresses. The facility code specified in the EasyPost customization in previous versions will not be inherited automatically in Acumatica ERP 2021 R2.

The box has been added to the following forms:

- The *Companies* (CS101500) form, the **Main Address** section on the **Company Details** tab
- The *Branches* (CS102000) form, the **Main Address** section on the **Branch Details** tab
- The *Warehouses* (IN204000) form, the **Address** section on the **Address Information** tab

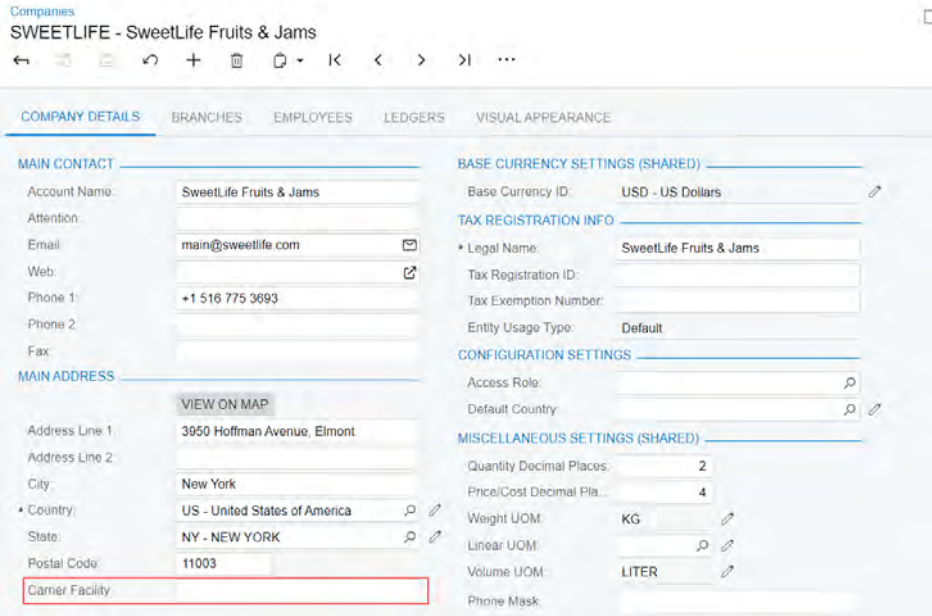


Figure: The Carrier Facility box

# Localization: Migration of the Canadian Edition to the Core Product

Starting in Acumatica ERP 2021 R2, most of the functionality specific to companies doing business in Canada has become part of the core product of Acumatica ERP, rather than being provided as customization projects (as was the case in previous versions). This functionality is available if the *Canadian Edition* feature is enabled on the [Enable/Disable Features](#) (CS100000) form. When this feature is enabled, a number of new forms become available, and changes occur on various existing Acumatica ERP forms.

Some functionality is still provided through customization packages in Acumatica ERP 2021 R2, rather than being part of the core product. These are the following:

- Interbranch Re invoicing and Billing
- Reference Numbers for GL Batch Import
- Support of Tax Exemption Number for Indigenous People

## Tax Registration Number at the Company and Branch Level

In Acumatica ERP 2021 R2, if an organization is using the Canadian Edition, an administrator can specify the tax registration number at the company and branch level.

When the *Canadian Edition* feature is enabled, on the [Companies](#) (CS101500) form, the new **Taxes** tab (shown in the following screenshot) becomes available. On this tab, the administrator can specify a tax registration number for each tax that the company must pay by filling in the following columns:

- **Tax ID:** The identifier of the tax that the company must pay
- **Description:** The description of the tax
- **Tax Registration Number:** The company's registration number as a tax payer

### Companies

#### TOADGREEN - ToadGreen Building Group

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\* Company ID: TOADGREEN  Active

\* Company Name: ToadGreen Building Group

Company Type: With Branches Not Requiring Balancing

COMPANY DETAILS BRANCHES EMPLOYEES LEDGERS **TAXES** VISUAL APPEARANCE

* Tax ID	Description	* Tax Registration Number
> GST	Canada GST	584456789RT5456
PST	Canada PST	123456789RT0001

**Figure: The Taxes tab of the Companies form**

If taxes should be filed by each company branch—that is, if the company's type is *With Branches Requiring Balancing*—and the **File Taxes by Branch** check box is selected for the company on the **Company Details** tab of the



*Companies* form, the **Taxes** tab with the columns listed above also becomes available on the *Branches* (CS102000) form. If no tax registration number is specified for a branch, the number specified at the company level is used.

The tax registration numbers specified on the *Companies* and *Branches* forms appear next to the corresponding taxes on the following reports:

- *Invoice/Memo* (AR641000)
- *ProInvoice/Memo* (PM641000)
- *Quote* (SO641000)
- *Sales Order* (SO641010)
- *Matrix Sales Order* (SO641020)
- *Matrix Invoice/Memo* (SO643010)
- *Invoice & Memo* (SO643000)

The following screenshot shows the *Invoice/Memo* report (which is a printable version of a selected invoice) with a tax registration number.

**Acumatica**  
The Cloud ERP

**INVOICE**

Reference Nbr.: AR009763  
Date: 02-Aug-2021  
Due Date: 01-Sep-2021  
Customer ID: AACUSTOMER  
Currency: CAD

Products Wholesale  
11235 SE 6th St.  
Suite 140  
Vancouver, BC, 98004  
Phone: 206-555-1212  
Web: www.revisiontwo.ca

**BILL TO:**  
Alta Ace  
156 10th Ave  
VANCOUVER T2P2B3  
Canada  
Attn: Amelia Armstrong

**SHIP TO:**  
Alta Ace  
156 10th Ave  
VANCOUVER T2P2B3  
Canada  
Attn: Amelia Armstrong

CUSTOMER REF. NBR.	TERMS	CONTACT				
151551	30 Days					
NO.	ITEM	QTY.	UOM	UNIT PRICE	DISC.	EXTENDED PRICE
1	BACKUP: Data Backup	8.00	Hour	100.00	0%	800.00 TS
2	CONSULTING: Project Consulting	11.00	Hour	100.00	0%	1,100.00 TS

---

NOTE

Sales Total:	1,900.00
Less Discount:	0.00
GST (5%):	95.00
PST (7%):	133.00
<b>Total (CAD):</b>	<b>2,128.00</b>

584456789 RT5456  
123456789 RT0001

Page: 1 of 1

Figure: The tax registration number on a printable invoice

## Generation of T5018 Slips

The Contract Payment Reporting System requires construction businesses to record payments they make to subcontractors for construction services and to report these payments to the Canada Revenue Agency. If a company files more than 50 T5018 slips for a calendar year, the T5018 return must be submitted electronically in XML format. In Acumatica ERP Canadian Edition, users can automatically generate the XML file for electronic filing of T5018.

To support this functionality, on the [Vendors](#) (AP303000) form, the following UI elements are available in the **Vendor Properties** section:

- **T5018 Vendor:** A check box that indicates (if selected) that the entity is subject to T5018 reporting.
- **T5018 Box:** The type of the subcontractor, which can be one of the following:
  - *Corporation*
  - *Partnership*
  - *Individual*

This box is available only if the **T5018 Vendor** check box is selected.

- **SIN:** The social insurance number of the vendor if the vendor is an individual. This box is available for editing only if the **T5018 Vendor** check box is selected and **T5018 Box** is set to *Individual*.
- **Program Account Number:** The partner account number of the vendor if the vendor is a corporation or partnership. This box is available for editing only if the **T5018 Vendor** check box is selected and the **T5018 Box** box contains *Corporation* or *Partnership*.

Vendors NOTES FILES CUSTOMIZATION TOOLS

**GREENTRUCK - Big Green Trucks Ltd.**

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\* Vendor ID: GREENTRUCK - Big Green Trucks Ltr Balance: 0.00  
 Vendor Status: Active Prepayment Balance: 0.00  
 \* Vendor Class: INTLCA - Canadian Vendors Retained Balance: 0.00

GENERAL FINANCIAL PAYMENT PURCHASE SETTINGS ATTRIBUTES LOCATIONS CONTACTS ACTIVITIES

**ACCOUNT INFO**  
 \* Account Name: Big Green Trucks Ltd.

**ACCOUNT ADDRESS**  
 VIEW ON MAP  
 Address Line 1: 3562 5th Avenue  
 Address Line 2:  
 City: Rainbow Lake  
 State: AB - Alberta  
 Postal Code: T0H 2Y0  
 \* Country: CA - Canada

**ADDITIONAL ACCOUNT INFO**  
 Business 1: 780-956-5859  
 Cell:  
 Fax:  
 Account Email:  
 Web:  
 Ext Ref Nbr:  
 Parent Account:

**PRIMARY CONTACT**  
 Name: First Name Last Name  
 Job Title:  
 Email:  
 Business 1  
 Cell

**VENDOR PROPERTIES**  
 Landed Cost Vendor  
 Vendor is Tax Agency  
 T5018 Vendor  
 T5018 Box: Partnership  
 SIN:  
 \* Program Account Num... 123456789RT1234  
 Staff Member in Service Management

**PROJECT DEFAULTS**  
 Cost Code:  
 Inventory ID:

Figure: New UI elements on the Vendors form

Additionally, a new form, [Create T5018 E-File](#) (AP507600), which is shown in the following screenshot, has been added to the system. By using this form, a user can generate a T5018 form in XML format to be submitted to the Canada Revenue Agency. The new form is available under the **Processes** category of the **Payables** workspace.

Create T5018 E-File

↻ PROCESS PROCESS ALL 🔄

\* Transmitter: TOADGREEN - ToadGreen E  
 \* From: 6/1/2021  
 \* To: 8/3/2021  
 Company Name: ToadGreen Building Group  
 Filing Type: Original  
 Submission Num...: 94419988

Threshold Amount: 0.0  
 Program Account ...: 190000060  
 Language: English  
 Title: Mr.  
 First Name: Maxwell  
 Last Name: Baker

Email:  
 Phone: +1 (777) 345-2246  
 Extension Number:  
 Postal Code:  
 Second Email:  
 Contact Area Code:

Vendor	Vendor Name	Payer	Amount	Tax Registration ID
<input type="checkbox"/>	MAPLELEAF	MapleLeaf Ads Co.	TBGROUP	30,000.00 987654321RT4321
<input type="checkbox"/>	GREENTRUCK	Big Green Trucks Ltd.	TBGROUP	50,000.00 123456789RT1234

Figure: The new Create T5018 E-File form

## Changes to the Calculation of Cash Discounts

According to Canadian laws, to calculate a cash discount, the required percentage as determined by the credit terms should be applied to a document total without tax—that is, the cash discount is calculated as  $(\text{Balance} - \text{Tax Total}) * \text{Terms } \%$ . The cash discount calculation algorithm has been changed to reflect this requirement on the following forms:

- [Sales Orders](#) (SO301000)
- [Invoices](#) (SO303000)
- [Process Invoices and Memos](#) (SO505000)
- [Invoices and Memos](#) (AR301000)
- [Cash Sales](#) (AR304000)
- [Bills and Adjustments](#) (AP301000)
- [Quick Checks](#) (AP304000)

All processes that generate AR and AP documents (such as project billing, contract billing, and field service billing) use the new calculation algorithm as well.

For correct tax calculation, on the **Tax Settings** tab of the [Taxes](#) (TX205000) form, the **Cash Discount** value must be set to *Does Not Affect Taxable Amount* for each tax used in the system (as shown in the following screenshot).

Taxes  
CANADAGST - Canada GST

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**TAX SETTINGS**

* Tax ID:	CANADAGST - Canada GST	Calculation Rule:	Exclusive Document-Level
Description:	Canada GST	Cash Discount:	Does Not Affect Taxable Amount
Tax Type:	VAT		<input type="checkbox"/> Exclude from Tax-on-Tax Calculation
<input type="checkbox"/> Partially Deductible VAT <input type="checkbox"/> Reverse VAT <input type="checkbox"/> Pending VAT <input type="checkbox"/> Statistical VAT <input type="checkbox"/> Enter from Tax Bill <input type="checkbox"/> Include in VAT Exempt Total <input checked="" type="checkbox"/> Include in VAT Taxable Total		Tax Agency:	<input type="text"/>
		Not Valid After:	<input type="text"/>

TAX SCHEDULE    CATEGORIES    ZONES    GL ACCOUNTS    PRINTING PARAMETERS

* Start Date	Tax Rate	Min. Taxable Amount	Max. Taxable Amount	Reporting Group	Group Type
> 1/1/2010	5.000000	0.0000	0.0000	Default Input Group	Input
1/1/2010	5.000000	0.0000	0.0000	Default Output Group	Output

Figure: Cash discount settings of a tax

## Electronic Funds Transfers for Canadian Banks

Acumatica ERP Canadian Edition supports the generation of payments in a format compatible with the [Canadian Payments Association Standard 005 \(CPA 005\)](#), which gives companies the ability to automate payments to vendors. To use this functionality, on the [Payment Methods](#) (CA204000) form, a user should set up batch payment generation for a payment method by using an export scenario, which is provided as a customization package.

## Modification of Printed Documents

According to the Canadian reporting requirements, printed sales invoices must include the following information about the applicable taxes:

- An indication of the total amount of GST/HST charged or that the amount paid or payable for each taxable item includes the GST/HST at the applicable rate
- An indication of which items are taxed at the GST rate and which are taxed at the HST rate

To support this requirement, a new tab, **Printing Parameters** (which is shown in the following screenshot), has been added to the [Taxes](#) (TX205000) form. On this tab, the user specifies the following settings:

- **Short Printing Label:** The short tax label to be shown right of the item the tax is applied to in the reports that are printable versions of taxable documents, such as AR invoices.
- **Long Printing Label:** The long tax label to be shown in the Total section of the reports that are printable versions of taxable documents, such as AR invoices. This label is followed by the effective tax rate and the total amount of the tax.
- **Printing Sequence:** The order in which the tax will be listed in reports that display a printable version of taxable documents.

Taxes

CANADAGST - Canada GST

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**TAX SETTINGS**

* Tax ID:	CANADAGST - Canada GST	Calculation Rule:	Exclusive Document-Level
Description:	Canada GST	Cash Discount:	Does Not Affect Taxable Amount
Tax Type:	VAT		<input type="checkbox"/> Exclude from Tax-on-Tax Calculation
	<input type="checkbox"/> Partially Deductible VAT	Tax Agency:	
	<input type="checkbox"/> Reverse VAT		<input type="checkbox"/> Pending VAT
	<input type="checkbox"/> Statistical VAT	Not Valid After:	
	<input type="checkbox"/> Include in VAT Exempt Total		
	<input checked="" type="checkbox"/> Include in VAT Taxable Total		

TAX SCHEDULE   CATEGORIES   ZONES   GL ACCOUNTS   **PRINTING PARAMETERS**

Short Printing Label:	T
Long Printing Label:	GST
Printing Sequence:	1001

**Figure: The Printing Parameters tab of the Taxes form**

The short and long labels are shown in the following reports:

- [Invoice/Memo](#) (AR641000)
- [ProInvoice/Memo](#) (PM641000)
- [Quote](#) (SO641000)
- [Sales Order](#) (SO641010)
- [Matrix Sales Order](#) (SO641020)
- [Invoice & Memo](#) (SO643000)
- [Matrix Invoice/Memo](#) (SO643010)

The following screenshot illustrates an *Invoice/Memo* (AR641000) report with the long and short tax labels (Items 1 and 2, respectively).

**Acumatica**  
The Cloud ERP

**INVOICE**

Reference Nbr.: AR009763  
Date: 02-Aug-2021  
Due Date: 01-Sep-2021  
Customer ID: AACUSTOMER  
Currency: CAD

Products Wholesale  
11235 SE 6th St.  
Suite 140  
Vancouver, BC, 98004  
Phone: 206-555-1212  
Web: www.revisiontwo.ca

**BILL TO:**  
Alta Ace  
156 10th Ave  
VANCOUVER T2P2B3  
Canada  
Attn: Amelia Armstrong

**SHIP TO:**  
Alta Ace  
156 10th Ave  
VANCOUVER T2P2B3  
Canada  
Attn: Amelia Armstrong

**CUSTOMER REF. NBR.** 151551  
**TERMS** 30 Days  
**CONTACT**

NO.	ITEM	QTY.	UOM	UNIT PRICE	DISC.	EXTENDED PRICE	
1	BACKUP: Data Backup	8.00	Hour	100.00	0%	800.00	TS 1
2	CONSULTING: Project Consulting	11.00	Hour	100.00	0%	1,100.00	TS

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NOTE

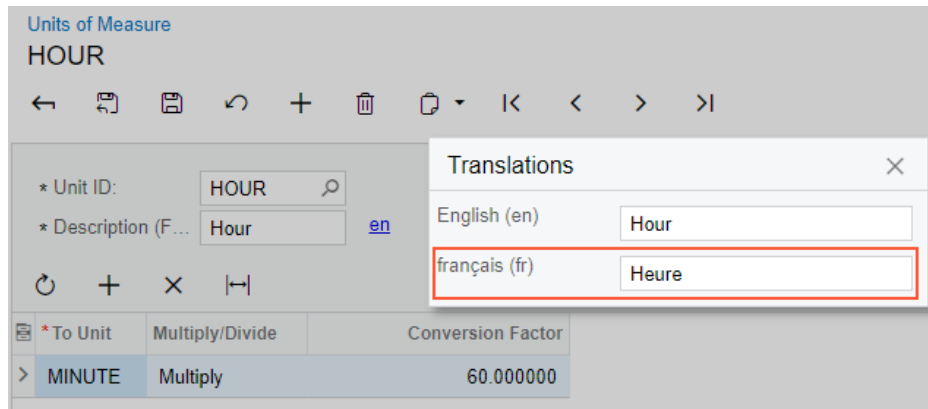
Sales Total:	1,900.00
Less Discount:	0.00
2 GST (5%):	95.00
PST (7%):	133.00
<b>Total (CAD):</b>	<b>2,128.00</b>

Figure: Long and short tax labels on a printable invoice

### Translatable Units of Measure

Administrative users of the Canadian Edition with the Canadian French locale set up can define units of measure (UOMs) with their English and French descriptions and set up these units of measure to be displayed in the printed documents of a customer in the language of the locale selected for that customer.

When the *Canadian Edition* feature is enabled, the new *Units of Measure* (CS203500) form becomes available instead of the standard *Units of Measure* (CS203100) form. In the Summary area of the new form, a user can specify the unit's ID and the description in the default language. To add the description in another language, the user opens the **Translation** dialog box by clicking the link next to the **Description (For Printed Forms)** box and types the translated text in the text box of the needed language.



**Figure:** The Translations dialog box of the Units of Measure form

The UOM description is displayed on the following reports:

- [ProInvoice/Memo](#) (PM641000)
- [Invoice/Memo](#) (AR641000)
- [Sales Quote](#) (CR604500)
- [Project Quote](#) (PM604500)
- [Pro Forma Invoice](#) (PM642000)
- [Change Order](#) (PM643000)
- [Purchase Order](#) (PO641000)
- [Request for Proposal](#) (RQ611000)
- [Quote](#) (SO641000)
- [Sales Order](#) (SO641010)
- [Matrix Sales Order](#) (SO641020)
- [Shipment Confirmation](#) (SO642000)
- [Invoice & Memo](#) (SO643000)
- [Matrix Invoice/Memo](#) (SO643010)

If a customer is set up to be receive printable documents in a different language—that is, if the **Locale** setting on the **General** tab of the [Customers](#) (AR303000) form has been set to a locale other than the default locale—the translated UOM description (if it exists for the selected locale) will appear on the reports listed above.

## Additional Information

For details on configuring and filing the T5018 form, see [Filing the T5018 Form](#).

# Manufacturing: Review of the Labor Efficiency in Production

A new report, *Production Order Labor Efficiency* (AM653000), has been added to Acumatica ERP Manufacturing Edition 2021 R2. By using the report, production managers can analyze the labor efficiency of the employees involved in production. By default, the corresponding report form (shown in the following screenshot) can be accessed from the **Reports** category of the **Production Management** workspace. On the report form, a user can specify the needed parameters and then run the report.

**Figure: Parameters of the Production Order Labor Efficiency report**

Employee details can be displayed or hidden depending on whether the **Show Employee Details** check box is selected. In the following screenshot, the report displays data for a particular production order, including employee details.

Order Type	Production Nbr.	Inventory ID	Subitem	Warehouse	Qty. Scrapped	Qty. Complete	Status	
RO	AM000014	MGPCB		WHOLESALE	0.00	10.00	Closed	
	Operation ID	Work Center	Employee ID	Employee Name	Qty. Scrapped	Planned Hours	Actual Hours	Efficiency %
	0010	WC10	EP00000004	Joseph Becher			1.00	
					0.00	2.00	1.00	200.00%
	0020	WC30	EP00000012	Eric Cozzi			.50	
					0.00	1.00	.50	200.00%
							Average:	200.00%

**Figure: Production Order Labor Efficiency report**

In the report, the labor efficiency is calculated by using the following formula:

$$\text{Efficiency} = (\text{Production Order Standard Time} / \text{Labor Actual Time}) * 100$$



The formula's parameters mean the following:

- *Production Order Standard Time* is the sum of the time of a production order's operations—that is, setup time and run time.
- *Labor Actual Time* is the sum of times reported for each production order operation

The efficiency is calculated for production orders that have a status of *Completed* or *Closed*. Operations with backflushed labor always have 100% efficiency; therefore, the efficiency is not displayed for these operations.

# Manufacturing: Preassigned Lot and Serial Numbers

In previous versions of Acumatica ERP Manufacturing Edition, for a lot- or serial-tracked item being manufactured, a production manager was able to assign the lot or serial number to the item only when the item was moved to stock from a work center. This was inconvenient for organizations that need to prepare labels and other paperwork prior to moving produced items to stock based on their production processes, as well as for organizations that need to trace the specific subassemblies and materials that make up the final product.

Version 2021 R2 introduces the ability to specify a lot or serial number for a produced item on creation of a production order. Additionally, for organizations that need granular traceability, a production manager can set up the system so that it requires the lot or serial number of the produced item to be assigned to lot- or serial-tracked materials when the materials are being issued or when the produced item is being moved to stock.

The new functionality is available only when the *Lot and Serial Tracking* feature is enabled on the [Enable/Disable Features](#) (CS100000) form and only for produced items with an assigned lot or serial class that has the *When Received* assignment method selected on the [Lot/Serial Classes](#) (IN207000) form.

## Preparation for the Preassignment of Lot and Serial Numbers

A production manager needs to create a production order type that will facilitate the processing of production orders with lot- or serial-tracked items whose lot or serial numbers need to be preassigned. On the [Production Order Types](#) (AM201100) form, the production manager needs to do the following for the production order type (as shown in the screenshot below):

1. In the Summary area, specify the identifier and description, and select the *Regular* function.
2. In the **Data Entry** section of the **General** tab, select the new **Allow Preassigning Lot/Serial Numbers** check box. With this check box selected, lot or serial numbers can be specified for items before a production order is released.
3. In the new **Require Parent Lot/Serial Number** box, which becomes available if the **Allow Preassigning Lot/Serial Numbers** check box is selected, select one of the following options:
  - *Never* if the assignment of lot or serial numbers of a parent item to lot- or serial-tracked materials is not needed or if most produced items do not contain lot- or serial-tracked materials. This is the default option.
  - *On Issue* if the lot or serial number of a produced item should be assigned to lot- or serial-tracked materials when a material transaction is released on the [Materials](#) (AM300000) form. The system will not release the transaction until the user assigns the lot or serial number of the produced item to each lot- or serial-tracked material.



With this option, backflushing of lot- or serial-tracked materials is not supported because this setting requires a lot or serial number to be assigned to the parent item when the materials are issued.

- *On Completion* if the lot or serial number of a produced item must be assigned to lot- or serial-tracked materials before the movement of the produced items into stock through the release of the appropriate transaction on the last operation. On the new [Late Assignment](#) (AM312000) form, a user assigns lot or serial numbers of the produced item to its materials after the materials have been issued. The user must assign the lot or serial number of the produced item to each material to be able to release the transaction, which is a move transaction on the [Move](#) (AM302000) form or a labor transaction with a positive produced quantity on the [Labor](#) (AM301000) form.

Production Order Types  
RO - Regular Orders

Order Type:   Active

Description: Regular Orders

Function: Regular

GENERAL SETTINGS ATTRIBUTES

NUMBERING SETTINGS  
\* Order Numbering Sequence: AMPROD - Production Order

ACCOUNT SETTINGS  
\* Work in Process Account: 12450 - Work in Progress Invi  
\* Work In Process Sub.: 000-000 - Default  
\* WIP Variance Account: 51500 - Work In Process Vari  
\* WIP Variance Sub.: 000-000 - Default

ORDER DEFAULTS  
Costing Method: Actual  
 Exclude from MRP  
 Substitute Work Centers

PRINTING  
\* Print Production Report ID: AM.62.50.10 - Production Ticket with E

SCHEDULING  
 Check for Material Availability

SCRAP  
Scrap Source: Order Type  
Scrap Warehouse: RETAIL - Retail Warehouse  
Scrap Location: RETURNS - Returns area

COPY BOM NOTES  
 Item/Header  Material  Tool  
 Operation  Step  Overhead

DATA ENTRY SETTINGS  
Under Issue Material: Warn  
Under Issue Backflush Material: Allow  
Over Issue Material: Warn  Include unreleased batch qty  
Issue Material Not On Order: Warn  
Move on Completed Operations: Warn  
Over Complete Orders: Warn  
 Default operation move qty  
 Allow Preassigning Lot/Serial Numbers  
Require Parent Lot/Serial Number: On Issue

**Figure: Elements that determine lot or serial number preassignment**

When a user creates a production order on the *Production Order Maintenance* (AM201500) form, the **Allow Preassigning Lot/Serial Numbers** and **Require Parent Lot/Serial Number** settings from the selected production order type are copied to the production order (on the **General** tab), as shown in the following screenshot. The user can change these default settings for a particular order, if needed.

Production Order Maintenance

RO AM000035 - Assemble Printed Circuit Board

NOTES ACTIVITIES FILES NOTIFICATIONS CUSTOMIZATION TOOLS

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\* Order Type:  Order Date: 7/1/2021

\* Production Nbr: AM000035 - Assemble Printed Circuit Status: **In Process**  Hold

Inventory ID: MGPCB - Printed Circuit Board Product Workgroup: \_\_\_\_\_

Warehouse: WHOLESALE - Wholesale Warehouse Product Manager: \_\_\_\_\_

Location: R1S1 - Row 1 Shelf 1

Description: Assemble Printed Circuit Board

GENERAL REFERENCES EVENT HISTORY ATTRIBUTES TOTALS LINE DETAILS

Qty to Produce: 2.00 Schedule Status: **Unscheduled**

UOM: EA Scheduling Method: **Start On**

Qty Complete: 0.00 Constraint: 7/1/2021

Qty Scrapped: 0.00 Start Date: 7/1/2021

Qty Remaining: 2.00 End Date: 7/1/2021

Use Fixed Mfg Lead Times for Order Dates

Use Order Start Date for MRP

Exclude from MRP

Dispatch Priority: 5

Costing Method: **Actual**

Scrap Override

Scrap Warehouse: RETAIL - Retail Warehouse

Scrap Location: RETURNS - Returns area

Allow Preassigning Lot/Serial Numbers

Require Parent Lot/Seri...

Figure: The settings copied from the production order type

### Preassignment of Lot and Serial Numbers

To assign lot or serial numbers to the units of a produced item in a production order, on the [Production Order Maintenance](#) (AM201500) form, a user does the following:

1. Creates a production order for the lot- or serial-tracked item.
2. If the item is serialized, on the **Line Details** tab, adds a line for each unit of the item to be produced, and specifies its serial number in the **Lot/Serial Nbr.** column (see the following screenshot). When entry is complete, the number of rows on this tab must be equal to the **Qty. to Produce** value on the **General** tab.

Production Order Maintenance  
RO AM000040

NOTES ACTIVITIES FILES NOTIFICATIONS CUSTOMIZATION TOOLS

Order Date: 7/22/2021

\* Order Type: RO - Regular Orders

\* Production Nbr: AM000040

Status: Released  Hold

Inventory ID: AMKEURIG46 - Keurig Model 450

Warehouse: WHOLESALE - Wholesale Warehouse

Location: R1S1 - Row 1 Shelf 1

Description:

GENERAL REFERENCES EVENTS ATTRIBUTES TOTALS **LINE DETAILS**

Unassigned Qty.: 0.00 Start Lot/Serial Number:

Quantity to Generate: 0.00

Location	Lot/Serial Nbr.	UOM	Quantity	Complete Qty.	Scrapped Qty.	Remaining Qty.	Expiration Date
R1S1	SRS000101	EA	1.00	0.00	0.00	1.00	
R1S1	SRS000102	EA	1.00	0.00	0.00	1.00	
R1S1	SRS000103	EA	1.00	0.00	0.00	1.00	

**Figure: Serial numbers for each unit of the item**

- If the item is tracked by lot, on the **Line Details** tab, adds one line for each lot number (which is entered in the **Lot/Serial Nbr.** column) to which units are assigned and specifies the quantity of units to which this lot number is assigned. The total sum in the **Quantity** column of all rows must be equal to the **Qty. to Produce** value on the **General** tab.

The production order can be released only when lot or serial numbers have been assigned to the full quantity of the produced item. Otherwise, an error message is displayed and the order is not released (see the following screenshot).

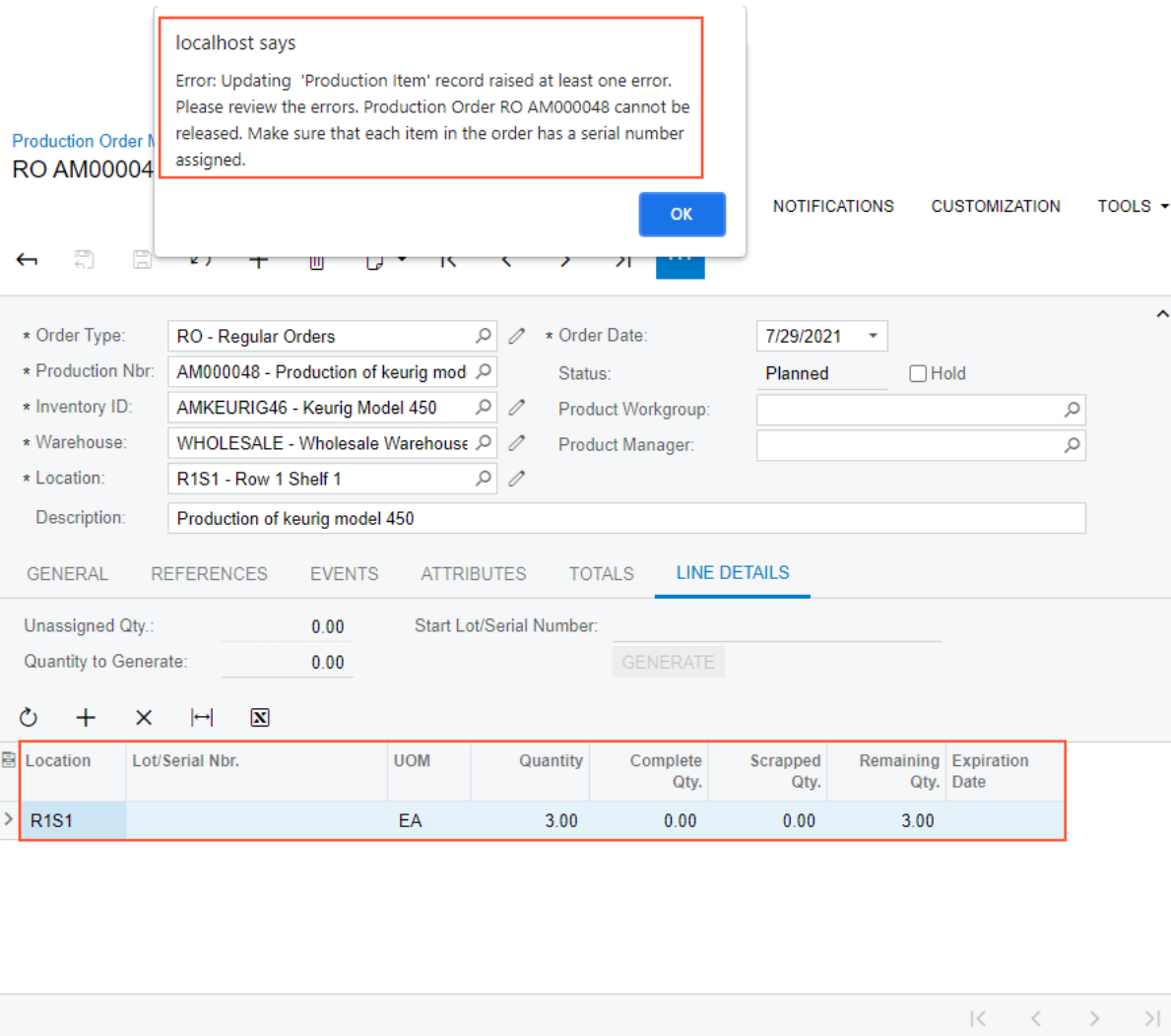


Figure: The error message displayed on an attempt to release a production order

### Assignment of Parent Lot or Serial Numbers on Issue of Materials

To assign lot or serial numbers of the item to be produced (the *parent* item) to lot- or serial-tracked materials when issuing materials for a production order—that is, if the *On Issue* value is specified in the **Require Parent Lot/Serial Number** box of the *Production Order Maintenance* (AM201500) form for the production order—the user does the following:

1. On the *Materials* (AM300000) form, adds the materials required for producing the lot- or-serial tracked item for a particular production order (see the following screenshot).

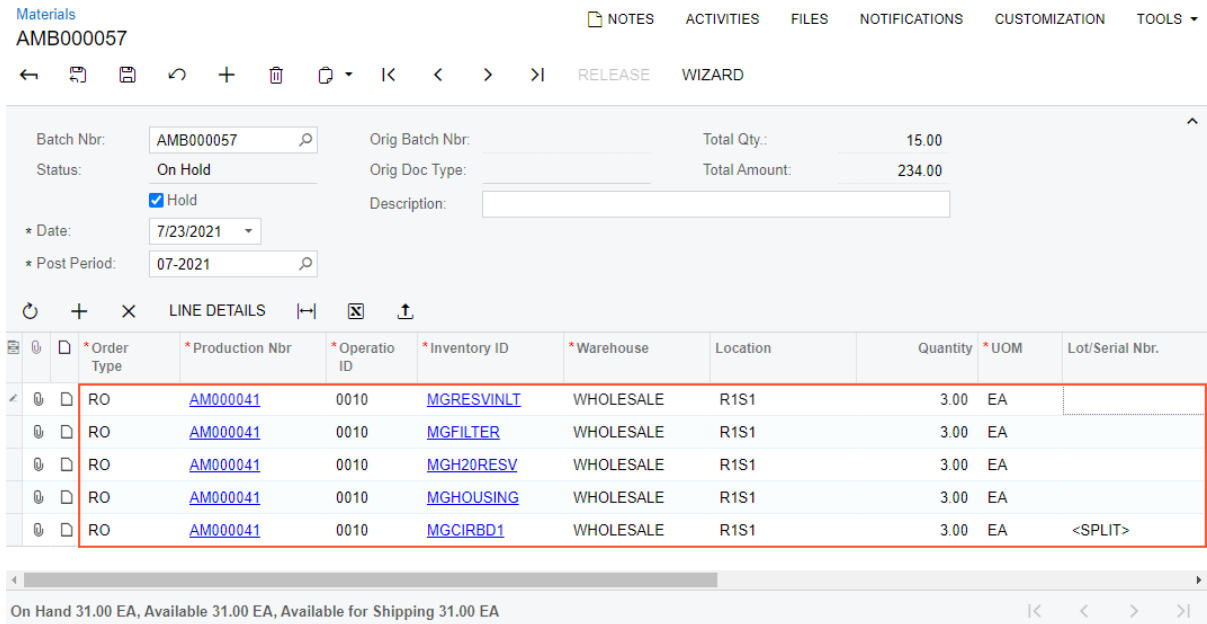


Figure: The list of materials to be issued for a particular production order

2. Clicks the row with the lot- or serial-tracked material, and clicks **Line Details** on the table toolbar. The system opens the **Line Details** dialog box.
3. If the material is serialized, adds a line in the dialog box for each unit of the material item and either specifies its serial number in the **Lot/Serial Nbr.** column (see the following screenshot) or makes sure that the serial numbers have been generated automatically, depending on the settings of the serial class.

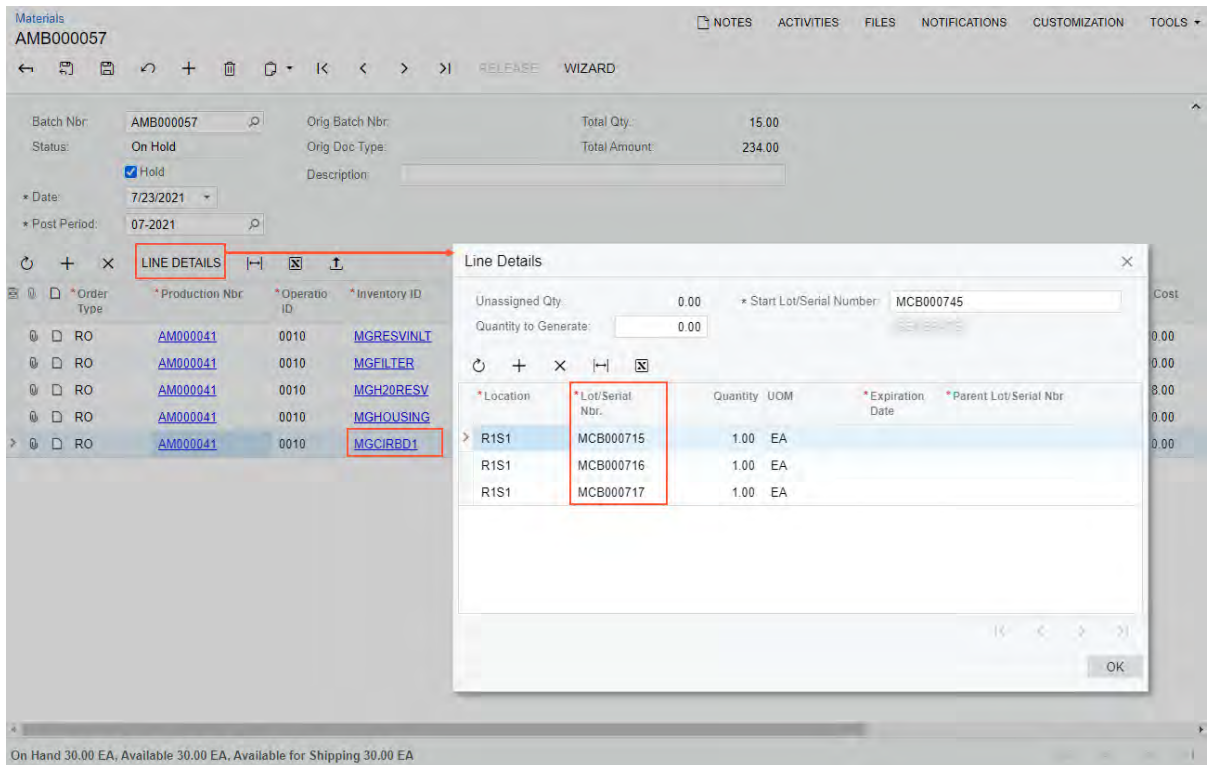
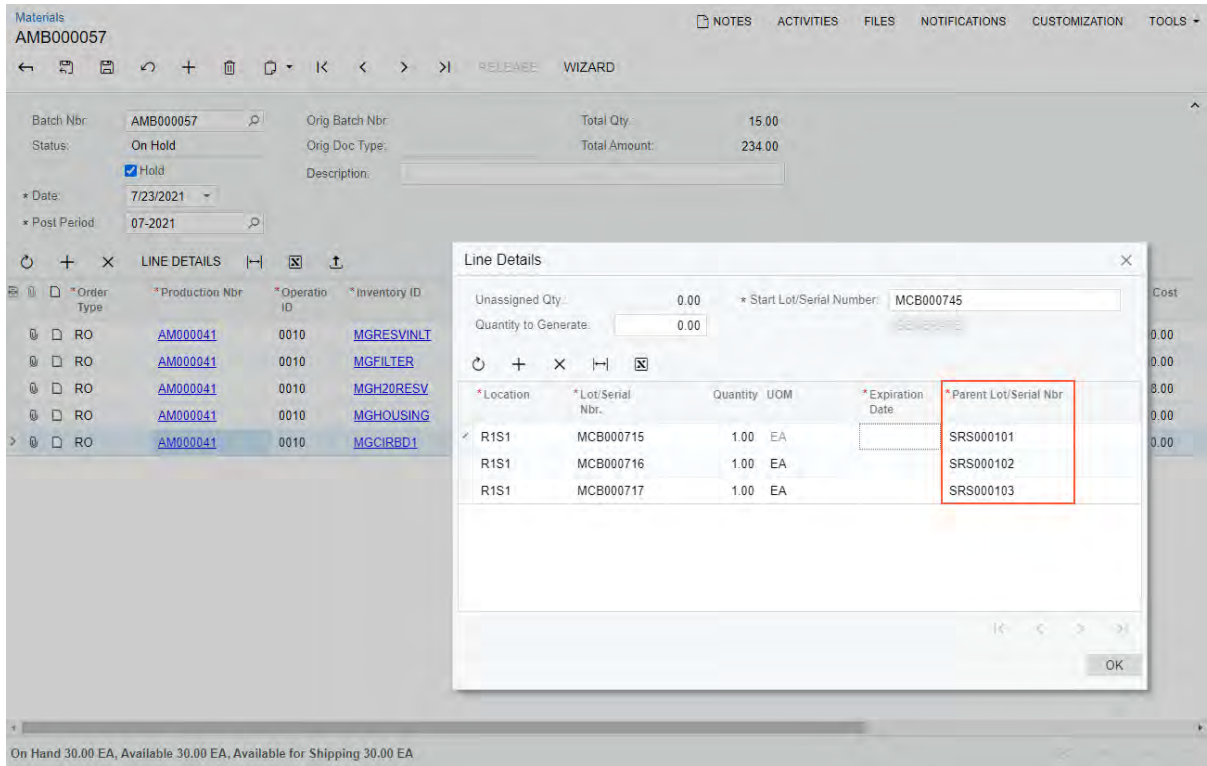


Figure: Serial numbers entered for the serialized material

4. If the material is tracked by lot, adds one line for each lot number to which units are assigned, and specifies the quantity of units to which this lot number is assigned.
5. In the **Parent Lot/Serial Nbr.** column, specifies the lot or serial number of the parent item to be assigned to each line (see the following screenshot).



**Figure: Serial numbers of the parent item assigned to the serialized materials**

6. Clicks **OK** to save the changes and close the dialog box.
7. Releases the material transaction by clicking **Release** on the form toolbar.

If the lot or serial numbers of the parent item have not been assigned to some lot- or serial-tracked materials, the system displays an error message and does not release the transaction (see the following screenshot).



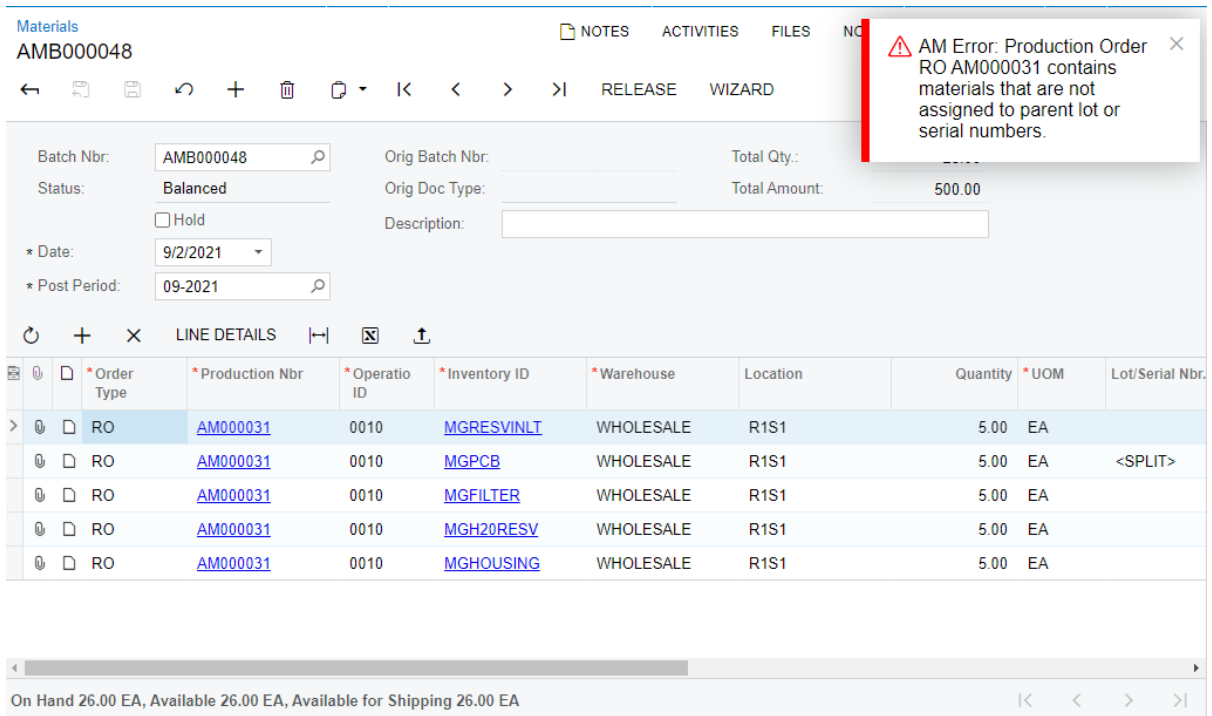


Figure: The error message on the Materials form

### Assignment of Parent Lot or Serial Numbers to Materials on Completion

If the lot or serial numbers of a parent item to be produced can be assigned to lot- or serial-tracked materials before the movement of the parent item to stock—that is, if the *On Completion* value is specified in the **Require Parent Lot/Serial Number** box of the *Production Order Maintenance* (AM201500) form for the production order—the user does the following:

1. On the *Materials* (AM300000) form, adds the materials required for producing the lot- or serial-tracked item for a particular production order, including the lot- or serial-tracked materials.
2. Releases the material transaction.
3. Moves the units of the produced item between the operations involved in production, except the last operation, by using the *Labor* (AM301000) or *Move* (AM302000) form.
4. When moving the units of the produced item for the last operation on the *Labor* or *Move* form, clicks **Late Assignment** on the table toolbar to open the new *Late Assignment* (AM312000) form.
5. Assigns the parent lot or serial number to each material as follows:
  - a. In the **Lot/Serial Nbr.** box of the Summary area, selects the lot or serial number that will be assigned to materials (as shown in Item 1 of the first screenshot below).
  - b. In the Unallocated Materials table (the bottom table), clicks the material line to be allocated (Item 2).
  - c. On the form toolbar, clicks **Allocate** (Item 3). The system allocates the materials for the lot or serial number and moves the material line to the Allocated Materials table (the top table), as shown in the second screenshot below.

[Late Assignment](#) ☆

RO AM000028 SRS000053

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Order Type:	RO - Regular Orders	Status:	In Process	Qty. to Produce:	1.00
Production Nbr.:	AM000028 - Assemble Printe	Inventory ID:	MGPCB - Printed Circuit Board	Complete Qty.:	0.00
* Lot/Serial Nbr.:	SRS000053	Warehouse:	WHOLESALE - Wholesale Ware	Scrapped Qty.:	0.00
				Remaining Qty.:	1.00

---

UNALLOCATE |< >|

Inventory ID	Description	Lot/Serial Nbr.	Qty. Allocated	UOM
<p>No records found.</p> <p>Try to modify parameters above to see records here.</p>				

---

ALLOCATE |< >|

Inventory ID	Description	Lot/Serial Nbr.	Qty. Unallocated	UOM	Qty. Required	Qty. to Allocate
MG CIRBOARD	Circuit Board	SRS000525	1.00	EA	1.00	1.00
MG CIRBOARD	Circuit Board	SRS000526	1.00	EA	1.00	1.00
MG CIRBOARD	Circuit Board	SRS000527	1.00	EA	1.00	1.00
MG CIRBOARD	Circuit Board	SRS000528	1.00	EA	1.00	1.00
MG CIRBOARD	Circuit Board	SRS000529	1.00	EA	1.00	1.00

Figure: The Late Assignment form

Late Assignment

CUSTOMIZATION TOOLS ▾

RO AM000028 SRS000053

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Order Type:	RO - Regular Orders	Status:	In Process	Qty. to Produce:	1.00
* Production Nbr.:	AM000028 - Assemble Printe	Inventory ID:	MGPCB - Printed Circuit Board	Complete Qty.:	0.00
* Lot/Serial Nbr.:	SRS000053	Warehouse:	WHOLESALE - Wholesale Ware	Scrapped Qty.:	0.00
				Remaining Qty.:	1.00

UNALLOCATE |< >|

Inventory ID	Description	Lot/Serial Nbr.	Qty. Allocated	UOM
> <a href="#">MGCIRBOARD</a>	Circuit Board	SRS000525	1.00	EA

|< < > >|

ALLOCATE |< >|

Inventory ID	Description	Lot/Serial Nbr.	Qty. Unallocated	UOM	Qty. Required	Qty. to Allocate
> <a href="#">MGCIRBOARD</a>	Circuit Board	SRS000526	1.00	EA	0.00	0.00
<a href="#">MGCIRBOARD</a>	Circuit Board	SRS000527	1.00	EA	0.00	0.00
<a href="#">MGCIRBOARD</a>	Circuit Board	SRS000528	1.00	EA	0.00	0.00
<a href="#">MGCIRBOARD</a>	Circuit Board	SRS000529	1.00	EA	0.00	0.00

|< < > >|

- d. Repeats the previous two steps for each material to be allocated to the lot or serial number they select in the **Lot/Serial Nbr.** box.
- 6. When all needed materials have been allocated to parent lot or serial numbers, opens the *Labor* or *Move* form and releases the transaction for the last operation.

### Viewing of Lot- and Serial-Tracked Items in Production Orders

A production manager can view the lot and serial numbers assigned to a parent item and materials in multiple ways.

First, the *Lot/Serial Hierarchy* (AM600000) report has been modified to display the parent lot and serial numbers that have been assigned to materials (see the following screenshot).

Lot/Serial Hierarchy TOOLS ▾

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Type your query here Find

Order Type	Production Nbr.	Inventory ID				Qty Completed
RO	AM000041	AMKEURIG46	Keurig Model 450			3.00
<b>Finished Good Lot/Serial Numbers</b>						
		<b>Parent Lot/Serial Number</b>	<b>Qty</b>	<b>Batch</b>	<b>Tran. Date</b>	
		SRS000101	1.00	AMB000059	7/23/2021	
		SRS000102	1.00	AMB000059	7/23/2021	
		SRS000103	1.00	AMB000059	7/23/2021	
<b>Material Transactions</b>						
Inventory ID	Description	Parent Lot/Serial Number	Qty Issued	Lot/Serial Number	Lot Qty	Unit Cost PM Batch Inv Batch
MGRESVINLT	Reservoir Inlet		3.00		3.00	30.00 AMB000057 004639
MGFILTER	Internal Purifying Filter		3.00		3.00	30.00 AMB000057 004639
MGH20RESV	Water Reservoir		3.00		3.00	8.00 AMB000057 004639
MGHOUSING	Housing		3.00		3.00	10.00 AMB000057 004639
MGCIRBD1	Circuit Board	SRS000101	3.00	MCB000715	1.00	0.00 AMB000057 004639
MGCIRBD1	Circuit Board	SRS000102	3.00	MCB000716	1.00	0.00 AMB000057 004639
MGCIRBD1	Circuit Board	SRS000103	3.00	MCB000717	1.00	0.00 AMB000057 004639

Figure: The Lot/Serial Hierarchy report

Second, the new *As-Built Configuration* (AM401700) inquiry form has been introduced (see the screenshot below). The form is useful when a user wants to view details about the original structure of the manufactured item as it came off the line; if the organization provides warranties, the customer managers must be sure that the produced item has not been modified before authorizing the warranty claim.

By using this form, a user can select an item by a lot or serial number and view the lot- or serial-tracked materials used to produce this item. On the form, the user can also select items by inventory ID, reference number of a sales order, or reference number of a production order. For items that require subassemblies to be produced, in the **Levels to Display** box of the Selection area, the user can specify the number of levels of the nested subassemblies to be displayed in the tree on the left pane.

As-Built Configuration CUSTOMIZATION TOOLS ▾

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Lot / Serial Nbr.: <input type="text" value="SRS000110"/>	Sales Order Nbr.: <input type="text"/>	Levels to Display: <input type="text" value="1"/>
Inventory ID: <input type="text"/>	Prod. Order Nbr.: <input type="text"/>	

RO - AM000047 - AMKEURIG46

- MGKIRBD1 - Circuit Board

Inventory ID	Description	Lot / Serial Nbr	Inventory ID	Parent Description	Parent Lot / Serial Nbr	Qty	UOM
> MGCIRBD1	Circuit Board	MCB000723	AMKEURIG46	Build Keurig Model 450	SRS000110	1.00	EA

Figure: The As-Built Configuration form

Third, the new *Where Used in Production* (AM402500) form has been introduced (shown in the following screenshot), where a user can view the parent items and subassemblies of a specific lot- or serial-tracked material used in the production of finished items or materials. This form is useful when the user needs to find all items that used a component with a specific lot or serial number and the related sales order (if any)—for example, when a defect has been discovered in a specific lot of components.

[Where Used in Production](#) ☆ CUSTOMIZATION TOOLS ▾

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Inventory ID:  Warehouse:  Production Status:

Lot/Serial Nbr.:  Location:   Multi-Level

REFRESH | ADJUST | EXPORT

Parent Inventory ID	Parent Description	Parent Lot/Serial Nbr.	Component Inventory ID	Component Lot/Serial Nbr.	Level	Order Type	Production Nbr	Operation ID	Qty. Issued	Sales Order Type	Sales Order Nbr.
> <a href="#">AMKEURIG45</a>	Keurig Model 450	SRS000111	<a href="#">MGPCB</a>	SRS000129	1	RO	<a href="#">AM000032</a>	0010	1.00	SO	<a href="#">SO006312</a>

Figure: The Where Used in Production form

### Other UI Enhancements

To support the functionality of preassigning lot or serial numbers, on the **Line Details** tab of the [Production Order Maintenance](#) (AM201500) form, the following columns have been added:

- **Complete Qty.**
- **Scrapped Qty.**
- **Remaining Qty.**

These columns make it possible for users to track the quantities, including the quantity that cannot be used, at the lot- or serial-number level. The total quantities for all lot and serial numbers assigned in the production order are displayed on the **General** tab.

### Additional Information

For more information about lot- or serial-tracked items, see [Production of Lot- or Serial-Tracked Items: General Information](#).

# Manufacturing: Vendor Shipment Enhancements

In Acumatica ERP Manufacturing Edition 2021 R2, the functionality of vendor shipments has been enhanced to make the creation of vendor shipments more convenient to users.

## Creation of a Purchase Order from a Production Order

Production managers can now create purchase orders with expenses for outside processing services directly from production orders. A production manager can create this type of purchase order as follows:

1. Create a production order for an item with a bill of material that contains an outside processing operation and release it by using the [Production Order Maintenance](#) (AM201500) form.
2. Open the production order on the [Production Order Details](#) (AM209000) form.
3. In the Operations table, click the row with the outside processing operation. Rows for services to be paid for should have *Subcontract* specified in the **Material Type** column and *Purchase* specified in the **Subcontract Source** column (see the following screenshot).

The screenshot displays the 'Production Order Details' form for 'RO AM000033 - Production of the sterilized scalpels'. The form includes a header with navigation options (NOTES, ACTIVITIES, FILES, NOTIFICATIONS, CUSTOMIZATION, TOOLS) and a toolbar with buttons for 'CREATE PURCHASE ORDER' and 'CREATE VENDOR SHIPMENT'. The 'CREATE PURCHASE ORDER' button is highlighted with a red box. Below the toolbar is the 'Operations' table, which lists operations with columns for Operation ID, Work Center, Operation Description, Setup Time, Run Units, Run Time, Machine Units, Machine Time, Queue Time, and Finish Time. The 'AASERVICES' row is selected. Below the Operations table is the 'Materials' table, which lists materials with columns for Inventory ID, Description, Qty Required, UOM, Unit Cost, Material Type, Subcontract Source, Backflush, Warehouse Override, and Warehouse. The 'SUBCON' material is selected, and its 'Subcontract' and 'Purchase' fields are highlighted with a red box.


Operation ID	Work Center	Operation Description	Setup Time	Run Units	Run Time	Machine Units	Machine Time	Queue Time	Finish Time
0010	WC70	Milling	00:00	10.00	01:00	0.00	01:00	00:00	00:00
0020	AASERVICES	Autoclave Sterilization	00:00	1.00	00:00	0.00	01:00	00:00	00:00
0030	WC10	Inspection	00:00	25.00	01:00	0.00	01:00	00:00	00:00

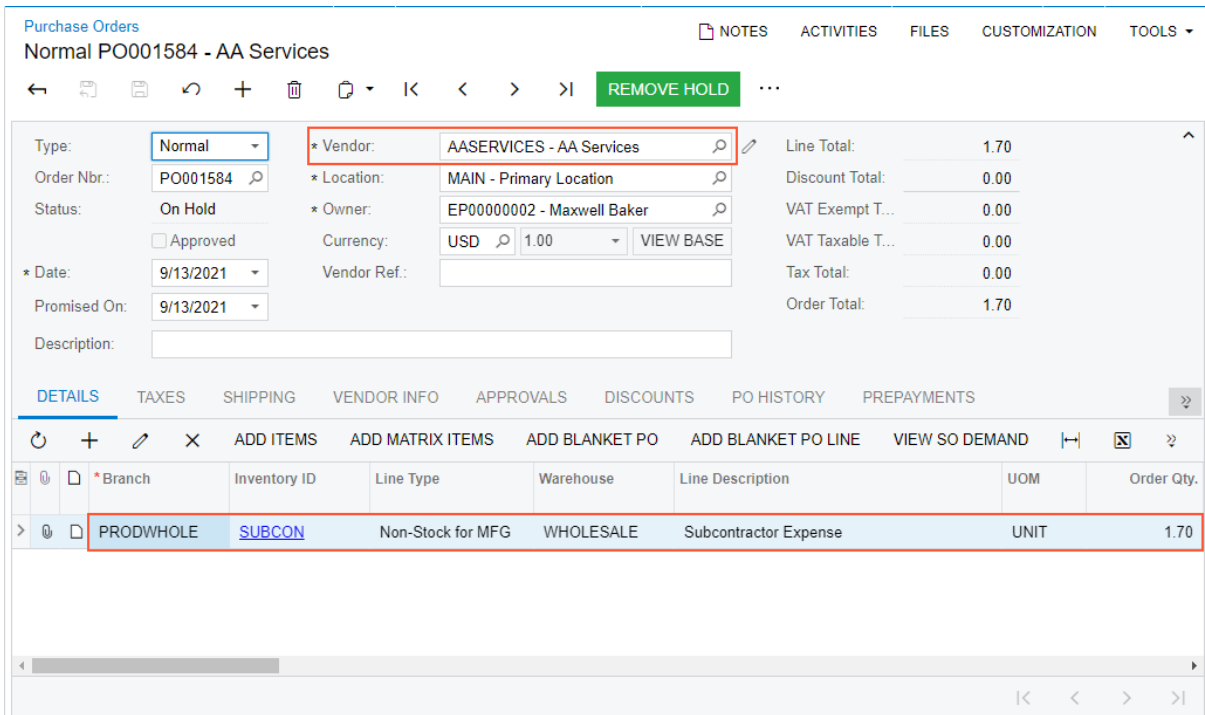
  

Inventory ID	Description	Qty Required	UOM	Unit Cost	Material Type	Subcontract Source	Backflush	Warehouse Override	Warehouse
MGPEELPACK	Self Sealing Envelope with indicator	1.00	EA	0.05	Subcontract	Ship to Vendor	<input type="checkbox"/>	<input type="checkbox"/>	WHOLESALE
SUBCON	Subcontractor Expense	0.34	UNIT	1.00	Subcontract	Purchase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WHOLESALE

Figure: The Production Order Details form

4. On the toolbar of the Operations table, click the new **Create Purchase Order** button (shown in the screenshot above). The system creates the purchase order for the vendor specified on the **Outside Process** tab and opens it on the [Purchase Orders](#) (PO301000) form. On the **Details** tab, the purchase order contains the row or rows with the services to be paid for (see the following screenshot).

 If no vendor is specified on the **Outside Process** tab for the operation on the *Production Order Details* form, the system leaves the **Vendor** box empty, and the production manager has to specify the vendor manually.



Purchase Orders  
Normal PO001584 - AA Services

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

REMOVE HOLD

Type: Normal \* Vendor: AASERVICES - AA Services Line Total: 1.70  
 Order Nbr.: PO001584 \* Location: MAIN - Primary Location Discount Total: 0.00  
 Status: On Hold \* Owner: EP00000002 - Maxwell Baker VAT Exempt T...: 0.00  
 Approved Currency: USD 1.00 VIEW BASE VAT Taxable T...: 0.00  
 \* Date: 9/13/2021 Vendor Ref.: Tax Total: 0.00  
 Promised On: 9/13/2021 Order Total: 1.70  
 Description:

DETAILS TAXES SHIPPING VENDOR INFO APPROVALS DISCOUNTS PO HISTORY PREPAYMENTS

ADD ITEMS ADD MATRIX ITEMS ADD BLANKET PO ADD BLANKET PO LINE VIEW SO DEMAND

Branch	Inventory ID	Line Type	Warehouse	Line Description	UOM	Order Qty.
PRODWHOLE	SUBCON	Non-Stock for MFG	WHOLESALE	Subcontractor Expense	UNIT	1.70

Figure: The Purchase Orders form

### Creation of a Vendor Shipment from a Production Order

It is now possible to create vendor shipments with materials for outside processing directly from production orders. A production manager can create this type of vendor shipment as follows:

1. Create a production order for an item with a bill of material that contains an outside processing operation and release it by using the *Production Order Maintenance* (AM201500) form.
2. Open the production order on the *Production Order Details* (AM209000) form.
3. In the Operations table, click the row with the outside processing operation. Materials to be shipped to a vendor should have *Subcontract* specified in the **Material Type** column and *Ship to Vendor* specified in the **Subcontract Source** column (see the following screenshot).

Production Order Details  
 RO AM000033 - Production of the sterilized scalpels

Inventory ID: AMTOOLOSP - Sterilized Scalpel  
 Warehouse: WHOLESALE - Wholesale Warehouse  
 Order Date: 9/13/2021  
 Status: Released

CREATE PURCHASE ORDER    **CREATE VENDOR SHIPMENT**

Operation ID	Work Center	Operation Description	Setup Time	Run Units	Run Time	Machine Units	Machine Time	Queue Time	Finish Time
0010	WC70	Milling	00:00	10.00	01:00	0.00	01:00	00:00	00:00
0020	AASERVICES	Autoclave Sterilization	00:00	1.00	00:00	0.00	01:00	00:00	00:00
0030	WC10	Inspection	00:00	25.00	01:00	0.00	01:00	00:00	00:00


MATERIALS    STEPS    TOOLS    OVERHEAD    TOTALS    OUTSIDE PROCESS

RESET LINES    LINE DETAILS    ALLOC. DETAILS    PO LINK

Inventory ID	Description	Qty Required	UOM	Unit Cost	Material Type	Subcontract Source	Backflush	Warehouse Override	Warehouse
MGPEELPACK	Self Sealing Envelope with indicator	1.00	EA	0.05	Subcontract	Ship to Vendor	<input type="checkbox"/>	<input type="checkbox"/>	WHOLESALE
SUBCON	Subcontractor Expense	0.34	UNIT	1.00	Subcontract	Purchase	<input checked="" type="checkbox"/>	<input type="checkbox"/>	WHOLESALE

Figure: The Production Order Details form

- On the toolbar of the Operations table, click the new **Create Vendor Shipment** button (shown in the screenshot above). The system creates the vendor shipment for the vendor specified on the **Outside Process** tab and opens it on the *Vendor Shipments* (AM310000) form. On the **Document Details** tab, the vendor shipment contains one row of the *WIP* type with the item to be produced and rows of the *Material* type with the materials to be shipped to the vendor (see the following screenshot).

 If no vendor is specified on the **Outside Process** tab for the operation on the *Production Order Details* form, the system leaves the **Vendor** box empty and the production manager has to specify the vendor manually.



Vendor Shipments

NOTES ACTIVITIES FILES NOTIFICATIONS CUSTOMIZATION TOOLS

New Record

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Shipment ID: <NEW> \* Vendor: AASERVICES - AA Services Shipped Quantity: 10.00

Type: Shipment \* Location: MAIN - Primary Location

Status: On Hold \* Warehouse: WHOLESALE - Wholesale Warehouse

\* Shipment Date: 9/13/2021 Workgroup: EP00000002 - Maxwell Baker

Owner: EP00000002 - Maxwell Baker

DETAILS SHIPPING

LINE DETAILS ADD PRODUCTION ORDERS

Type	*Order Type	*Production Nbr	*Operation ID	*Inventory ID	*Warehouse	Location	Quantity	*UOM
WIP	RO	AM000033	0020	AMT00LOSP	WHOLESALE	R1S1	5.00	EA
Material	RO	AM000033	0020	MGPEELPACK	WHOLESALE	R1S1	5.00	EA

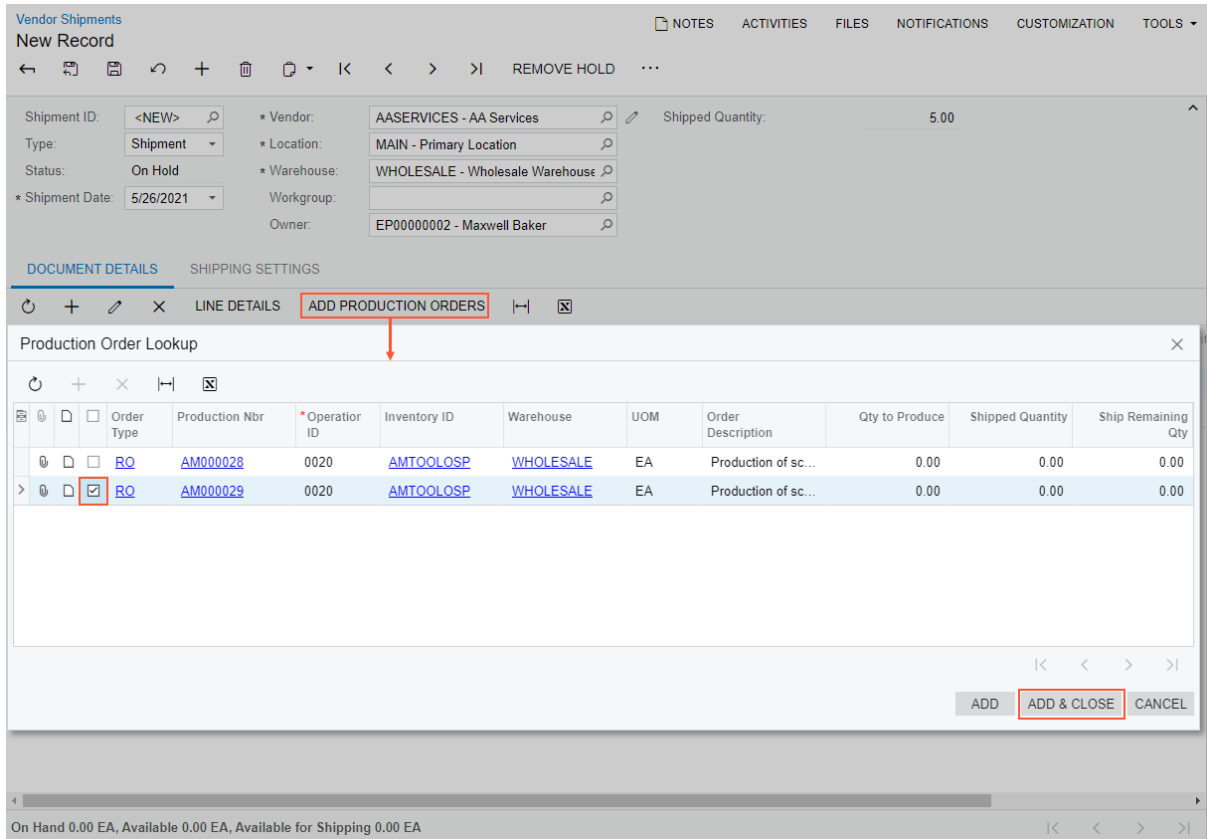
On Hand 0.00 EA, Available 0.00 EA, Available for Shipping 0.00 EA

Figure: The Vendor Shipments form

### Addition of Multiple Production Orders to a Vendor Shipment


Some organizations may want to aggregate materials from multiple production orders in one vendor shipment. In previous versions of Acumatica ERP Manufacturing Edition, a production manager added the required lines manually line by line. In Acumatica ERP Manufacturing Edition 2021 R2, the production manager can select a production order with the needed materials on the *Vendor Shipments* (AM310000) form, and the system adds the material lines to the vendor shipment. To add the materials from production orders to a vendor shipment, the production manager does the following:

1. Opens the vendor shipment to which materials from multiple production orders should be added on the *Vendor Shipments* form.
2. On the table toolbar of the **Document Details** tab, clicks the new **Add Production Orders** button. The system opens the **Production Order Lookup** dialog box (shown in the following screenshot).



**Figure: Production Order Lookup dialog box**

3. Selects the unlabeled check boxes in the rows of the production orders that will be used as material sources for the vendor shipment.

 The **Production Order Lookup** dialog box displays only production orders that meet all of the following conditions:

- They have the *Planned, Released, or In Process* status.
- They contain materials with the *Ship to Vendor* subcontract source.
- They have the same vendor specified on the **Outside Process** tab of the *Production Order Details* (AM209000) form as in the **Vendor** box on the *Vendor Shipments* form.

4. Clicks **Add and Close** to add the materials to the vendor shipment and close the dialog box.

On the **Document Details** tab, for each selected production order, the system adds one row of the *WIP* type with the item to be produced and the rows for the *Material* type with the materials to be shipped to the vendor (see the following screenshot).

Vendor Shipments

Shipment AMVS00001

NOTES ACTIVITIES FILES NOTIFICATIONS CUSTOMIZATION TOOLS

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Shipment ID: AMVS00001 \* Vendor: AASERVICES - AA Services Shipped Quantity: 16.00  
 Type: Shipment \* Location: MAIN - Primary Location  
 Status: On Hold \* Warehouse: WHOLESALE - Wholesale Warehouse  
 \* Shipment Date: 5/26/2021 Workgroup:   
 Owner: EP00000002 - Maxwell Baker

DOCUMENT DETAILS SHIPPING SETTINGS

🔄 + ✎ ✕ LINE DETAILS ADD PRODUCTION ORDERS |←| |→|

Type	*Order Type	*Production Nbr	*Operation ID	*Inventory ID	*Warehouse	Location	Quantity	*UOM
WIP	RO	<a href="#">AM000028</a>	0020	<a href="#">AMTOOLOSP</a>	WHOLESALE	R1S1	5.00	EA
Material	RO	<a href="#">AM000028</a>	0020	<a href="#">MGPEELPACK</a>	WHOLESALE	R1S1	5.00	EA
WIP	RO	<a href="#">AM000029</a>	0020	<a href="#">AMTOOLOSP</a>	WHOLESALE	R1S1	3.00	EA
Material	RO	<a href="#">AM000029</a>	0020	<a href="#">MGPEELPACK</a>	WHOLESALE	R1S1	3.00	EA

On Hand 0.00 EA, Available 0.00 EA, Available for Shipping 0.00 EA

Figure: The added material lines on the Vendor Shipments form

### Enhanced Validation on Closing Production Orders

In previous versions of Acumatica ERP Manufacturing Edition, a production manager could close a production order even when a vendor shipment related to the order had not been completed. Now when a production manager closes a production order on the [Close Production Orders](#) (AM506000) form, the system makes sure that all production transactions and documents related to the production order, including vendor shipments, have been released or completed and prevents the order from being closed if finds any unprocessed transactions or documents.

### Additional Information

For more information about outside processing, see [Outside Processing](#).

# Manufacturing: Visual Production Schedule

Acumatica ERP Manufacturing Edition Version 2021 R2 introduces a new visual tool designed to benefit organizations that use advanced planning and scheduling in the system and process many production orders with complex routing. This visual tool provides the ability to visualize whether and where existing production orders can be rescheduled to accommodate order escalations or emergencies on the shop floor.

The new functionality is available only when the *Advanced Planning and Scheduling* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

## Visual Production Schedule

To give scheduling managers the ability to view the production schedule in a graphical form, the [Production Schedule Board](#) (AM215555) form has been implemented. On this form, a Gantt chart displays the schedule for the selected production orders over time. On this form, shown in the following screenshot, the production manager can adjust the timescale, assign color coding of chart bars, and view missed commitment dates.

The screenshot shows the 'Production Schedule Board' form. At the top right, there are 'CUSTOMIZATION' and 'TOOLS' menus. Below the title bar, there is a toolbar with 'SCHEDULE', 'FIRM', and 'UNDO FIRM' buttons. The main area is divided into four sections:

- Section 1:** The toolbar.
- Section 2:** Selection area with filters:
  - PRODUCTION ORDER FILTERS:** Warehouse, Order Type, Production Nbr., Production Order Status, Schedule status (Both), Product Workgroup, Product Manager, and an 'Include on Hold' checkbox.
  - REFERENCE FILTERS:** Inventory ID, SO Order Type, SO Order Nbr., and Customer.
  - DATE RANGE:** From: 8/29/2021, To: 9/7/2021.
  - DISPLAY SETTINGS:** Color Coding: Production Order Status.
- Section 3:** PRODUCTION ORDERS. It includes a table with columns: Selected, Type, Production N, Inventory I, Dispatcl, Constraint, F, and a Gantt chart for the period 2021 August 29 to 04 Sep. The table lists four production orders with their respective inventory IDs and dates.
- Section 4:** WORK CENTERS. It includes a table with columns: Work Center, Shift, Crew Size, Machine, and a Gantt chart for the same period. The table lists two work centers (WC10 and WC100) with their respective shifts and crew sizes.

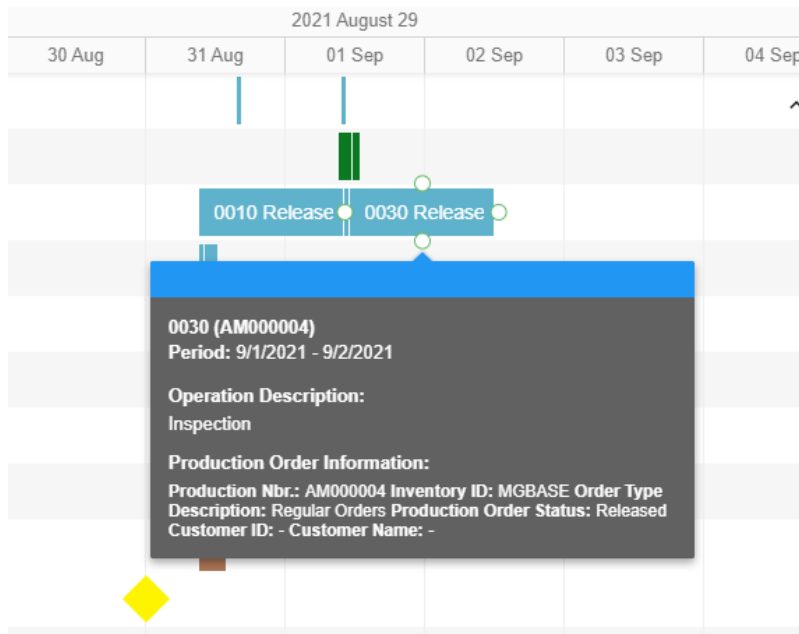
**Figure:** The new Production Schedule Board form

The form consists of the following parts (with the numbers corresponding to those in the screenshot above):

1. The form toolbar with form-specific commands. By using these commands, the scheduling manager can schedule or firm a production order. Also the manager can undo the *Firm* action for a previously firm production order. For details about firm scheduling production orders, see [Manufacturing: Firm Scheduling of Production Orders](#).
2. The Selection area, which holds the selection criteria for production orders to be displayed on the form. In the **Color Coding** box, the scheduling manager can also select the production order setting for which the bars in the Gantt chart will be color coded, such as the production order status or order type.
3. The upper pane with the **Production Orders** tab, which displays the list of production orders that meet the selection criteria, the Gantt chart for each production order, and the pane toolbar.

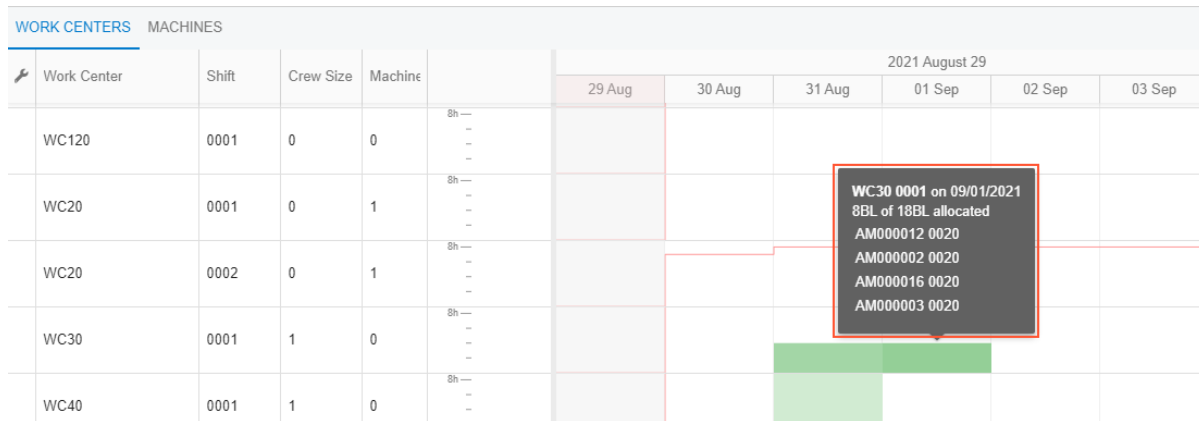


The scheduling manager can point to an element on the Gantt chart to view the details for the scheduled operation and the related production order (see the following screenshot).





**Figure: Details of an operation on the Gantt chart**

The charts for work centers and machines consist of bars. The height of each bar represents the workload of the work center or machine resource for a particular timescale unit. The scheduling manager can point to the bar to view details about the work center or machine workload (see the following screenshot).



**Figure: Details of a work center**

The scheduling manager can adjust the view of both panes as follows by using elements on the pane toolbar (located in the top right corner of the upper pane):

- Change the timescale— which can be hours, days, weeks, or months—by selecting the appropriate option in the Timescale box
- Show or hide the lower pane by clicking the **Maximize** (  ) button
- Display the chart in full-screen mode by clicking the **Fullscreen** (  ) button
- Display only late production orders by clicking the **Late Orders** button

The scheduling manager can schedule production orders directly on this form by doing the following:

1. In the Selection area, specifying the selection criteria to be used to filter the production orders to be scheduled, which are displayed on the **Production Orders** tab.
2. On the **Production Orders** tab, selecting the check box in the **Selected** column for each production order to be scheduled.
3. On the form toolbar, clicking **Schedule**.
4. On the form title bar, clicking the form name to refresh the page.

## Additional Information

For details about advanced planning and scheduling, see [Advanced Planning and Scheduling: General Information](#).

# Manufacturing: Firm Scheduling of Production Orders

Acumatica ERP Manufacturing Edition Version 2021 R2 gives users the ability to prevent a production order from being rescheduled if strict production dates are important for a production order (for example, due to commitment with a customer). A production manager can now firm the order—that is, fix the production dates. When the production manager runs finite scheduling of production orders, the system does not reschedule the firmed production orders.



Only the scheduled production orders can be firmed.

This functionality is available only when the *Advanced Planning and Scheduling* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

## Firm Scheduling of Production Orders

To firm any number of production orders that have been scheduled, on the [Rough Cut Planning](#) (AM501000) form, the scheduling manager does the following (with the numbers corresponding to those shown in the screenshot below):

1. Selects the check box in the unlabeled column of each row of a production order to be firmed.
2. In the **Action** box of the Selection area, selects *Firm*.
3. Clicks **Process** on the form toolbar. The schedule status of the orders is changed to *Firm*.

Rough Cut Planning CUSTOMIZATION TOOLS ▾

3

Action:		Firm		<input type="checkbox"/> Release Orders		<input checked="" type="checkbox"/> Exclude Planning Orders		<input checked="" type="checkbox"/> Exclude Firm Orders	
		Qty to Produce	Qty Remaining	UOM	Order Type	Production Nbr	Inventory ID	Description	Schedule Status
>	<input checked="" type="checkbox"/> 1	10.00	10.00	EA	RO	<a href="#">AM000002</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	<span style="border: 1px solid red; padding: 2px;">Scheduled</span>
	<input type="checkbox"/>	15.00	15.00	EA	RO	<a href="#">AM000003</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled
	<input type="checkbox"/>	100.00	100.00	EA	RO	<a href="#">AM000004</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled
	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000005</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Scheduled
	<input type="checkbox"/>	3.00	3.00	EA	RO	<a href="#">AM000007</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Scheduled
	<input type="checkbox"/>	1.00	1.00	EA	RO	<a href="#">AM000008</a>	<a href="#">AMTOOLOSP</a>	Sterilized Scalpel	Unscheduled
	<input type="checkbox"/>	30.00	30.00	EA	RO	<a href="#">AM000010</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled
	<input type="checkbox"/>	1.00	1.00	EA	RO	<a href="#">AM000011</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled
	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000012</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	Scheduled

**Figure: Steps to firm production orders on the Rough Cut Planning form**

To undo the *Firm* action for a production order, the scheduling manager performs the same steps, but selects *Undo Firm* in the **Actions** box.

Firm production orders are hidden from the [Rough Cut Planning](#) form by default—that is, the new **Exclude Firm Orders** check box in the Selection area is selected—but the scheduling manager can display these orders by clearing the check box (see the following screenshot).



Rough Cut Planning

CUSTOMIZATION TOOLS ▾

Action:		Schedule		<input type="checkbox"/> Release Orders	<input checked="" type="checkbox"/> Exclude Planning Orders	<input type="checkbox"/> Exclude Firm Orders				
		Qty to Produce	Qty Remaining	UOM	Order Type	Production Nbr	Inventory ID	Description	Schedule Status	
>	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000002</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	Firm	
	<input type="checkbox"/>	15.00	15.00	EA	RO	<a href="#">AM000003</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Firm	
	<input type="checkbox"/>	100.00	100.00	EA	RO	<a href="#">AM000004</a>	<a href="#">MGBASE</a>	Base Unit	Firm	
	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000005</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Firm	
	<input type="checkbox"/>	3.00	3.00	EA	RO	<a href="#">AM000007</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Scheduled	
	<input type="checkbox"/>	1.00	1.00	EA	RO	<a href="#">AM000008</a>	<a href="#">AMTOOLOSP</a>	Sterilized Scalpel	Unscheduled	
	<input type="checkbox"/>	30.00	30.00	EA	RO	<a href="#">AM000010</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled	
	<input type="checkbox"/>	1.00	1.00	EA	RO	<a href="#">AM000011</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled	
	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000012</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	Scheduled	
	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000013</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled	
	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000016</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled	
	<input type="checkbox"/>	10.00	10.00	EA	RO	<a href="#">AM000017</a>	<a href="#">MGWIDGET</a>	Assembled widget	Scheduled	
	<input type="checkbox"/>	100.00	100.00	PALLET	RO	<a href="#">AM000018</a>	<a href="#">AMPIPECVR</a>	Custom Pipe Cover	Unscheduled	
	<input type="checkbox"/>	2.00	2.00	EA	RO	<a href="#">AM000021</a>	<a href="#">AMDOORS...</a>	Single Hung Configured Door	Scheduled	
	<input type="checkbox"/>	5.00	5.00	EA	RO	<a href="#">AM000022</a>	<a href="#">AMCTOBAT</a>	Custom Wooden Bat	Scheduled	

Figure: The new Exclude Firm Orders check box

The scheduling manager can also firm production orders by doing the following on the new [Production Schedule Board](#) (AM215555) form (see the screenshot below):

1. On the **Production Orders** tab, selecting the **Selected** check box of each row that contains a production order to be firmed.
2. On the form toolbar, clicking **Firm**.
3. On the form title bar, clicking the form name to refresh the page.

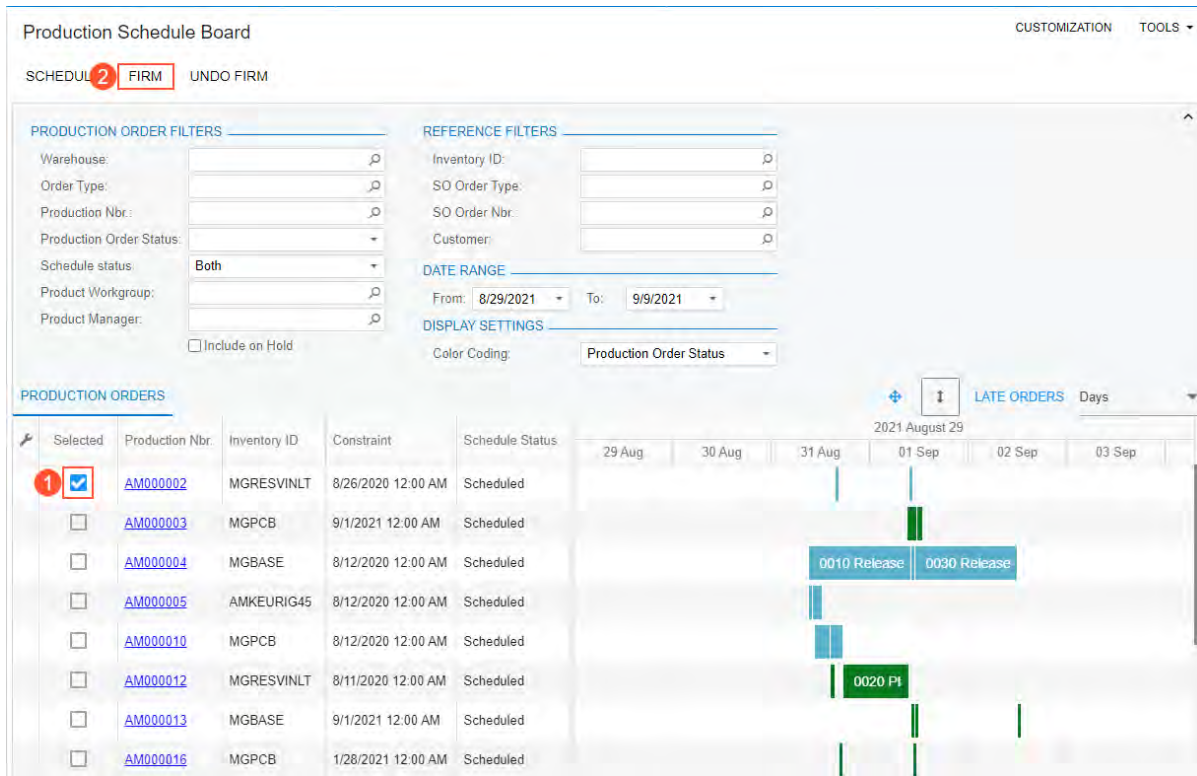


Figure: Steps to firm a production order on the Production Schedule Board form

For the description of the *Production Schedule Board* form, see *Manufacturing: Visual Production Schedule*.

### Schedule Status of Production Orders

Now a production manager can view the schedule status of production orders in any of the following places:

- In the new **Schedule Status** column on the *Rough Cut Planning* (AM501000) form (as shown in the following screenshot). The option in this column reflects whether the production order has been scheduled.

Rough Cut Planning

CUSTOMIZATION TOOLS ▾

Action:		Schedule		<input type="checkbox"/> Release Orders		<input checked="" type="checkbox"/> Exclude Planning Orders		<input type="checkbox"/> Exclude Firm Orders		
			Qty to Produce	Qty Remaining	UOM	Order Type	Production Nbr	Inventory ID	Description	Schedule Status
>	<input type="button" value="U"/>	<input type="button" value="D"/>	10.00	10.00	EA	RO	<a href="#">AM000002</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	Firm
	<input type="button" value="U"/>	<input type="button" value="D"/>	15.00	15.00	EA	RO	<a href="#">AM000003</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Firm
	<input type="button" value="U"/>	<input type="button" value="D"/>	100.00	100.00	EA	RO	<a href="#">AM000004</a>	<a href="#">MGBASE</a>	Base Unit	Firm
	<input type="button" value="U"/>	<input type="button" value="D"/>	10.00	10.00	EA	RO	<a href="#">AM000005</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Firm
	<input type="button" value="U"/>	<input type="button" value="D"/>	3.00	3.00	EA	RO	<a href="#">AM000007</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	1.00	1.00	EA	RO	<a href="#">AM000008</a>	<a href="#">AMTOOLOSP</a>	Sterilized Scalpel	Unscheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	30.00	30.00	EA	RO	<a href="#">AM000010</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	1.00	1.00	EA	RO	<a href="#">AM000011</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	10.00	10.00	EA	RO	<a href="#">AM000012</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	10.00	10.00	EA	RO	<a href="#">AM000013</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	10.00	10.00	EA	RO	<a href="#">AM000016</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	10.00	10.00	EA	RO	<a href="#">AM000017</a>	<a href="#">MGWIDGET</a>	Assembled widget	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	100.00	100.00	PALLET	RO	<a href="#">AM000018</a>	<a href="#">AMPIPECVR</a>	Custom Pipe Cover	Unscheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	2.00	2.00	EA	RO	<a href="#">AM000021</a>	<a href="#">AMDOORS...</a>	Single Hung Configured Door	Scheduled
	<input type="button" value="U"/>	<input type="button" value="D"/>	5.00	5.00	EA	RO	<a href="#">AM000022</a>	<a href="#">AMCTOBAT</a>	Custom Wooden Bat	Scheduled

Figure: The Schedule Status column on the Rough Cut Planning form

- In the new **Schedule Status** box on the *Production Order Maintenance* (AM201500) form (see the following screenshot). The option in this box reflects whether the production order has been scheduled.

Production Order Maintenance

RO AM000035 - Assemble Printed Circuit Board

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* Order Type:	<input type="text" value="RO"/>	Order Date:	7/1/2021
* Production Nbr:	AM000035 - Assemble Printed Circuit	Status:	In Process <input type="checkbox"/> Hold
Inventory ID:	MGPCB - Printed Circuit Board	Product Workgroup:	
Warehouse:	WHOLESALE - Wholesale Warehouse	Product Manager:	
Location:	R1S1 - Row 1 Shelf 1		
Description:	Assemble Printed Circuit Board		

GENERAL REFERENCES EVENT HISTORY ATTRIBUTES TOTALS LINE DETAILS

Qty to Produce:	2.00	Schedule Status:	Scheduled
UOM:	EA	Scheduling Method:	Start On
Qty Complete:	0.00	Constraint:	7/1/2021
Qty Scrapped:	0.00	Start Date:	7/2/2021
Qty Remaining:	2.00	End Date:	7/2/2021

Use Fixed Mfg Lead Times for Order Dates  
 Use Order Start Date for MRP  
 Exclude from MRP

Dispatch Priority: 5  
 Costing Method: Actual  
 Scrap Override

Scrap Warehouse: RETAIL - Retail Warehouse  
 Scrap Location: RETURNS - Returns area  
 Allow Preassigning Lot/Serial Numbers  
 Require Parent Lot/Seri...: On Issue

Figure: The Schedule Status box on the Production Order Maintenance form

The possible schedule statuses are the following:

- *Scheduled*: The production order has been scheduled.
- *Unscheduled*: The production order has not been scheduled yet.
- *Firm*: The production order has been firmed; that is, the system skips this production order during rescheduling.

### Other UI Changes

The *Rough Cut Planning* (AM501000) form has been redesigned to support the scheduling enhancements as follows:

- In the Summary area, the **Action** box has been added, where a scheduling manager can select any of the following actions (shown in the screenshot below):
  - *Schedule*: Schedules the production orders
  - *Schedule and Firm*: Schedules the production orders and firms the orders after scheduling
  - *Firm*: Firms the production orders that have already been scheduled
  - *Undo Firm*: Undoes the *Firm* action for the production orders that have previously been firmed
- On the form toolbar, the **Schedule** and **Schedule All** commands have been replaced with the **Process** and **Process All** commands (see the following screenshot). When a user clicks either of the commands, the

system performs the action specified in the **Action** box for the selected production orders or all production orders.

Rough Cut Planning CUSTOMIZATION TOOLS ▾

Action:		<input type="checkbox"/> Release Orders		<input checked="" type="checkbox"/> Exclude Planning Orders		<input checked="" type="checkbox"/> Exclude Firm Orders					
<input type="checkbox"/>	<input type="checkbox"/>	Qty	UOM	Order	Production	Inventory ID	Description	Schedule			
		Remaining		Type	Nbr			Status			
>	<input type="checkbox"/>	10.00	EA	RO	<a href="#">AM000002</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	Scheduled			
	<input type="checkbox"/>	15.00	EA	RO	<a href="#">AM000003</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled			
	<input type="checkbox"/>	100.00	EA	RO	<a href="#">AM000004</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled			
	<input type="checkbox"/>	10.00	EA	RO	<a href="#">AM000005</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Scheduled			
	<input type="checkbox"/>	3.00	EA	RO	<a href="#">AM000007</a>	<a href="#">AMKEURIG...</a>	Keurig Model 450	Scheduled			
	<input type="checkbox"/>	1.00	EA	RO	<a href="#">AM000008</a>	<a href="#">AMTOOLOSP</a>	Sterilized Scalpel	Unscheduled			
	<input type="checkbox"/>	30.00	EA	RO	<a href="#">AM000010</a>	<a href="#">MGPCB</a>	Printed Circuit Board	Scheduled			
	<input type="checkbox"/>	1.00	EA	RO	<a href="#">AM000011</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled			
	<input type="checkbox"/>	10.00	EA	RO	<a href="#">AM000012</a>	<a href="#">MGRESVIN...</a>	Reservoir Inlet	Scheduled			
	<input type="checkbox"/>	10.00	EA	RO	<a href="#">AM000013</a>	<a href="#">MGBASE</a>	Base Unit	Scheduled			

Figure: The Rough Cut Planning form

- On the More menu, the **Production Schedule Board** command has been added, which opens the [Production Schedule Board](#) (AM215555) form.

### Additional Information


For details about advanced scheduling, see [Advanced Planning and Scheduling: General Information](#).

# Manufacturing: UI Enhancements

In Acumatica ERP Manufacturing Edition 2021 R2, multiple UI enhancements have been introduced on manufacturing-related forms.

## Form Toolbar Enhancements

On multiple forms related to manufacturing functionality, form-specific commands on the form toolbar have been moved to the More menu, which a user can view by clicking the More ... button on the form toolbar. Commands on the More menu are now grouped by categories. These commands work as they did in the previous versions; only the placement of the commands has changed. For more information, see [User Interface: Redesigned Form Toolbar](#).



During an update to Acumatica ERP 2021 R2, all custom and customized forms will be updated to display the redesigned toolbar. To cause the toolbar to be displayed correctly on custom and customized forms or to display the old version of the toolbar, before the update, a developer needs to modify these forms, as described in Upgrade Procedure: Redesigned Form Toolbar on Custom and Customized Forms in the [Release Notes for Developers](#).

The following screenshot illustrates the [Engineering Change Order](#) (AM215000) form with its commands on the More menu organized in categories.

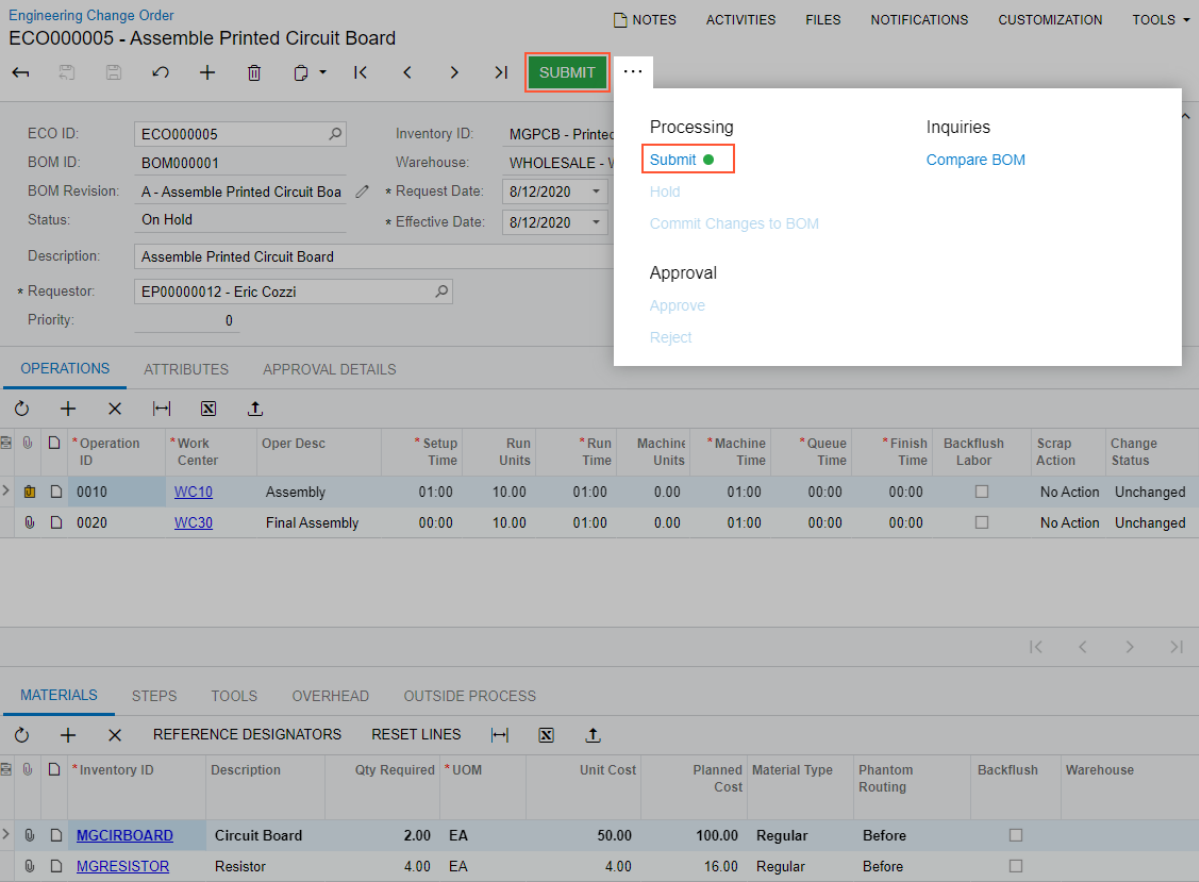


Figure: Commands grouped by categories on the More menu

## Command Name Changes

The following table lists the forms where menu commands on the More menu have been renamed to unify the command names throughout the system.

*Table: Commands on the More menu that have been renamed in 2021 R2*

Form	Command name in 2021 R1	Command name in 2021 R2
<a href="#">Production Order Maintenance</a> (AM201500)	<b>Auto Create Linked Orders</b>	<b>Generate Orders for Subassemblies</b>
	<b>Calculate Plan Cost</b>	<b>Update Planned Costs</b>
	<b>Create Move</b>	<b>Create Move Transaction</b>
	<b>Release Material</b>	<b>Release Materials</b>
<a href="#">Bill of Material</a> (AM208000)	<b>Attributes</b>	<b>BOM Attributes</b>
	<b>BOM Cost Summary</b>	<b>Calculate BOM Cost</b>
	<b>Make Default BOM</b>	<b>Set as Default BOM</b>
	<b>Make Planning BOM</b>	<b>Set as Planning BOM</b>
<a href="#">Configuration Maintenance</a> (AM207500)	<b>Set as default for Item</b>	<b>Set as Default Configuration</b>
<a href="#">Estimates</a> (AM303000)	<b>Add to Order</b>	<b>Add to Sales Order</b>
	<b>Copy From</b>	<b>Create by Copying</b>
	<b>Create Inventory</b>	<b>Create Inventory Items</b>
	<b>Mark as Primary</b>	<b>Set as Primary Estimate</b>
	<b>New Revision</b>	<b>Create New Revision</b>

## Tab Name Changes

The following table lists the forms where tabs have been renamed to unify the command names throughout the system.

*Table: Tabs that have been renamed in 2021 R2*

Form	Tab name in 2021 R1	Tab name in 2021 R2
<a href="#">Work Centers</a> (AM207000)	<b>Shift Info</b>	<b>Shifts</b>
	<b>Substitute Work Centers</b>	<b>Substitutes</b>
<a href="#">Engineering Change Request</a> (AM210000)	<b>Approval Details</b>	<b>Approvals</b>

Form	Tab name in 2021 R1	Tab name in 2021 R2
<a href="#">Engineering Change Order</a> (AM215000)	<b>Approval Details</b>	<b>Approvals</b>
<a href="#">BOM Preferences</a> (AM101000)	<b>General Settings</b>	<b>General</b>
<a href="#">Machines</a> (AM204500)	<b>Info</b>	<b>General</b>
<a href="#">Production Order Maintenance</a> (AM201500)	<b>Event History</b>	<b>Events</b>
<a href="#">Production Preferences</a> (AM102000)	<b>General Settings</b>	<b>General</b>
<a href="#">Production Order Types</a> (AM201100)	<b>General Settings</b>	<b>General</b>
<a href="#">Vendor Shipments</a> (AM310000)	<b>Document Details</b>	<b>Details</b>
	<b>Shipping Settings</b>	<b>Shipping</b>

### Form Name Changes

The Where Used (AM402000) form has been renamed to *Where Used in BOM*, as shown in the following screenshot, to make the form name clearer.

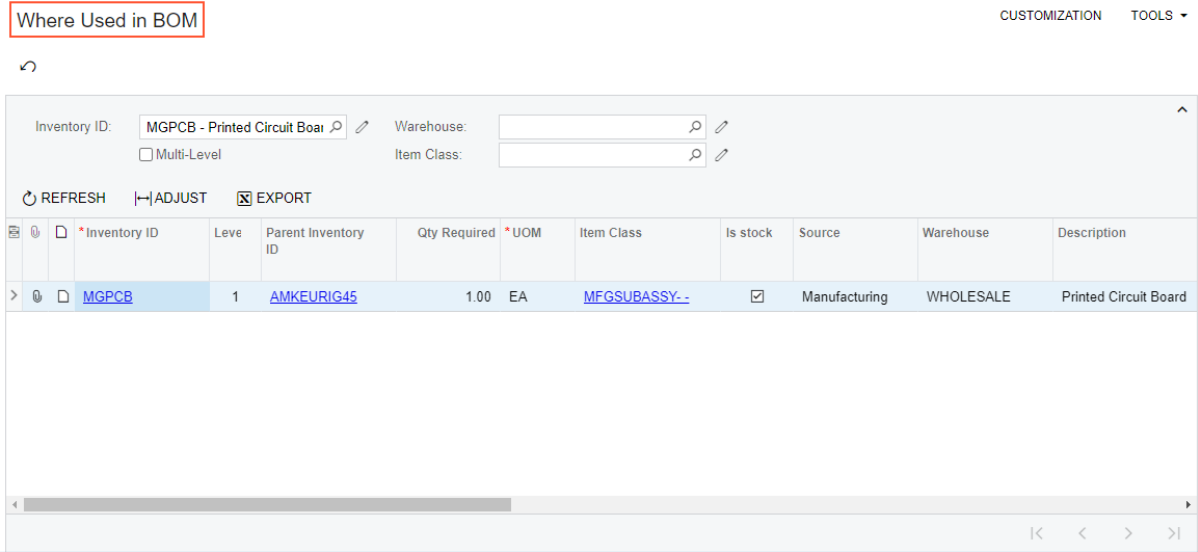
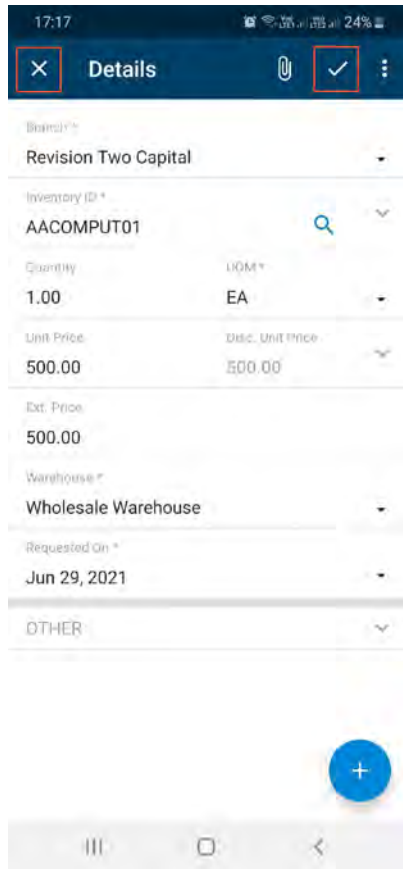


Figure: The Where Used in BOM form



## Mobile: Ability to Save Data On a Secondary Screen

In the Acumatica mobile app connected to an instance of Acumatica ERP 2021 R2, a user can now save or discard data on a secondary screen—for example, on a screen with the details of a sales order line. A user can save or discard data by using the Save and Cancel buttons, which appear on the screen toolbar, as shown in the following screenshot.

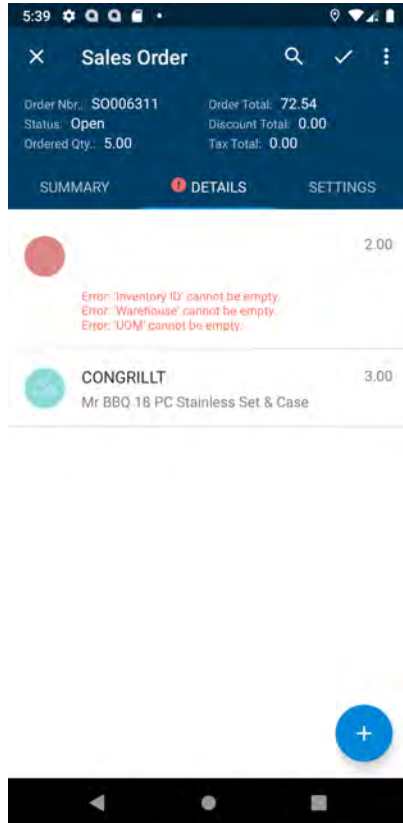


*Figure: Screen with the details of a sales order*

# Mobile: Improvements in Error Reporting

In the Acumatica mobile app connected to an instance of Acumatica ERP 2021 R2, error reporting has been improved. When an error happens on a field as a result of an action, the Acumatica mobile app highlights the tab that contains the field with the error, as shown in the following screenshot.

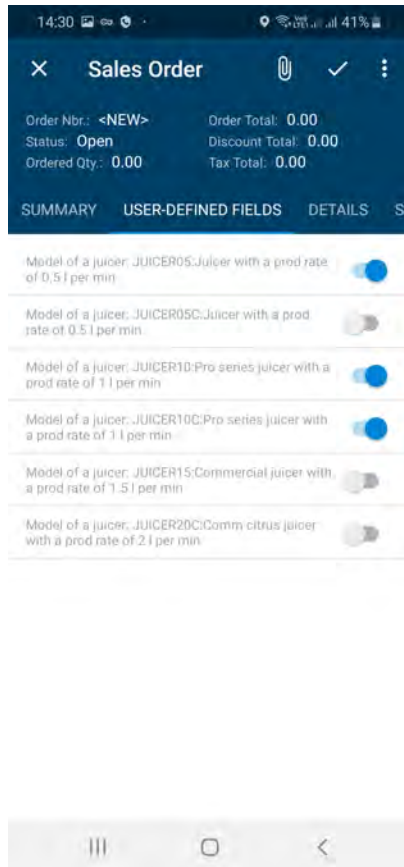
*Figure: Highlighting of a tab with an error*



Also, if an error happens in a specific detail line as a result of an action, that line is also highlighted in the app.

# Mobile: Full Support of Multi-Select Lists

In previous versions of Acumatica ERP, the Acumatica mobile app supported multi-select lists only for document attributes. The mobile app connected to an instance of Acumatica ERP 2021 R2 now supports multi-select lists on all screens of the app, including filters and mapped forms. An example of a multi-select list displayed on the Acumatica mobile app screen is shown in the following screenshot.



**Figure: Multi-select list on the Sales Order screen**

# Order Management: Customer Refunds in Sales Orders and SO Invoices

In Acumatica ERP 2021 R2, the ability to create customer refunds directly on the [Sales Orders](#) (SO301000) and [Invoices](#) (SO303000) forms has been implemented. Also, a user can now add or link existing customer refunds to sales orders with the *RMA Order* and *Credit Memo* automation behavior and to credit memos.

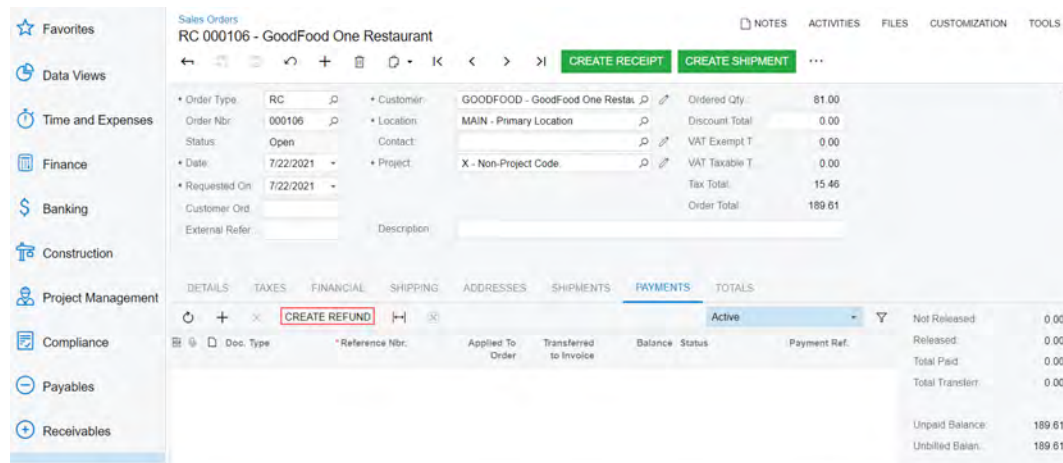
## Customer Refunds on the Sales Orders Form

On the [Sales Orders](#) (SO301000) form, a user can now create a customer refund for an order that has an order type whose settings on **Template** tab of the [Order Types](#) (SO201000) form meet the following criteria:

- The **Automation Behavior** is *RMA Order* or *Credit Memo*.
- In the **AR Document Type** box, the *No Update* option is not selected.
- In the **Operations** table of the tab, one active operation is listed with *Receipt* selected in the **Operations** column.

In Acumatica ERP, the predefined *RC* and *CM* types of orders can be used to create customer refunds.

The **Create Refund** button has been added to the form toolbar of the **Payments** tab of the [Sales Orders](#) form (see the following screenshot).



**Figure: The Create Refund button**

The **Create Refund** button appears in sales orders with the *RMA Order* and *Credit Memo* automation behavior. The button is available if the order has the *Open* status and the **Allow Refund Before Return** check box is selected on the **General** tab of the [Order Types](#) form (shown on the following screenshot) for the order type of the sales order.

If the **Allow Refund Before Return** check box is cleared for the order type of the order, the **Create Refund** button is unavailable.

Order Types  
RC - Return for Credit

Order Type: RC  Active  
Description: Return for Credit  
Order Template: RC - Return for Credit

GENERAL    TEMPLATE

**ORDER SETTINGS**

Order Numbering Sequence: ARINVOICE  
Days To Keep: 30

Hold Orders on Entry  
 Hold Document on Failed Credit Check  
 Require Control Total  
 Bill Separately  
 Ship Separately  
 Calculate Freight  
 Ship in Full if Negative Quantity Is Allowed  
 Supports Approval  
 Allow Refund Before Return  
 Copy Notes  
 Copy Attachments  
 Copy Line Notes To Shipment  
 Copy Line Attachments To Shipment  
 Copy Line Notes To Invoice  
     Only Non-Stock  
 Copy Line Attachments To Invoice  
     Only Non-Stock  
 Require Customer Order Nbr.

**POSTING SETTINGS**

Use Sales Account from: Inventory Item  
Freight Account: 51300 - COGS - Freight  
Use Freight Account from: Ship Via  
Discount Account:  
Use Discount Account from: Customer Location  
 Auto Write-Off

**INTERCOMPANY POSTING SETTINGS**

Use Sales Account from: Inventory Item  
Use COGS Account from: Inventory Item

**MANUFACTURING SETTINGS**

Allow Production Orders - Approved  
 Allow Production Orders - Hold  
 Allow Estimating  
 Allow Configuration Entry  
 Enable Warehouse On Line With Linked Production  
 MTO Order

Figure: The Allow Refund Before Return check box

If the order has the *On Hold* status, the **Create Refund** button is unavailable, but the user can add an existing customer refund to the sales order by clicking the **Add Row** button on the **Payments** tab of the *Sales Orders* form.

When the user clicks the **Create Refund** button on the form toolbar, the **Create Refund** dialog box opens (see the following screenshot). By default, the system automatically inserts the values from the **Payment Information** section on the **Financial** tab of the *Sales Orders* form to the corresponding boxes in the **Create Refund** dialog box.

Create Refund

\* Refund Amount: 110.00 USD  
Description: customer refund for returned goods  
\* Payment Meth...: CHECK - Check  
\* Cash Account: 10200 - Company Checking Account  
\* Payment Ref.: PMT03228

OK    CANCEL

Figure: The Create Refund dialog box with a check or cash payment method

When a cash or check payment method is selected in the **Payment Method** box of the **Create Refund** dialog box, the dialog box has the following boxes (as shown in the screenshot above, because it has a check payment method):

- **Refund Amount:** The amount of the customer refund, which equals the total amount of the return order by default.
- **Description:** The description of the customer refund. This box is always blank by default.
- **Payment Method:** The payment method used to create the payment to be refunded.
- **Cash Account:** The cash account used to create the payment to be refunded.
- **Payment Ref.:** The reference number of the customer refund. The value of this box is inserted automatically if the **AR -Suggest Next Number** check box is selected on the **Allowed Cash Accounts** tab of the [Payment Methods](#) (CA204000) form for the payment method specified in the dialog box.

If a credit card payment method is selected in the **Payment Method** box, the **Payment Ref.** box is not shown, and the following boxes are shown in the dialog box in addition to those listed above (see the following screenshot):

- **Orig. Transaction:** The reference number of the payment's original credit card transaction. If the payment has more than one transaction, the box is blank by default.
- **Card/Account No:** The card or account number used to create the payment to be refunded.
- **Proc. Center ID:** The identifier of the plug-in used for integration with the processing center.

The screenshot shows a 'Create Refund' dialog box with the following fields and values:

- \* Refund Amount: 110.00 USD
- Description: refund for returned goods
- \* Payment Meth...: VISATOK - Visa Tokenized
- \* Orig. Transacti...: 60171610616
- Card/Account ...: VISATOK.\*\*\*\*\_\*\*\*\*\_\*\*\*\*-1111
- \* Cash Account: 10600 - Credit Card Account
- Proc. Center ID: AUTHNETAPI - Authorize.Net Tokenized

Buttons: REFUND, CANCEL

*Figure: The Create Refund dialog box*

When the user selects a credit card payment method in the **Payment Method** box, the system checks whether the **Allow Unlinked Refunds** check box is selected in the Summary area of the [Processing Centers](#) (CA205000) form (shown on the following screenshot) for the default processing center of the selected payment method. If the **Allow Unlinked Refunds** check box is selected, the **Orig. Transaction** setting is not required, and the **Refund** button is always available. If the **Allow Unlinked Refunds** check box is cleared, the **Orig. Transaction** setting is required, and the **Refund** button is unavailable until the original transaction is specified.

Processing Centers  
AUTHNETAPI - Authorize.Net Tokenized (API)

TEST CREDENTIALS

\* Proc. Center ID: AUTHNETAPI  Allow Saving Payment Profiles

\* Name: Authorize.Net Tokenized (API)  Synchronize Deletion

\* Cash Account: 10800 - Credit Card Account  Accept Payments from New Cards

Currency: USD  Allow Unlinked Refunds

Active

\* Payment Plug-In (Type): Authorize.Net API plug-in

PLUG-IN PARAMETERS    PAYMENT METHODS    PREFERENCES    FEES

ID	Description	Value
MERCNAME	Your Merchant Name / Login	*****
SIGNKEY	Your Signature Key	*****
TESTMODE	Sets testing mode on/off	1
TRANKEY	Your Transaction Key / Password	*****
USEWEBHOOK	Use Webhooks	<input checked="" type="checkbox"/>

**Figure:** The Allow Unlinked Refunds check box

When the user clicks the **Refund** button in the **Create Refund** dialog box, the system creates a customer refund with the original transaction specified in this dialog box. If the transaction is not specified, the system generates a new refund transaction for the customer refund being created.

The status of a new customer refund with a cash or check payment method depends on the **Hold Documents on Entry** check box state on the [Accounts Receivable Preferences](#) (AR101000) form. A new customer refund with a credit card payment method is automatically released when the system successfully processes the refund transaction. If approval is configured for customer refunds on the [Accounts Receivable Preferences](#) form, all customer refunds are created with the *On Hold* status.

The customer refund is applied to the sales order for which it was created. On the **Payments** tab of the [Sales Orders](#) form for the sales order, the link to the customer refund can be found in the **Reference Nbr.** column of the table.

A sales order with a customer refund applied cannot be canceled or deleted.

If a user adds a customer refund to a sales order with the *RMA Order* or *Credit Memo* automation behavior by adding a row on the **Payments** tab and saves the sales order, the system checks whether the linked customer refund has an original payment transaction and whether this original transaction is related to the invoices listed on the **Details** tab of the form. If the original transaction of the linked customer refund is not related to any of these invoices, the system displays an error message, and changes are not saved. The system also checks whether the original transaction in a customer refund is related to invoices that have a reference in the sales order with the *RMA Order* or *Credit Memo* automation behavior when this sales order is linked to a customer refund on the **Order to Apply** tab of the [Payments and Applications](#) (AR302000) form.

When a credit memo is created for a sales order with the *RMA Order* or *Credit Memo* automation behavior, the application to the customer refund is automatically transferred from the sales order to the credit memo. When the user releases the credit memo, the application to the customer refund is also released, if the customer refund has the *Open* status.

## Customer Refunds on the Invoices Form

On the [Invoices](#) (SO303000) form, a user can now create a customer refund directly for an invoice of the *Credit Memo* type and any status by clicking the **Create Refund** button on the table toolbar of the **Applications** tab (shown in the following screenshot). The creation of customer refunds on this form works in the same way as the creation of customer refunds by using the **Create Refund** button on the **Payments** tab of the [Sales Orders](#) (SO30100) form.

The screenshot shows the 'Credit Memo 000109 - GoodFood One Restaurant' form. The 'APPLICATIONS' tab is selected, displaying a table with columns: Doc. Type, Reference Nbr., Customer, Amount Paid, Date, Balance, Description, Currency, Post Period, Customer Order Nbr., Status, Not Released, Released, and Total Paid. A 'CREATE REFUND' button is highlighted in red above the table. The form also shows details for the credit memo, including Reference Nbr. 000109, Status: Balanced, Date: 7/26/2021, and a balance of 149.91.

**Figure: The Create Refund button**

When the user adds a customer refund by clicking the **Add Row** button on the **Applications** tab of the *Invoices* form and saves the credit memo, the system checks whether the linked customer refund has an original transaction specified and whether this original transaction is related to invoices listed for the credit memo on the **Details** tab of the form.

On the far right of the **Applications** tab, the following boxes have been added:

- **Not Released:** The sum of the amounts of the documents (invoices, customers refunds, debit memos, and overdue charges) that have been applied to the credit memo and are not released yet.
- **Released:** The sum of the amounts of the documents (invoices, customers refunds, debit memos, and overdue charges) that have been applied to the credit memo and released.
- **Total Paid:** The sum of the amounts in the **Not Released** and **Released** boxes.

## Limitations

Documents with the *Voided* status are removed from the **Applications** tab automatically when the applied document is assigned this status.

The status of the credit memo is not affected by the status of the applied customer refund—that is, if a customer refund with the *Pending Processing* status is applied to a credit memo, the status of the credit memo does not change.

The user cannot remove the application of an unreleased credit memo to an unreleased customer refund on the *Payments and Applications* (AR302000) form.

An unreleased credit memo cannot be selected to be applied to customer refunds, payments, and prepayments on the **Documents to Apply** tab of the *Payments and Applications* form.

## Other Changes on the Sales Orders and Invoices Forms

Now the system inserts the information about the customer's payment method in the **Payment Information** section on the **Financial** tab of the *Sales Orders* (SO301000) and *Invoices* (SO303000) forms for sales orders with the *RMA Order* or *Credit Memo* automation behavior and credit memos. The information is copied from the payment method that is specified as the customer's default payment method on the **Payment Methods** tab of the *Customers* (AR303000) form.

## Changes on the Order Types Form

On the *Order Types* (SO201000) form, the **Validate Card Refunds Against Original Transactions** check box has been added to the **Payment Settings** section (see the following screenshot).



Order Types  
CM - Credit Memo

NOTES ACTIVITIES FILES CUSTOM

Order Type:   Active

Description: Credit Memo

Order Template: CM - Credit Memo

GENERAL TEMPLATE

**ORDER SETTINGS**

Order Numbering Sequence: ARINVOICE

Days To Keep: 30

Hold Orders on Entry

Hold Document on Failed Credit Check

Require Control Total

Bill Separately

Ship Separately

Calculate Freight

Ship in Full if Negative Quantity Is Allowed

Supports Approval

Allow Refund Before Return

Copy Notes

Copy Attachments

**POSTING SETTINGS**

Use Sales Account from: Inventory Item

Freight Account: 51300 - COGS - Freight

Use Freight Account from: Ship Via

Discount Account:

Use Discount Account from: Customer Location

Auto Write-Off

**INTERCOMPANY POSTING SETTINGS**

Use Sales Account from: Inventory Item

Use COGS Account from: Inventory Item

**PAYMENT SETTINGS**

Validate Card Refunds Against Original Transaction

**Figure: The Validate Card Refunds Against Original Transactions check box**

If this check box is selected, only the transaction of the credit card payment applied to the invoice with the returned items can be specified as the original transaction in a customer refund with the credit card payment method.

If the check box is cleared, a transaction from any card payment made by the customer can be specified as the original transaction in a customer refund with the credit card payment method.

# Order Management: Drop Shipments for Projects

In Acumatica ERP 2021 R2, to give the users the ability to create purchase orders for goods and materials that should be delivered directly to the project site, the *Project Drop-Ship* type has been added to the *Purchase Orders* (PO301000) form. The functionality is available when the *Inventory and Order Management* and *Projects* features are enabled on the *Enable/Disable Features* (CS100000) form.



The *Project Drop-Ship* type of purchase orders cannot be used for processing drop-ship purchase orders for retail processes. To process drop shipments directly to customers, the *Drop-Ship* type of purchase orders must be used.

## Changes on the Purchase Orders Form

The new *Project Drop-Ship* type of orders has been added to the **Type** box of the Summary area (shown on the following screenshot) of the *Purchase Orders* (PO301000) form. When this type is selected, the mandatory **Project** box appears in the Summary area. When a user specifies a project, on the **Shipping** tab, in the **Shipping Destination Type** box, the system selects the new *Project Site* option and copies the shipping contact and address to the **Ship-To Contact** and **Ship-To Address** sections from the **Bill-To** and **Project Address** sections on the **Summary** tab of the *Projects* (PM301000) form, respectively. The contact and address can be overridden by the user.

The screenshot displays the 'Purchase Orders' form for 'Big Green Trucks Ltd.'. The 'Type' dropdown menu is open, showing 'Project Drop-Ship' as the selected option. Below the dropdown, the 'Project' field is highlighted with a red box and contains the text 'HMLBAKERY8 - Installation of juicers'. The form also shows vendor information (GREENTRUCK - Big Green Trucks Ltd.), location (MAIN - Primary Location), owner (EPO0000026 - Kimberly Gibbs), and currency (USD 1.00). A table of items is visible at the bottom, with one item 'Feeder Basket' listed.

**Figure: The Project Drop-Ship type of purchase orders**

Also, the following new types of lines have been introduced on the **Details** tab:

- *Goods for Project* for stock items.
- *Non-Stock for Project* for non-stock items, for which the **Require Receipt** is selected on the **General** tab of on the *Non-Stock Items* (IN202000) form. If this check box is cleared, the line has the *Service* type (same as for other purchase order types).

In purchase orders of the *Project Drop-Ship* type, the system fills in the **Account** and **Sub.** boxes based on the settings specified for a project in the **Use Expense Account From** and **Combine Expense Sub. From** boxes on the **Defaults** tab of the *Projects* (PM301000) form.



If the user adds a line without an inventory ID, such as service or freight, the accounts defined by the standard functionality will be used for this line if the *Posting Class or Item* option is selected for the project in the **Purchases** section on the **Defaults** tab of the *Projects* form, or the account specified in the project or project task if the *Project* or *Task* option is selected. The subaccount for such lines is always defined by the standard functionality and does not depend on the project settings.

The purchase order is processed according to the settings specified for the project in the **Drop-Ship Receipt Processing** and **Record Drop-Ship Expenses** boxes. If the related receipts are generated, the expense can be recorded either on the bill release or receipt release.



- The warehouse is not required in the purchase order and the **Warehouse** column on the **Details** tab of the *Purchase Orders* form is hidden. In the purchase receipt, the user still has to specify a warehouse but the inventory stock of the warehouse will not be affected.
- The project drop-ship orders are always processed without sales orders. It is not possible to create a project drop-ship order from a sales order.
- PPV is always recorded in the bill transaction regardless of the **Allocation Mode** setting on the *Purchase Orders Preferences* (PO301000) form.

If the project drop-ship return is created, the system will process this order based on the settings which were specified for the purchase order. The *Cost by Issue Strategy* option in the **Cost of Inventory Return From** box in the Summary area of the *Purchase Receipts* (SO302000) form is available for the project drop-ship returns.

## Changes on Other Forms

The **Purchases** section has been added to the **General** tab of the *Projects Preferences* (PM101000) form and the **Defaults** tab of the *Project Templates* (PM208000), and *Projects* (PM301000) forms (shown on the following screenshot).



The settings of the **Purchases** section apply only to purchase orders of the *Project Drop-Ship* type.

Projects Preferences

GENERAL MAILING & PRINTING

NUMBERING SEQUENCE

- Transaction Numbering Sequence: PMTRAN - PM Transaction Numbering
- Batch Numbering Sequence: BATCH - GL Batch
- Pro Forma Numbering Sequence: PROFORMA - PM Pro Forma Invoice Numbering
- Change Order Numbering Sequence: CHANGEORD - PM Change Order Numbering
- Quote Numbering Sequence: PMQUOTE - Quotes in Project

GENERAL SETTINGS

- Non-Project Code: X
- Empty Item Code: <N/A>
- Empty Item UOM: EA
- Default Change Order Class: DEFAULT - Default Change Order Class
- Default Quote Template: Include Trans. created on billing date
- Billing Cut-off Date: Validate
- Validate T&M Revenue Budget Limits: Detailed
- Revenue Budget Update: Detailed
- Cost Budget Update: Do Not Control
- Budget Control: Do Not Control
- Automatically Post on Release:
- Automatically Release Allocations:
- Initial Cost Commitment Tracking:

VISIBILITY SETTINGS

- GL:  AP:  AR:  SO:  PO:
- IN:  CA:  CRM:  PROD:
- Time Entries:  Expenses:
- Restrict Project Selection: Customer Projects

ACCOUNT SETTINGS

- Expense Account Source: Labor Item
- Expense Sub. Source: |||||
- Expense Accrual Account Source: Labor Item Accrual
- Expense Accrual Sub. Source: |||||

MARKUPS

GL SETTINGS FOR UNBILLED REMAINDERS

- Debit Account:
- Debit Subaccount: 0
- Credit Account:
- Credit Subaccount: 0

PURCHASES

- Use Expense Account From: Posting Class or Item
- Combine Expense Sub. From: |||||
- Drop-Ship Receipt Processing: Generate Receipt
- Record Drop-Ship Expenses: On Bill Release

Figure: The Purchases section on the Projects Preferences form

The **Purchases** section contains the following boxes:

- **Use Expense Account From:** The source of the expense account to be used in the project drop-ship order. The following options are available:
  - *Posting Class or Item* (the default option): The system inserts the expense account according to the standard functionality. For non-stock items that do not require a receipt, the expense account is inserted from the **Expense Account** box on the **GL Accounts** tab of the *Non-Stock Items* (IN202000) form. For non-stock items that require a receipt and for stock items, the account is inserted according to the

option selected in the **Use COGS/Expense Account from** box on the **General** tab of the [Posting Classes](#) (IN206000) form.

- **Project:** The system inserts the expense account from the **Default Cost Account** box on the **Defaults** tab of the [Projects](#) (PM301000) form for the project specified in the project drop-ship document.
- **Task:** The system inserts the expense account from the **Default Cost Account** box on the **Summary** tab of the [Project Tasks](#) (PM302000) form for the project specified in the project drop-ship document line.
- **Combine Expense Sub. From:** The subaccount mask for items used in the project drop-ships orders. The following options are available:
  - *I* (the default option): Inventory item
  - *P*: Posting class
  - *J*: Project
  - *T*: Task

After an upgrade to Acumatica ERP 2021 R2, by default, the system assigns *I* to all segments of the subaccount mask.



The value for *Project* in subaccount masks has been changed from *P* to *J* in the system. The following boxes and forms have been affected:

- **Sales Subaccount Mask** box on the [Billing Rules](#) (PM207000) form
- **Subaccount** boxes on the [Allocation Rules](#) (PM207500) form
- **Expense Sub. Source** and **Expense Accrual Sub. Source** boxes on the [Projects Preferences](#) (PM101000) form
- **Combine Expense Sub. From** box on the [Accounts Payable Preferences](#) (AP101000) form
- **Combine Sales Sub. From** and **Combine Expense Sub. From** boxes on the [Time and Expenses Preferences](#) (EP101000) form
- **Combine Expense Sub. From** on the **Defaults** tab of the [Project Templates](#) (PM208000) form
- **Combine Expense Sub. From** on the **Defaults** tab of the [Projects](#) (PM301000) form

- **Drop-Ship Receipt Processing:** The setting that defines whether a receipt will be generated for project drop shipment. This setting contains the following options: **Generate Receipt** (the default option) and **Skip Receipt Generation**.
- **Record Drop-Ship Expenses:** The setting that defines when the expense transaction should be recorded. This setting contains the following options: *On Bill Release* (the default option) and *On Receipt Release*.  
If the *On Bill Release* option is selected, the system does not generate an inventory receipt on release of the purchase receipt. The system generates the transaction that updates expense account for both stock and non-stock items, when the related AP bill is released.  
If the *On Receipt Release* option is selected, the system generates an inventory receipt and a transaction that updates the expense account when the purchase receipt is released. The system updates expense accounts for both stock and non-stock items in this case, and the system does not update any inventory accounts.  
This box is not available if the *Skip Receipt Generation* option is selected in the **Drop-Ship Receipt Processing** box.

The **Drop-Ship Receipt Processing** and **Record Drop-Ship Expenses** boxes are displayed only if the *Inventory* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

The **Purchases** section on [Project Templates](#) (PM208000) inherits settings from the [Projects Preferences](#) (PM101000) form. The section on [Projects](#) (PM301000) inherits settings from the [Project Templates](#) form. If a project has been created without a template, the values in the **Purchases** section on the [Projects](#) form are derived from the settings specified on the [Projects Preferences](#) form.

On the [Purchase Orders Preferences](#) (PO101000) form, the **For Project Drop-Ship Orders** check box has been added to the **Validate Total on Entry** section on the **General** tab (see the following screenshot). If this check box is

selected, to save an order with the *Project Drop-Ship* type with a status other than *On Hold*, the user has to enter the total amount in the **Control Amount** box on the *Purchase Orders* (PO301000) form.

The screenshot shows the 'Purchase Orders Preferences' form with the 'VALIDATE TOTAL ON ENTRY' section expanded. The 'For Drop-Ship Orders' checkbox is checked and highlighted with a red box. Other sections include 'PURCHASE ORDER NUMBERING SETTINGS', 'PURCHASE PRICE VARIANCE ALLOCATION', and 'THREE-WAY MATCH VALIDATION'.

**Figure:** For Project Drop-Ship Orders check box

Also, on the **Approval** tab of the *Purchase Orders Preferences* form, the user can specify an approval map for the project drop-ship orders.

## Limitations

The following limitations apply to the project drop-ship order functionality in Acumatica ERP 2021 R2 :

- Landed costs are not supported for the project drop-ship orders.
- Project drop-ship orders cannot be created from a change order.

## Additional Information

For more information about processing drop-ship purchase orders for projects, see [Purchases to the Project Site: General Information](#) and [Purchases to the Project Site with a Receipt: General Information](#).

# Order Management: Item Substitution, Up-Sell, and Cross-Sell

In Acumatica ERP 2021 R2, the new *Related Items* feature has been added to facilitate cross-sales, up-sales, and item substitutions for stock and non-stock items, which can increase sales while improving the customer experience. The feature has been added to the *Inventory and Order Management* group of features on the [Enable/Disable Features](#) (CS100000) form.

When the feature is enabled, on the [Stock Items](#) (IN202500) and [Non-Stock Items](#) (IN202000) forms, the **Related Items** tab appears so that related items can be listed; this tab was previously displayed only when the *Commerce Integration* feature was enabled. Also, with the *Related Items* feature enabled, the new related item functionality becomes available on the [Sales Orders](#) (SO301000) and [Invoices](#) (SO303000) forms so that users can quickly assess the items related to the initially specified items.

## Changes to the Related Items Tab

If the *Related Items* feature is enabled, on the [Stock Items](#) (IN202500) and [Non-Stock Items](#) (IN202000) forms, the **Related Items** tab is shown. On this tab, a user can list the items related to the original item (which in this context is the stock or non-stock item that is selected on the form) and the settings of the relation. The following changes have been made to the **Related Items** tab (shown in the following screenshot):

- The *Alternative* and *Related* relation types have been replaced with the *Other* type in the **Relation** column. (The possible relation types are *Cross-Sell*, *Up-Sell*, *Substitute*, and *Other*, as the screenshot shows.)
- The following columns have been added:
  - **Files:** An icon the user can click in the row of the related item to attach a file to the relation.
  - **Quantity:** The quantity of the related item required to replace one original item (for substitute and up-sell items) or the quantity of the item of the *Cross-Sell* or *Other* relation type to be added to one original item.
  - **Customer Approval Not Needed:** A check box that indicates that this related item can be selected without obtaining approval from a customer. If this check box is cleared, the salesperson has to confirm with the customer that the item can be replaced. This check box can be selected for only a related item with the *Substitute* type of relation.
  - **Required:** A check box that indicates that this related item is required for the original item when the original item is sold. The check box can be selected if the related item has the *Substitute*, *Cross-Sell*, or *Other* type of relation. If this check box is selected for an item with the *Substitute* relation type, on the [Sales Orders](#) (SO301000) or [Invoices](#) (SO303000) form, the **Substitution Required** check box is selected for the item in a sales order or invoice.

The screenshot shows the 'Related Items' tab in the Acumatica ERP interface. The main form displays 'CHERJAM08 - Cherry jam 8 oz.' with fields for Inventory ID, Item Status (Active), Product Workgroup, and Product Manager. Below the form is a table with the following columns: Relation, Rank, Tag, Inventory ID, Description, UOM, Quantity, Effective Date, Expiration Date, Customer Approval Not Needed, Required, and Active. The table contains three rows of related items:

Relation	Rank	Tag	Inventory ID	Description	UOM	Quantity	Effective Date	Expiration Date	Customer Approval Not Needed	Required	Active
Cross-Sell	1	Other Users Bought	APJAM08	Apple jam 8 oz.	PIECE	1.00	5/26/2021		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Up-Sell	1	Related	CHERJAM32	Cherry jam 32	PIECE	1.00	5/26/2021		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Substitute	1	Popular	BANJAM03	Banana jam 8	PIECE	1.00	5/26/2021		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

A dropdown menu is open for the 'Cross-Sell' relation type, showing options: Cross-Sell, Up-Sell, Substitute, and Other. The 'Quantity' column is highlighted in red in the original image.

Figure: The Related Items tab

## New Section on the Sales Orders Preferences Form

On the *Sales Orders Preferences* (SO101000) form, the **Related Item Settings** section has been added (see the following screenshot). The section contains the **Show Only Available Items** check box. If this check box is selected, on the **Details** tab of the *Sales Orders* (SO301000) and *Invoices* (SO303000) forms, the system performs validation of the available quantity of related items and suggests only related items that are available. By default, this check box is cleared.

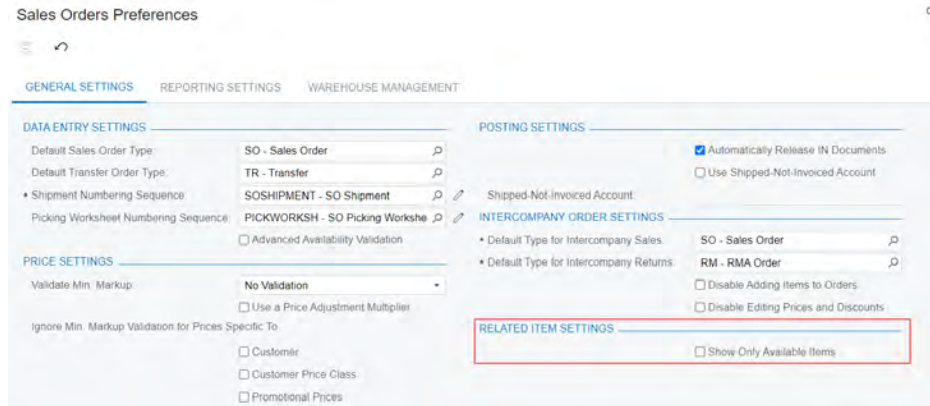


Figure: The Related Item Settings section

## New Functionality on the Sales Orders and Invoices Forms

When a user adds an item on the **Details** tab of the *Sales Orders* (SO301000) or *Invoices* (SO303000) form (which is the *original item* in this case) and this item has related items specified on the **Related Items** tab of the *Stock Items* (IN202500) or *Non-Stock Items* (IN202000) forms, the system displays a button in the **Related Items** column of the **Details** tab (see the following screenshot). The user can click these buttons to view information about the related items in the **Add Related Items** dialog box, and make any needed additions and replacements.

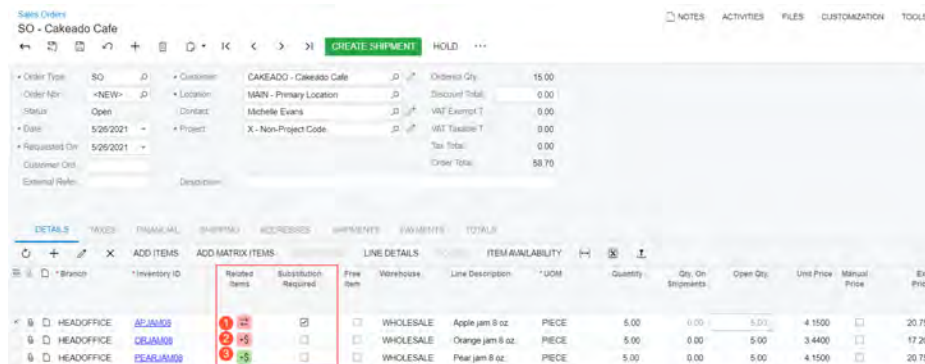


Figure: The Details tab of a sales order

The buttons that may appear in the **Related Items** column are described below:

1. An item with the *Substitute* relation type has been specified for the original item and specified as required. The original item has to be replaced.
2. At least one item with the *Cross-Sell* or *Other* relation type has been specified for the original item and specified as required (as the red shading indicates). The user needs to add the specified item to the sales order.

- At least one item with one of the relation types (*Cross-Sell*, *Up-Sell*, *Substitute*, or *Other*) has been specified for the original item in the item settings but is not defined as required. Thus, the user can assess the required item or items and determine whether to offer any to the customer.

If the related item with the *Substitution* relation has the **Required** check box selected on the **Related Items** tab of the *Stock Items* or *Non-Stock Items* form, when the original item is selected on the **Details** tab of the *Sales Orders* and *Invoices* forms, the system automatically selects the check box in the **Substitution Required** column. If this check box is selected for an item listed in a sales order, the user cannot create a shipment based on the sales order, and if it is selected for an item in an invoice, the user cannot release the invoice.



By default, the **Substitution Required** check box is available for editing but the availability of the check box can be restricted by user roles. For example, a user with the administrative rights can select the *View Only* option for the **Substitution Required** column for specific roles on the *Access Rights by Screen* (SM201020) form.

When the user clicks any of these buttons in the **Related Items** column on the **Details** tab of the *Sales Orders* or *Invoices* form, the system opens the **Add Related Items** dialog box (shown in the following screenshot). In the dialog box, the user can select a line with a substitute or up-sell item to replace or partially replace the original item, or select any number of lines with the *Cross-Sell* or *Other* relation type to add these to the original item in the sales order or invoice.

In the **Quantity** box of the Selection area of the dialog box, the user can specify the quantity of the original item to which the related items will be applied. For example, if a customer orders 10 laptops and the salesperson persuades the customer to buy 5 laptops of another model (which represents an up-sell), then in the **Add Related Items** dialog box, the salesperson specifies 5 in the **Quantity** box, selects the unlabeled check box in the line with the up-sell laptops, and clicks **Add & Close**. On the **Details** tab of *Sales Orders* or *Invoices* form, the system automatically reduces the value in the **Quantity** column for the line with the original laptops to 5, and inserts another line with 5 up-sell laptops.

Qty. Selected	Rank	Relation	Tag	Inventory ID	Description	UOM	Unit Price	Ext. Price	Ext. Price Difference	Qty. Available	Warehouse	Customer Approval	Required
0.00	1	Cross-Sell	Related	PEARJAM08	Pear jam...	PIE	4.1500	0.00	0.00	0.00	RETAIL	[ ]	[ ]
0.00	1	Cross-Sell	Related	PEARJAM08	Pear jam...	PIE	4.1500	0.00	0.00	0.00	WHOL...	[ ]	[ ]
0.00	1	Other	Related	GIFTCERT	Gift Cert...	EA	0.0000	0.00	0.00			[ ]	[ ]
0.00	1	Substitute	Related	CHERJAM08	Cherry ja...	PIE	4.1500	0.00	0.00	0.00	RETAIL	[ ]	[ ]
0.00	1	Substitute	Related	CHERJAM08	Cherry ja...	PIE	4.1500	0.00	0.00	0.00	WHOL...	[ ]	[ ]
0.00	1	Up-Sell	Related	APJAM08	Apple ja...	PIE	45.1500	0.00	0.00	15.00	RETAIL	[ ]	[ ]
0.00	1	Up-Sell	Related	APJAM08	Apple ja...	PIE	45.1500	0.00	0.00	50.00	WHOL...	[ ]	[ ]

**Figure:** The *Add Related Items* dialog box with a substitute item

If a line with the substitute item is selected in the dialog box, the user can select the **Keep Original Price** check box in the Selection area to replace the original item with the substitute item but keep the value in the **Ext. Price** column of the original item line. The user can view the difference between those prices of the original and related items in the **Ext. Price Difference** column of the tab. A negative value means that the related item is cheaper than the original item. A positive value means that the related item is more expensive than the original item.

On the *Invoices* (SO303000) form, the button in the **Related Items** column of the **Details** tab appears for only the lines that have been added to the invoice directly (that is, they have not been processed through a sales order).





On the [Invoices](#) form, if a related item with serial number tracking has been added to the document by using the **Add Related Items** dialog box and its quantity is more than one, the system will insert a separate line for each piece of the item (with a quantity of 1).

## The Related Item History Inquiry Form

The new **Related Item History** (IN401600) inquiry form has been added and listed in the **Inquiries** group of the **Sales Orders** workspace (shown in the following screenshot). The user can use this inquiry form to view related items that have replaced or complemented the original items specified on a sales order or invoice. The inquiry contains only records of related items that have been sold—that is, the invoices with these items have been released.

Original Item ID	Original Item Description	Original Item Qty	Original Item UOM	Related Item ID	Related Item Description	Related Item Qty	Qty. Sold	Related Item UOM	Relation	Tag
ORJAM08	Orange jam 8...	2.00	PIECE	GIFTCERT	Gift Certificate	2.00	2.00	EA	Cross-Sell	Related

*Figure: The Related Item History inquiry form*

The user can narrow the search by using the following boxes:

- **Original Item ID:** Records are shown for the selected original item only.
- **Related Item ID:** Records are shown for the selected related item only.
- **Relation:** Records are shown for the selected relation only. If the user selects *All*, the records are shown for all relations.
- **Tag:** Records are shown for the selected tag only. If the user selects *All*, the records are shown for all tags.
- **From Date:** Records are shown for related items with a sale date that is later than or equal to the specified date.
- **To Date:** Records are shown for related items with a sale date that is earlier than or equal to the specified date.

## Changes to the Customers Form

Some customers stick with familiar items and may not be willing to be informed about substitutes, cross-sell, or up-sell items. The **Suggest Related Items** check box has been added on the **Shipping** tab of the [Customers](#) (AR303000) form. If the check box is cleared for a customer, the **Related Items** and **Substitution Required** columns are not displayed on the **Details** tab of the [Sales Orders](#) (SO301000) and [Invoices](#) (SO303000) forms if this customer is selected in the document.

Customers  
**CAKEADO - Cakeado Cafe**

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\* Customer ID: CAKEADO - Cakeado Cafe Balance: 17.20  
 Customer Status: Active Prepayment Balance: 0.00  
 \* Customer Class: DEFAULT - Local Customers Retained Balance: 0.00

GENERAL FINANCIAL BILLING **SHIPPING** LOCATIONS PAYMENT METHODS CONTACTS SALESPERSONS

**SHIP-TO ADDRESS**

Override  
 VIEW ON MAP  
 Address Line 1: 3056 Hanover Street  
 Address Line 2:  
 City: New York  
 State:  
 Postal Code: 10013  
 Country: US - United States of America

**SHIP-TO INFO**

Override  
 Account Name: Cakeado Cafe  
 Attention: Business 1 917-657-7778  
 Cell:  
 Fax:  
 Email: m.evans.cakeado@example.com  
 Web:

**OTHER SETTINGS**

Default Branch:  
 Price Class:  
 Default Project:  
 Suggest Related Items

**TAX SETTINGS**

Tax Registration ID:  
 Tax Zone:

**SHIPPING INSTRUCTIONS**

Warehouse:  
 Ship Via:  
 Shipping Terms:  
 Shipping Zone:  
 FOB Point:

Residential Delivery  
 Saturday Delivery  
 Insurance

Shipping Rule: Cancel Remainder  
 Order Priority: 0  
 Lead Time (Days): 0  
 Calendar:

**Carrier Accounts**

🔄 + ×

Active	* Carrier	* Carrier Account	Postal Code

Figure: The Suggest Related Items check box on the Customers form

# Order Management: Multiple Base Currencies

In Acumatica ERP 2021 R2, the support of the *Multiple Base Currencies* feature in inventory, purchase orders, and sales orders functionality has been delivered. The user can now implement multiple companies with different base currencies within one tenant and process these documents in different base currencies.

For detailed information about multiple base currencies in Acumatica ERP 2021 R2, see [Finance: Support of Multiple Base Currencies](#)

## Inventory Functionality

The new **Currency** box has been added to the **Financial** tab of the [Receipts](#) (IN301000), [Issues](#) (IN302000), [Adjustments](#) (IN303000), [Transfers](#) (IN304000), and [Kit Assembly](#) (IN307000) forms (shown in the following screenshot). The value in the new box is derived from the currency of the branch specified in the **Branch** box on the same tab of the forms listed above. This branch is the originating branch of inventory documents.

Receipts  
000001 - Initial inventory balance at main office and store

Reference Nbr:	000001	Transfer Nbr:		Total Qty:	725.00
Status:	Released	External Ref:		Total Cost:	748.34
Date:	11/1/2020	Description:	Initial inventory balance at main office and store		
Post Period:	11-2020				

DETAILS: FINANCIAL MANUFACTURING

Batch Nbr: IN000001  
Branch: HEADOFFICE - SweetLife Head Office at  
Currency: USD

Figure: The Currency box

On the [Transfers](#) form, the **Branch** and **Currency** boxes are empty until a warehouse is selected in the **Warehouse ID** box in the Summary area of the same form. When the warehouse is selected, the system automatically inserts values to the **Branch** and **Currency** boxes. The branch is inherited from the branch specified for this warehouse in the **Branch** box in the Summary area of the [Warehouses](#) (IN204000) form.



The transfers between warehouses associated with different branches that have different base currencies are not possible—that is, the user cannot specify warehouses that are associated with branches with different base currencies in the **Warehouse ID** and **To Warehouse** boxes in the Summary area of the [Transfers](#) (IN304000) form.

When the *Multiple Base Currencies* feature is enabled, the user can process an inventory document only if this document has branches with the same base currency. That is, if the **Branch** box on the **Financial** tab of the [Receipts](#) (IN301000), [Issues](#) (IN302000), [Adjustments](#) (IN303000), [Transfers](#) (IN304000), and [Kit Assembly](#) (IN307000) forms has a value, the system will not allow selecting a branch with a different base currency for the **Branch** box on the **Details** tab of these forms.



The following limitations also appear when the *Multiple Base Currencies* feature is enabled:

- It is forbidden to change a branch in the **Branch** box on the [Warehouses](#) form to a branch with other base currency than the initial branch if at least one transaction record in the base currency of the initial branch exists for the warehouse.
- It is forbidden to change a branch in the **Branch** box on the [Warehouses](#) form to a branch with the same base currency if there is non-zero stock in at least one warehouse location.

The default warehouse, price, cost, and some other settings of a stock and non-stock items on the [Stock Items](#) (IN202500) and [Non-Stock Items](#) (IN202000) forms are defined separately for each base currency. The values that are displayed on the [Stock Items](#) and [Non-Stock Items](#) forms depend on the base currency of the current branch.

Once the *Multiple Base Currencies* feature is enabled, the user needs to configure settings of stock and non-stock items **for each base currency** on the [Stock Items](#) and [Non-Stock Items](#) forms. To configure the settings for a particular base currency, the user must select a branch that uses this base currency (the name of the branch can be checked in the upper right part of the browser window) and specify the following settings:

- The value in the **Default Warehouse** on the **General** tab. The user can select warehouses with associated branches that have the same base currency as a current branch base currency.
- The values in some boxes on the **Price/Cost** tab that are displayed in the base currency of the current branch. A user can specify the values of the **Markup %**, **Default Price**, **Current Cost**, and **Last Cost** boxes. These values will be used for the stock item in documents with branches that have the same base currency as the branch for which these values are specified.
- The settings on the **Warehouses** tab. The user can add only those warehouses that are associated with branches that have the same base currency as the base currency of the current branch (only for stock items).
- The settings on the **Replenishment** tab. The user can set as a replenishment warehouse only a warehouse that is associated with the branch that has the same base currency as the current company or branch. (only for stock items)
- The settings on the **Vendors** tab. Only vendors with visibility restricted to the branch with the same base currency as the current branch can be selected.

If the user has more than one branch with the same base currency, settings specified for this base currency will be active for all branches with this base currency within the tenant.

On the [Template Items](#) (IN203000) form, the values in the **Price Management** and **Standard Cost** sections on the **Price/Cost** tab, the value of the **Default Warehouse** box on the **General** tab, and the default vendor on the **Vendors** tab are specified for each base currency.

On the **Vendors** tab of the [Template Items](#) (IN203000) forms, only the vendors restricted to the branch that has the same base currency as the current branch can be selected. For each base currency, a separate default vendor must be specified.

When the user creates or updates matrix items on the [Template Items](#) (IN203000) form, the settings that are specific for the base currency of the current branch will be copied to matrix items.



After the system upgrade, the existing stock, non-stock, and matrix items and their prices and costs are set to the base currency used in the tenant before the system upgrade and enabling of the *Multiple Base Currencies* feature.

On the [Update Standard Costs](#) (IN502000) form, the values of the **Pending Cost** and **Current Cost** columns are displayed in a base currency of the branch associated with the warehouse that is selected in the table. If the **Std. Cost Override** check box is cleared for a stock or non-stock item, when the user clicks the **Process** button on the form toolbar, the system updates the cost of this item in all warehouses associated with branches that have the same base currency as the base currency of the branch associated with the warehouse of the stock item.

On the **General** tab of the [Item Classes](#) (IN201000) form, the user can set as the default warehouse only a warehouse associated with the branch that has the same base currency as the current company or branch. On the **Replenishment** tab of the [Item Classes](#) form, the settings of each item class should be specified separately for each base currency (except the **Demand Calculation** box). The user can set as a replenishment warehouse only a warehouse that is associated with the branch that has the same base currency as the current company or branch. When the user creates a stock item, the default warehouse and replenishment settings (if any replenishment settings were defined) for all base currencies will be copied from the item class to the stock item.

When the user changes the settings of an item class and selects the **Apply to Children** command on the More menu, the settings that are specific for the base currency of the current branch will be propagated to the child item classes.

On the **Replenishment** tab of the *Item Warehouse Details* (IN204500) form, the user can set as the replenishment warehouse only a warehouse that is associated with the branch that has the same base currency as the branch of the warehouse selected in the **Warehouse** box in the Selection area. In the **Preferred Vendor** box, only the vendors restricted to the branches that have the same base currency as the base currency of the branch of the warehouse selected in the **Warehouse** box in the Selection area can be selected.

The values in the **Price Management** and **Standard Cost** sections on the **Price/Cost** tab and the value in the **Replenishment Warehouse** box on the **Replenishment** tab of the *Item Warehouse Details* form are specified for each base currency.

On the *Stock Items*, *Non-Stock Items*, *Template Items*, and *Item Classes* (IN201000) forms, when the Copy and Paste actions are used for stock, non-stock, template, or matrix items or item class, the settings that are specific for the base currency of the current branch will be copied from and pasted to the new item or item class. If the original item or item class has settings specified for another base currency, those settings will not be copied from and pasted to a new item or item class.

## Purchase Orders Functionality

In purchase orders, purchase receipts and returns, and landed costs documents, the base currency of the document is the base currency of the branch specified in the **Branch** box on the **Other** tab of the *Purchase Orders* (PO301000) and *Purchase Receipts* (PO302000) forms and on the **Financial** tab of the *Landed Costs* (PO303000) form respectively. This branch is the originating branch of documents for the purchase order functionality.

On these forms, the user can only select vendors that are:

- restricted to the document branch
- not restricted to any entity but have the same base currency as the base currency of the document branch

The user cannot change the value of the **Restrict Visibility To** box on the *Vendors* (AP303000) form to a different group, company, or branch with other base currency than the base currency of the current group, company, or branch if at least one of the following conditions is met:

- A record on the *Vendor Inventory* (PO201000) form exists for this vendor.
- A purchase receipt or landed cost document with this vendor exists.
- This vendor is selected as the preferred vendor on the **Replenishment** tab of the *Item Warehouse Details* (IN204500) form.



After the system upgrade, all existing vendors are set to the base currency same as the base currency set in the tenant before the upgrade.

On the **Details** tab of the *Purchase Orders* and *Purchase Receipts* forms, when the user adds a stock item, the system inserts the last cost of the item to the **Unit Cost** box in the base currency of the branch which is selected in the **Branch** box on the **Other** tab of the form if the system cannot find the value in the **Last Vendor Price** column on the **Vendors** tab of the *Stock Items* (IN202500) form and the **Price** column on the *Vendor Prices* (AP202000) form. Also, the default warehouse with the base currency of the branch selected in the **Branch** box on the **Other** tab of the *Purchase Orders* and *Purchase Receipts* forms is automatically inserted to the **Warehouse** column on the **Details** tab of these forms.

Once the branch is specified in the **Branch** box on the **Other** tab of the *Purchase Orders* and *Purchase Receipts* forms or on the **Financial** tab of the *Landed Costs* form, the user cannot select a branch with the base currency different from the base currency of this branch in the **Branch** column on the **Details** tab of the same forms.

On the *Purchase Orders* form, in purchase orders of the *Drop-Ship* type, the user can only select a customer that has the same base currency as the base currency of the purchase order branch in the **Ship-To** box on the **Shipping** tab and in the **Customer** box of the **Create Sales Order** dialog box.

On the [Create Purchase Orders](#) (PO505000) form, the **PO Creation Branch** box has been added (shown in the following screenshot). On this form, only lines with warehouses that are associated with a branch in the same base currency as the branch in the **PO Creation Branch** box are shown. Purchase orders that are created on this form will be created with the branch that is selected in the **PO Creation Branch** box.

In prepayment requests created from a purchase order, the originating branch is copied from this purchase order.

The screenshot shows the 'Create Purchase Orders' form with the following fields and values:

- PO Creation Branch: HEADOFFICE - SweetLife H (highlighted with a red box)
- Creation Date: 7/30/2021
- Requested On: [empty]
- Weight: 0.000000
- Volume: 0.000000
- Product Manager: [empty]
- Product Workgroup: [empty]
- Item Class ID: [empty]
- Inventory ID: [empty]
- Warehouse ID: [empty]
- Vendor: [empty]
- Customer: [empty]
- Order Type: [empty]
- Order Nbr: [empty]
- Production Gr: [empty]
- Production Nbr: [empty]

At the bottom, there is a table with columns: Plan Type, Inventory ID, Item Description, Warehouse, Warehouse Description, and Demand Warehouse.

**Figure: The PO Creation Branch box**

On the [Create Purchase Orders](#) form, vendors that are restricted to the purchase order creation branch or are not restricted to any entity but have the same base currency as the purchase order creation branch can be selected. When the system generates inventory receipts, issues, and adjustments on the release of purchase receipts or returns and landed costs documents, the generated documents inherit the branch of the originating document. They are also posted in the base currency of the inherited branch.

## Sales Orders Functionality

In sales orders and invoices, the base currency of the document is the currency of the branch specified in the **Branch** box on the **Financial** tab of the [Sales Orders](#) (SO301000) and [Invoices](#) (SO303000) forms respectively. This branch is the originating branch of documents for the sales order functionality.

On these forms, the user can only select customers that are:

- restricted to the document branch
- not restricted to any entity but have the same customer base currency as the base currency of the document branch

Once the branch is specified in the **Branch** box on the **Financial** tab of the [Sales Orders](#) and [Invoices](#) forms, the user cannot specify a branch with a different base currency in the **Branch** column on the **Details** tab of these forms.

On these forms, the user can select customers that are restricted to the document branch or that are not restricted to any entity but have the same currency as the base currency of the document branch.



After the system upgrade, all existing customers are set to the base currency same as the base currency set in the tenant before the upgrade.

On the **Details** tab of the [Sales Orders](#) or [Invoices](#) forms, when the user adds a stock item, the system inserts the default unit price in the base currency of the document branch if no item price is defined in the customer's price sheets. Also, the default warehouse with the base currency of the branch selected in the **Branch** field on the **Financial** tab of [Sales Orders](#) or [Invoices](#) forms is automatically inserted to the **Warehouse** column on the **Details** tab of these forms.

The user cannot change the value of the **Restrict Visibility To** box on the [Customers](#) (AR303000) form to a different group, company, or branch with other base currency than the base currency of the current group, company, or branch if a shipment with this customer exists.

In the **PO Link** dialog box on the **Details** tab of the [Sales Orders](#) form, the user can select only purchase orders from vendors that have the same base currency as the base currency of the sales order branch.

When the system generates inventory issues on the release of SO invoices, credit memos, cash sales, cash returns, and debit adjustments, the generated documents inherit the branch of the originating document. They also are posted in the base currency of the inherited branch.



The transfers between warehouses associated with different branches that have different base currencies are not possible—that is, the user cannot specify warehouses that are associated with branches with different base currencies in the **Warehouse ID** and **To Warehouse** boxes in the Summary area of the [Sales Orders](#) (SO301000) form for sales orders with the *Transfer Order* automation behavior.

## Intercompany Sales and Purchases

For customers and vendors that are extended from branches and are not restricted to a group, company, or branch and that do not have any base currency specified in any associated entities, the following rules of document processing exist:

If the base currencies of related intercompany sales orders and purchase orders are different, the currency rate of the sales orders (or sales returns) is automatically inserted by the system according to the sales order date. The currency rate type applied to the currency rate in the sales order is defined by the value in the **Cur. Rate Type** box on the [Customers](#) form for this customer.

Customers and vendors that are extended from branches and are not restricted to any entity with the base currency specified can be selected in sales and purchase orders with any base currency. For example, if a branch has the *USD* base currency, and this branch is extended as a vendor that does not have any visibility restrictions, this vendor can be selected in purchase orders with the *EUR* base currency. The same rule applies to customers extended from branches and specified in sales orders.

If the vendor, who is not restricted to any entity, is selected as the default vendor in any stock or non-stock item on the **Vendors** tab of the [Stock Items](#) (IN202500), [Non-Stock Items](#) (IN202000), this vendor will be set as the default vendor for all branches in the tenant.

If an intercompany vendor or customer is specified in documents with different base currencies on the [Shipments](#) (SO302000), [Purchase Receipts](#) (PO302000), or [Landed Costs](#) (PO303000) forms, the **Restrict Visibility To** box on the **Financial** tab of the [Customers](#) or [Vendors](#) form for this vendor or customer can be empty only. This rule is also applicable if a vendor is specified as the preferred vendor in a record on the [Item Warehouse Details](#) (IN204500) form for a warehouse with a branch that has a different base currency.

## Other Changes

In all inquiries and reports of the inventory, purchase orders, and sales orders functionality that show the amount in documents, the **Company/Branch** box has been added (shown in the following screenshot). To view an inquiry or prepare a report for a group of companies, a company or branch must be selected in the box.

* Branch	Type	* Reference Nbr.	* Post Period	* Date	Due Date	Status	* Currency	Currency Origin Amount	Currency Balance
* Customer: _____ Period: _____ Currency: _____ AR Account: _____									
Show All Documents: <input type="checkbox"/> Include Unreleased Documents: <input type="checkbox"/> Balance by Documents: 0.00 Current Balance: 0.00 Prepayment Balance: 0.00 Balance Discrepancy: 0.00 Retained Balance: 0.00									

**Figure:** The *Company/Branch* box



When the *Multiple Base Currencies* feature is enabled, the **Restrict Visibility To** box on the **Financial** tab of the *Customers* (AR303000) and *Vendors* (AP303000) forms becomes mandatory. If the branch is selected in the **Restrict Visibility To** box for a customer or vendor, by default the system inserts the selected branch to the **Default Branch** box for a customer: on the **Shipping** tab of the *Customers* (AR303000) form and on the **General** tab of the *Customer Locations* (AR303020) form, or for a vendor on the **Purchase Settings** tab of the *Vendors* (AP303000) form and on the **General** tab of the *Vendor Locations* (AP303010) form. Once the default branch is specified for a customer or vendor, the system automatically inserts the specified branch as the originating branch in all documents that the user creates for this customer or vendor including the documents that the user generates from other documents and that should have inherited the originating branches of the documents they have been generated from (for example, an invoice created for a sales order).



# Order Management: Paperless Picking

In Acumatica ERP 2021 R2, the pick-by-scan capabilities has been implemented in the warehouse management system (WMS). With the pick-by-scan method, the most common type of paperless picking, a warehouse worker uses a mobile handheld computer with an integrated 1D or 2D barcode scanner. The device displays the storage location and the picking quantity, and guides the picker step by step through all pick lists in the picking order. The employee must confirm each picked item by scanning a barcode.

The functionality is available if the *Paperless Picking* feature is enabled on the [Enable/Disable Features](#) (CS100000) form and the new Automated Warehouse Operations Engine is in use. For details on the new Automated Warehouse Operations Engine, see [Customization: Upgraded Automated Warehouse Operations Engine](#).



In Acumatica ERP 2022 R1, the legacy Automated Warehouse Operations Engine will be deprecated.

Before the 2021 R2 version, all Acumatica ERP clients using Acumatica's native warehouse management solutions had to print pick lists for all the shipments before they could start picking. A pick list contained the following information for the picker and the system:

- The barcode of the shipment (the picker scans it to start picking the particular shipment).
- The list that shows the location, item, lot or serial number, and quantity. records for each shipment's line details. (That is, it shows where to go, what to pick, which specific unit to pick, and how many to pick.)

The printing of the paper pick list had the following disadvantages:

- Money and time were spent on printing the paper documents.
- The picker was walking around the warehouse carrying multiple paper pick lists, which could be inconvenient because using both hands for picking is easier.
- The picker worked with printed pick lists, which contained multiple pages and multiple lines on the page; this made it difficult to find the required line.
- Printed pick lists created a lot of paper trash.

## Paperless Picking

Starting in the 2021 R2 version, the user can organize the warehouse picking jobs by using queues, prioritizing pick lists, and assigning these pick lists directly to a particular picker. The pick list with the highest priority that is nearest to the picker's current position in the warehouse is automatically suggested to the picker on the [Pick, Pack, and Ship](#) (SO302020) form, and the picker receives any picking jobs automatically.

The process of picking has to be prepared by the warehouse manager in order for the system to manage the picking queue, priorities, and direct assignments of the pick lists. The new entities, processes, and forms that have been introduced for this purpose are described below.

## The Create Pick Lists Form

The pick list is an entity created for a shipment. The pick list contains the pickable line details of the shipment, in the order of the location path (from the smallest value to the largest value). The pick list is a unit of job for the picking process.

To create the pick lists for shipments, the warehouse manager should open the [Create Pick Lists](#) (SO503050) form (shown in the following screenshot), which was formerly known as the *Create and Print Pick Lists* form, and select one of the following actions:

- *Create Single-Shipment Pick Lists*: To create one pick list for each shipment.
- *Create Wave Pick Lists*: To create a wave worksheet for multiple shipments (for detailed information about wave picking, see [Wave Picking: General Information](#)).

- *Create Batch Pick Lists*: To create a batch worksheet for multiple shipments (for detailed information about batch picking, see [Batch Picking: General Information](#)).

Shipment Nbr.	Status	Shipment Date	Customer	Customer Name	Location	Customer Location Name
000031	Open	1/30/2021	COFFEESHOP	FourStar Coffee & Sweets Shop	MAIN	Primary Location
000034	Open	1/30/2021	COFFEESHOP	FourStar Coffee & Sweets Shop	MAIN	Primary Location
000035	Open	1/30/2021	GOODFOOD	GoodFood One Restaurant	MAIN	Primary Location
000036	Open	1/30/2021	COFFEESHOP	FourStar Coffee & Sweets Shop	MAIN	Primary Location
000037	Open	1/30/2021	GOODFOOD	GoodFood One Restaurant	MAIN	Primary Location
000038	Open	1/30/2021	COFFEESHOP	FourStar Coffee & Sweets Shop	MAIN	Primary Location
000039	Open	1/30/2021	GOODFOOD	GoodFood One Restaurant	MAIN	Primary Location
000040	Open	1/30/2021	COFFEESHOP	FourStar Coffee & Sweets Shop	MAIN	Primary Location

Figure: The Create Pick Lists form



Items with the *When Used* assignment method, as well as items with the *When Received* assignment method and the *User-Enterable* issue method, are not supported in batch picking and in Pack-Only mode of the paperless picking. The assignment method of an item is determined by the settings of the item class of the item, which are specified on the [Item Classes](#) (IN201000) form.

The Pack-Only mode is defined by the following settings on the **Warehouse Management** tab of the [Sales Orders Preferences](#) (SO101000) form:

- **Display the Pick Tab**: Cleared
- **Display the Pack Tab**: Selected

When the warehouse manager selects the *Create Single-Shipment Pick Lists* action and specifies the warehouse for which the single pick lists are created, the system displays the list of all the shipments with the *Open* status for which the pick list has not been created yet. The warehouse manager can narrow the range of shipments listed in the table by some settings of the shipment or shipment lines. The manager can also use the following check boxes to include additional steps in the processing of shipments:

- **Send to Picking Queue**: Once the warehouse manager selects the needed shipments and clicks the **Process** button on the form toolbar, the pick lists are created for the selected shipments. The pick lists are created with the *On Hold* status (which means that they are not available to be picked yet) if the **Send to Picking Queue** check box is cleared. If the **Send to Picking Queue** check box is selected, the pick lists are created with the *Added to Queue* status (which means that they can be instantly claimed by pickers).
- **Confirm Shipment on Pick List Confirmation**: If this check box is selected for the processed shipments, the shipment is confirmed once the pick list is confirmed.
- **Print Pick Lists**: If this check box is selected a printing version will be prepared for the pick list after the list is created.

## The Manage Picking Queue Form

To manage pick lists, the warehouse manager should use the new [Manage Picking Queue](#) (SO503075) form (shown in the following screenshot), on which multiple actions can be performed on pick lists. The warehouse manager specifies the warehouse and selects one of the following actions:

- **Send to Picking Queue:** Displays all the pick lists with the *On Hold* status. Processing the selected pick lists will change the status of pick lists to the *Added to Queue*, which means that they can be instantly claimed by pickers.
- **Change Picking Priority:** Mass-changes the picking priority of the pick lists. By default, all the pick lists are created with *Medium* priority. To change the priority, the user must select shipments in the table and select the required priority in the **Set Picking Priority To** box for these shipments.
- **Assign Pick Lists:** Mass-changes the assigned picker of the pick lists to a specific picker. By default, all the pick lists are created with an empty value in the **Assigned Picker** column. To assign pick lists, the user must select shipments (by selecting the unlabeled check boxes in their row) and fill in the **Assign To Picker** box with the name of the needed user for selected shipments.
- **Remove from Picking Queue:** Mass-removes pick lists from the picking queue to make them unavailable for paperless picking. This action may be required if the warehouse needs to process the PI count on some of the locations, and the warehouse manager doesn't want to interrupt the PI count with picking, or if some of the items are not received yet and the warehouse manager wants to postpone picking of the pick lists which contain these items.

Pick List Type	Pick List Nbr.	Status	Pick List Date	Priority	Assigned Picker	Actual Picker	Path Length	Customer Location Name
Single-Shipment	000030	On Hold	8/29/2021	Medium			40	Primary Location
Single-Shipment	000031	On Hold	9/7/2021	Medium			40	Primary Location
Single-Shipment	000034	On Hold	9/7/2021	Medium			0	Primary Location
Single-Shipment	000035	On Hold	9/7/2021	Medium			10	Primary Location

Figure: The Manage Picking Queue form

## The Picking Queue Form

To view and edit all the active pick lists, the new *Picking Queue* (SO503080) form is used (shown in the following screenshot). An option must be selected in the **Warehouse** box, and the pick lists for that warehouse are listed in the table. This form shows the pick lists with all statuses except *On Hold* and *Completed*, which means that the form shows all the pick lists that are currently in the active queue for the warehouse pickers. The warehouse manager can change the priority of any pick list or assign the pick list to a particular picker on the fly if the picking for the pick list has not been started yet. The warehouse manager can also remove the pick list from the active queue.

Pick List Type	Pick List Nbr.	Status	Priority	Assigned Picker	Actual Picker	Pick List Date	Time in Queue	Path Picking Length Started	Automatic Shipment Confirmat
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Figure: The Picking Queue form

The **Start Watching** button is used to continuously update the data on the form so that the user can put this form on display in the warehouse to see the progress (for example, how the pickers grab pick lists, what is the highest priority now, and how much time was spent on picking the pick list).

To view any pick list, the warehouse manager can click the link in the **Pick List Nbr.** column. In the **Pick List** dialog box, which opens, the manager can also click the **View Source Document** button to open the shipment from which the pick list originated.

If the warehouse manager wants to recreate the pick list or even pick the shipment with a paper pick list, the manager can delete the pick list for the shipment from the [Shipments](#) (SO302000) form by using the *View Pick List* action and clicking the **Delete Pick List** button in the dialog box that opens.

Putting the pick list into the picking queue is the final step for the manager.

## Changes from the Pickers Perspective

From the picker's perspective, the following changes have been made to the processing on the [Pick, Pack, and Ship](#) (SO302020) form.

1. The new **Next List** button has been introduced. When a picker clicks this button, the system suggests the next pick list to pick. When the system asks the picker about their position in the warehouse, the picker should scan the nearest warehouse location. The system suggests the pick list to the picker by using the following priority:
  - a. A pick list that has been assigned directly to the particular picker by the manager; if multiple pick lists assigned to this picker by the manager exist, it suggests the pick list that has the highest priority and nearest location among these pick lists
  - b. The pick list that is not assigned directly to the particular picker by the manager, but has the highest priority and nearest location between those that are not assigned by the manager
2. For the assigned pick list, the system asks the picker to scan the tote. The tote is required to identify the shipment because physical identification or the picked goods is no longer used (previously, the paper pick list was used for this identification). After the picker has scanned the tote, the system assigns the tote to the pick list.
3. The system starts to guide the user through the pick list: The starting point is the location that is the nearest to the user. The system asks the user to go to the proper location. The picker can confirm the location by scanning it or can just follow the instruction and reach the location, depending on the **Use Default Location** setting on the **Warehouse Management** tab of the [Sales Orders Preferences](#) (SO101000) form. The system shows the picker the item to pick and the item's lot or serial number and quantity. The picker must scan the item, scan the lot or serial number, and reach the required quantity of items. If there are not enough units of the item, the picker can click the **Confirm Line Quantity** button with a short quantity. Depending on the **Short Shipment Confirmation** setting on the **Warehouse Management** tab of the [Sales Orders Preferences](#) form, the picker may confirm the short shipment or return to the picking of the short line afterward by selecting this line and using the *Proceed Picking* action.
4. When the picker claims all items in the pick list, the picker can click one of the following buttons on the form toolbar:
  - **Confirm Pick List:** This option is used when the picker wants to stop working after confirming the particular pick list. In this case, the system will confirm the pick list—that is, it will assign the *Picked* status to the pick list and display it on the **Pack** tab on the [Picking Queue](#) (SO503080) form—and the system will not suggest the next pick list to pick.
  - **Finish and Next:** This option is used if the picker expects to continue working and would like to receive another pick list to be picked. The system confirms the pick list and suggests the next pick list to be picked. The system uses the last scanned location as the current location of the picker to suggest the nearest pick list.

The picker still can process paper pick lists by using the [Pick, Pack, and Ship](#) form. In this case, if the pick list number (the shipment number) is scanned, the system will NOT suggest to the picker where to go and what to pick because the paper pick list is being used.

The paperless picking queue supports wave and batch pick lists too.

## Changes From a Packer's Perspective

From a packer's perspective, the following changes have been made to the process:

- On the *Pick, Pack, and Ship* (SO302020) form, in Pack mode, on the *Scan the shipment number* step, the system accepts both scanning the shipment number and scanning the tote ID, because both can identify the shipment.
- The new hidden command \*PACK\*ALL\*INTO\*BOX has been introduced in Pack mode. This command can be used when the packer needs to pack all the remaining items into one box at once. This command will pack all the unpacked items in the currently active box.
- Paperless picking is now supported in Pack-Only mode.

# Order Management: Reconciliation of the Purchase Accrual Balance by Period

In Acumatica ERP 2021 R2, the [Purchase Accrual Balance by Period](#) (PO402000) inquiry form has been introduced, which facilitates the reconciliation of the purchase accrual account with the general ledger. The users can now view documents that were created by using the purchase order functionality and posted to the purchase accrual account. This capability of the system will be helpful for accountants who need to review the PO accrual balance at the end of the financial period to ensure that the balance is correct.

## Purchase Accrual Balance by Period Inquiry Form

The [Purchase Accrual Balance by Period](#) (PO402000) inquiry form (see the following screenshot) has been added to the **Inquiries** category of the **Purchases** workspace.

PO Type	PO Ref. Nbr.	Document Type	Document Number	Document Date	Vendor	Vendor Name	# Document Ref. Nbr.	Post Period	Branch
Normal	000102	PO Return	000096	3/28/2014	CONGOODTOL	Good Hardware Pte., Ltd.	000408	03-2014	PRODWHOLE
Drop-Ship	PO000430	PO Receipt	PR000362	9/1/2016	ELEEASTCOM	East COM Electronic S.	001279	09-2016	PRODWHOLE
Normal	PO000950	PO Receipt	PR000927	4/12/2019	FOODETISUP	Etik Food Supplies	000947	04-2019	PRODWHOLE

**Figure: The Purchase Accrual Balance by Period inquiry form**

In the Selection area, the user can specify the following criteria to narrow the range of documents to be shown:

- **Company/Branch:** The company or branch for which the document has been created. By default, the system inserts the current company or branch.
- **Vendor:** The vendor specified in the document. By default, this box is blank.
- **Period:** The posting period. The inquiry form shows documents that were posted in financial periods earlier than or the same as the selected financial period. By default, the system inserts the current posting period.
- **Account:** The control account for the purchase order functionality to which the transactions are posted. If only one PO control account is configured for the purchase order functionality, the system inserts this account by default. If there are multiple control accounts configured in the system or only non-control accounts are configured, the **Account** box is blank by default.
- **Subaccount:** The subaccount of the specified account. By default, this box is blank.

The following boxes in the Selection area show the sum of amounts for the corresponding columns in the table with documents:

- **Unbilled Total:** The sum of all amounts in the **Unbilled Amount** column.
- **Not Received Total:** The sum of all amounts in the **Not Received Amount** column.
- **Drop-Ship Total Not Invoiced:** The sum of all amounts in the **Drop-Ship Amount Not Invoiced** column.
- **In Adjustment Total Not Released:** The sum of the **IN Adjustment Amount Not Released** column.
- **PO Accrued Total:** The sum of the **PO Accrued Amount** column.

The [Purchase Accrual Balance by Period](#) inquiry form shows the following documents:

- Released purchase receipts that have been prepared for purchase orders of the *Normal* type and have not been billed as of the end of the financial period

- Released purchase returns that have not been billed as of the end of the financial period
- Released accounts payable bills that have been prepared for purchase orders of the *Normal* type and have not been received as of the end of the financial period
- Released accounts payable bills and debit adjustments that have a generated inventory adjustment with purchase price variance amounts or tax amounts and have not been released as of the end of the financial period
- Released accounts payable bills that have been prepared for drop-ship purchase orders and purchase receipts and have not been billed to the customer and posted to the AR subledger as of the end of the financial period
- Released drop-ship purchase receipts that have been billed to the customer and posted to the AR subledger, but have not been billed to the vendor and posted to the AP subledger as of the end of the financial period
- Released drop-ship purchase returns that have been billed to the vendor and posted to the AP subledger, but have not been billed to the customer and posted to the AR subledger as of the end of the financial period
- Released drop-ship purchase returns that have been billed to the customer and posted to the AR subledger, but have not been billed for the vendor and posted to the AP subledger as of the end of the financial period
- Released project drop-ship purchase receipts that have not been billed as of the end of the financial period
- Released project drop-ship purchase returns that have not been billed as of the end of the financial period

The released receipts and returns listed in the [Purchase Accrual Balance by Period](#) inquiry are the purchase receipts and returns that have a generated and released IN receipt or IN issue. The purchase receipts and returns that do not have a released IN receipt or IN issue will not be shown in the inquiry results.

All amounts are calculated in the base currency of the selected company or branch.

The [Purchase Accrual Balance by Period](#) inquiry does not show documents that were created without using the sales order or purchase order functionality and posted to the purchase accrual account—that is, if the purchase accrual account is specified as a reason code account for an IN receipt created directly on the [Receipts](#) (IN301000) form, on the release of this IN receipt, the purchase accrual account will be credited, but the IN receipt will not appear in the [Purchase Accrual Balance by Period](#) inquiry.

To view document details, the user can select the **Show Details by Line** check box in the Selection area. The table will be extended with the following columns: **Warehouse**, **Inventory ID**, and **Description**.

When AP bills are shown in the inquiry because the adjustments generated for them are not released, the system displays warning messages indicating that these adjustments are not released in the **PPV Adj. Ref. Nbr.** and **Tax Adj. Ref. Nbr.** columns respectively.



The **PPV Adj. Ref. Nbr.** and **Tax Adj. Ref. Nbr.** columns are hidden by default.

To view and release all adjustments, the user can click the **View Unreleased IN Documents** button on the form toolbar. The system opens the [Release IN Documents](#) (IN501000) form in a new browser window.

# Order Management: UI Enhancements and Other Improvements

In Acumatica ERP 2021 R2, multiple improvements have been made on forms related to the inventory and order management functionality. This topic describes these improvements.



During an update to Acumatica ERP 2021 R2, all custom and customized forms will be updated to display the redesigned toolbar. To cause the toolbar to be displayed correctly on custom and customized forms or to display the old version of the toolbar, before the update, a developer needs to modify these forms, as described in [Upgrade Procedure: Redesigned Form Toolbar on Custom and Customized Forms](#) in the [Release Notes for Developers](#).

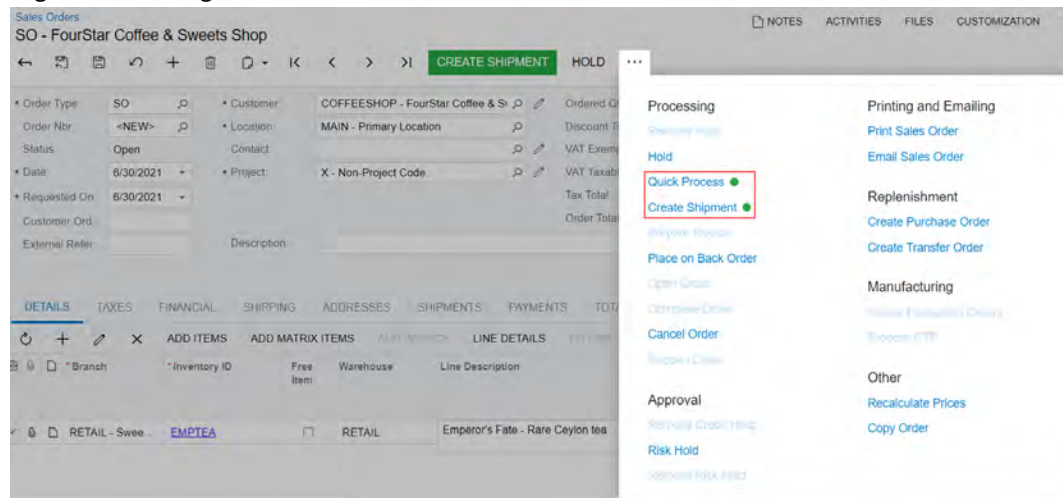
## Form Toolbar Enhancements

On multiple forms related to inventory and order management functionality, form-specific commands on the toolbar have been moved to the More menu, which you view by clicking the More (...) button on the form toolbar. Commands on the More menu are now grouped by categories. For more information, see [User Interface: Redesigned Form Toolbar](#).



These commands work as they did in the previous versions; only the placement of the commands has changed.

The following screenshot illustrates the [Sales Orders](#) (SO301000) form with its commands on the More menu organized in categories.



*Figure: The commands grouped by categories in the More menu on the Sales Orders form*

## Command Name Change

The following table lists the forms where menu commands on the More menu have been renamed to unify the command names throughout the system.



Table: Commands on the More menu that have been renamed in 2021 R2

Form	Command name in the previous versions	Command name in 2021 R2
<a href="#">Item Classes</a> (IN201000)	<b>View Restriction Groups</b>	<b>Manage Restriction Groups</b>
<a href="#">Non-Stock Items</a> (IN202000)	<b>View Restriction Groups</b>	<b>Manage Restriction Groups</b>
<a href="#">Purchase Orders</a> (PO301000)	<b>Re-Open Order</b>	<b>Reopen Order</b>
<a href="#">Purchase Receipts</a> (PO302000)	<b>View Purchase Receipts Billing History</b>	<b>Purchase Receipt Billing History</b>
<a href="#">Requests</a> (RQ301000)	<b>Request Form</b>	<b>Print Request</b>
<a href="#">Sales Orders</a> (SO301000)	<b>Re-Open Order</b>	<b>Reopen Order</b>
<a href="#">Stock Items</a> (IN202500)	<b>Allocation Details</b>	<b>Inventory Allocation Details</b>
	<b>Transaction Details</b>	<b>Inventory Transaction Details</b>
	<b>Summary</b>	<b>Inventory Summary</b>
	<b>Transaction History</b>	<b>Inventory Transaction History</b>
	<b>Transaction Summary</b>	<b>Inventory Transaction Summary</b>
	<b>View Restriction Groups</b>	<b>Manage Restriction Groups</b>

## Other Changes in the Inventory and Order Management Forms

Tabs have been renamed on some inventory and order management forms, as detailed in the following table.

The following UI changes have been introduced:

Old Name	New Name
<a href="#">Order Types</a> (SO201000)	
<b>General Settings</b>	<b>General</b>
<b>Template Settings</b>	<b>Template</b>
<b>Quick Process Settings</b>	<b>Quick Processing</b>
<a href="#">Sales Orders Preferences</a> (SO101000)	
<b>General Settings</b>	<b>General</b>
<b>Reporting Settings</b>	<b>Mailing &amp; Printing</b>
<a href="#">Item Classes</a> (IN201000)	

Old Name	New Name
<b>General Settings</b>	<b>General</b>
<b>Replenishment Settings</b>	<b>Replenishment</b>
<i>Posting Classes</i> (IN206000)	
<b>Posting Settings</b>	<b>General</b>
<i>Inventory Preferences</i> (IN101000)	
<b>General Settings</b>	<b>General</b>
<b>Reporting Settings</b>	<b>Mailing &amp; Printing</b>
<i>Purchase Orders Preferences</i> (PO101000)	
<b>General Settings</b>	<b>General</b>
<b>Reporting Settings</b>	<b>Mailing &amp; Printing</b>
<i>Request Classes</i> (RQ201000)	
<b>Request Class Item List</b>	<b>Item List</b>
<i>Purchase Requisitions Preferences</i> (RQ101000)	
<b>General Settings</b>	<b>General</b>
<b>Reporting Settings</b>	<b>Mailing &amp; Printing</b>

- On the form toolbar of the *Inventory Allocation Details* (IN402000) form, the Edit Record button has been replaced with the **View Document** button.
- On the *Inventory Transaction Summary* (IN406000) form, the **Transaction Details, Inventory Summary, Allocation Details** menu options have been moved from the drop-down list of the **View** action to the form toolbar. The **View** action has been removed from the form toolbar of the *Inventory Transaction Summary* form.
- On the *Requests* (RQ401000) inquiry form and on the *Create Requisitions* (RQ504000) form, the Edit Record button has been removed from the form toolbar.

# Payroll: Ability to Void a Paycheck with the Liability Partially Paid Status

Starting in Acumatica ERP 2021 R2, a user can void a released paycheck with the *Liability Partially Paid* or *Closed* status. The following changes have been made to implement this ability.

## Changes to the Paychecks and Adjustments Form

Now the **Void** menu command is available on the More menu of the [Paychecks and Adjustments](#) (PR302000) form for a paycheck with the *Liability Partially Paid* or *Closed* status. (See the following screenshot.)

The screenshot shows the 'Paychecks and Adjustments' form for 'Regular 000472 - Layla Beauvoir'. The 'Status' field is set to 'Liability Partially Paid'. The 'Actions' menu is open, displaying options: Calculate, Process Payment, Release, Print Pay Stub, and Void. The 'Void' option is highlighted with a red box. Below the form, a table lists earnings data:

* Branch	* Date	* Code	Description	* Location	Hours	Units	Unit Type	Rate	Manual Rate	Amount	Account	Subaccount
> SERVEAST	3/1/2021	RG	Regular Hours	MCLEAN	8.00		Hour		<input type="checkbox"/>	380.43	69500	000-000
SERVEAST	3/2/2021	RG	Regular Hours	MCLEAN	8.00		Hour		<input type="checkbox"/>	380.43	69500	000-000
SERVEAST	3/3/2021	RG	Regular Hours	MCLEAN	8.00		Hour		<input type="checkbox"/>	380.43	69500	000-000
SERVEAST	3/4/2021	RG	Regular Hours	MCLEAN	8.00		Hour		<input type="checkbox"/>	380.43	69500	000-000

Figure: The Void menu command

## Changes to the Create Liabilities Bill Form

A new column, **Document Type**, has been added to the table on the [Create Liabilities Bill](#) (PR503000) form. (See the following screenshot.) This column displays the type of the paycheck to which the liability in the row is linked.

Create Liabilities Bill CUSTOMIZATION

PROCESS PROCESS ALL

**FILTER**

Type: Deduction -

Vendor:

Branch:

**SETTINGS**

Bill Date: 5/27/2021

Single line per invoice

Create zero amount lines on bill

Total: 0.00

Type	Document Type	Reference Nbr.	Code	Description	Branch	Vendor	Employee	Employee Name	Transaction Date	Amount
Deduction	Regular	000001	DUES	Union Dues	PRODWHOLE	WDCL	FARRALLPAT	Pat Farrall	1/2/2020	31.20
Deduction	Regular	000001	HEALTHINS	Health Insurance	PRODWHOLE	EBLUECROSS	FARRALLPAT	Pat Farrall	1/2/2020	30.00
Deduction	Regular	000001	LIFEINS	Life Insurance	PRODWHOLE	BANKAMERIC	FARRALLPAT	Pat Farrall	1/2/2020	30.00
Deduction	Regular	000001	HEALTHIN...	Health Insurance	PRODWHOLE	EBLUECROSS	FARRALLPAT	Pat Farrall	1/2/2020	24.00
Deduction	Regular	000001	WAWC	Washington Workers' Compensa...	PRODWHOLE	TAXWASHST	FARRALLPAT	Pat Farrall	1/2/2020	20.00
Deduction	Regular	000002	DUES	Union Dues	PRODWHOLE	WDCL	GIMMETHANN	Hanna Gimmet	1/2/2020	46.80
Deduction	Regular	000002	HEALTHINS	Health Insurance	PRODWHOLE	EBLUECROSS	GIMMETHANN	Hanna Gimmet	1/2/2020	45.00
Deduction	Regular	000002	LIFEINS	Life Insurance	PRODWHOLE	BANKAMERIC	GIMMETHANN	Hanna Gimmet	1/2/2020	30.00
Deduction	Regular	000002	HEALTHIN...	Health Insurance	PRODWHOLE	EBLUECROSS	GIMMETHANN	Hanna Gimmet	1/2/2020	36.00
Deduction	Regular	000002	WAWC	Washington Workers' Compensa...	PRODWHOLE	TAXWASHST	GIMMETHANN	Hanna Gimmet	1/2/2020	20.00
Deduction	Regular	000003	DUES	Union Dues	PRODWHOLE	WDCL	HANSONJOE	Joe Hanson	1/2/2020	46.80
Deduction	Regular	000003	HEALTHINS	Health Insurance	PRODWHOLE	EBLUECROSS	HANSONJOE	Joe Hanson	1/2/2020	45.00
Deduction	Regular	000003	LIFEINS	Life Insurance	PRODWHOLE	BANKAMERIC	HANSONJOE	Joe Hanson	1/2/2020	30.00
Deduction	Regular	000003	HEALTHIN...	Health Insurance	PRODWHOLE	EBLUECROSS	HANSONJOE	Joe Hanson	1/2/2020	36.00

**Figure: The new column**

After a paycheck with the *Liability Partially Paid* or *Closed* status has been voided, the system does the following:

- It deletes the liabilities linked to the voided paycheck if they have not been previously processed.
- It creates liabilities with negative amounts linked to the void paycheck that correspond to the previously processed liabilities linked to the original paycheck.

If a user processes a liability with a negative amount, the system creates a debit adjustment with a positive balance.

# Payroll: Enhancements to PTO Banks

In previous versions of Acumatica ERP, the system could accumulate PTO hours only by using an accrual rate. Also, if the transaction date of a paycheck was past the start date of a PTO bank, the system inserted the PTO bank on the **Paid Time Off** tab of the *Paychecks and Adjustments* (PR302000) form. The system updated PTO banks only when paychecks were released, which could result in incorrect data in payroll reports.

Starting in Acumatica ERP 2021 R2, a user can choose whether PTO hours should be calculated as a percentage or a specific number should be used for every pay period, which would help avoid fluctuations in the numbers of accrued hours from period to period. Also, the system now uses the date of an earning detail line to calculate the related paid time off, including the carryover and front loading amounts.

## PTO Accrual Method

In the Summary area of the *PTO Banks* (PR204000) form, the **Accrual Method** box has been added. In this box, a user can select one of the following options:

- *Percentage*: Enables the user to specify in the **Default Accrual %** box, which appears right below this box when this option is selected, the default accrual rate to be used to accumulate hours for the PTO bank. (In previous versions of Acumatica ERP, the **Default Accrual %** box was always available.)
- *Total Hours per Year*: Enables the user to specify in the **Hours per Year** box, which appears right below this box when this option is selected, the number of hours that an employee will accrue throughout the year. This number is divided by the number of pay periods to determine the number of hours included in a paycheck.

The new UI elements on the *PTO Banks* form are shown in the following screenshot.

The screenshot displays the 'PTO Banks' form in Acumatica ERP. The form title is 'PTO - Personal Time'. Below the title are navigation icons. The main form area contains several fields and checkboxes:

- \* Bank ID:** PTO - Personal Time (with a search icon)
- Accrual Method:** Total Hours per Year (dropdown menu, highlighted with a red box)
- Hours per Year:** 40.00 (text input, highlighted with a red box)
- Accrual Limit:** 0.00 (text input)
- \* Disbursing Earning Type:** PT - Personal Time (with a search icon)
- Description:** Personal Time (text input)
- \* Start Date:** January (dropdown) 1 (text input)
- Active
- Allow Negative Balance
- Can Only Disburse from Carryover

Below the main form area, there is a section titled 'GENERAL SETTINGS' with two sub-sections:

- CARRYOVER RULES:**
  - Carryover Type: None (dropdown)
  - Carryover Amount: 0.00 (text input)
  - Pay Carryover after (Months): 0 (text input)
- FRONT LOADING RULES:**
  - Front Loading Amount: 24.00 (text input)

**Figure:** New UI elements on the PTO Banks form

On the *Pay Periods* (PR201000) form, the **Override** check box has been added, as shown in the following screenshot. When this check box is selected, a user can change the number of pay periods in the **Number of**

**Periods** box. This number affects the calculation of PTO hours accrued within one pay period, which affects the paycheck amount.

Pay Periods  
WEEKLY 2021 - Weekly Paygroup

\* Pay Group: WEEKLY - V 
  
 \* Year: 2021 
  
 Start Date: 12/27/2020

Number of Periods: 
 Override

Period Nbr.	Pay Period ID	Start Date	End Date	Transaction Date	Description
> 01	01-2021	12/27/2020	1/2/2021	1/7/2021	Period# 01
02	02-2021	1/3/2021	1/9/2021	1/14/2021	Period# 02
03	03-2021	1/10/2021	1/16/2021	1/21/2021	Period# 03
04	04-2021	1/17/2021	1/23/2021	1/28/2021	Period# 04
05	05-2021	1/24/2021	1/30/2021	2/4/2021	Period# 05
06	06-2021	1/31/2021	2/6/2021	2/11/2021	Period# 06

Figure: New check box on the Pay Periods form

On the **Paid Time Off** tab of the [Employee Payroll Class](#) (PR202000), [Employee Payroll Settings](#) (PR203000), and [Paychecks and Adjustments](#) (PR302000) forms, the **Accrual Method** and **Hours per Year** columns have been added, as illustrated in the following screenshot. If a user changes the accrual method for a PTO bank on this tab of the [Employee Payroll Class](#) or [Employee Payroll Settings](#) form, then the user also has to specify the new accrual rate or number of hours per year in the corresponding column. On the [Paychecks and Adjustments](#) form, the **Accrual Method** column is non-editable.

Employee Payroll Settings  
EP00000020 - Eric Killian

\* Employee ID: EP00000020 - Eric Killian 
 Active

Employee Name: Eric Killian

GENERAL TAX SETTINGS TAXES COMPENSATION DEDUCTIONS AND BENEFITS **PAID TIME OFF** PAYMENT GLACCOUNTS

Use PTO Banks from Employee Class

Active	Use Class Default Values	PTO Bank	Description	* Effective Date	Accrual Method	Accrual %	Hours per Year	Accrual Limit	Carryover Type	Carryover Amount	Front Loading Amount
> <input checked="" type="checkbox"/>	<input type="checkbox"/>	SKD	Sick Days	1/1/1900	Total Hours per Year	0.000000	40.00	27.00	Partial	18.00	0.00
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	VLM	Vacation	1/1/1900	Percentage	4.000000			Total	0.00	0.00

Figure: New columns on the Paid Time Off tab

Also, on the same tab of the [Paychecks and Adjustments](#) form, the **Total Accrual Calculation** column has been added. In this column, the calculation formula for the accrual of PTO hours (which depends on the specified accrual method) and the resulting amount are displayed.

## Improved Calculation of PTO Hours

One PTO bank may be specified multiple times for a user, each time using different accrual settings and a different start date. The start date of a PTO bank may differ from the start date of a pay period.

If a PTO bank has the *Percentage* accrual method and it becomes effective in the middle of a pay period, the system will apply the accrual rate based on the date specified in the earning detail line of the payroll document for that pay period. If a PTO bank has the *Total Hours per Year* accrual method and it becomes effective in the middle of a pay period, the system will prorate the hours according to the number of days to which the rate applies during the pay period.

If the start date of a PTO bank falls between the start date and the end date of the pay period, the system includes the carryover and the front loading amount in the payroll payment calculation.

If a PTO bank is paid after a period, the system compares the start date of the PTO bank and the earning date to determine on which day the remainder is to be paid. For example, if the PTO bank's start date is the 15th of January and the carryover is paid after 2 months, the system will disburse the PTO bank on the 15th of March.

The system stops accruing the hours for a PTO bank if the hours accumulated in the bank reach the specified accrual limit. The system will not resume accruing the hours if the balance of the PTO bank drops below the accrual limit again.

If the accrual settings of a PTO bank change within the pay period, the system displays one detail line for each accrual rate in the payroll document. Only the line with the latest effective rate will have values displayed in the **Hours Accrued**, **Hours Used**, and **Hours Available** columns on the **Paid Time Off** tab of the [Paychecks and Adjustments](#) (PR302000) form.

# Payroll: Improved Calculation of Project Costs

In Acumatica ERP 2021 R2, multiple changes have been introduced to support the accurate calculation of the project costs by using information from time activities and to allow a time manager to track actual project costs at any stage of the project.

## Changes to the Labor Rates Form

If the *Payroll* feature is disabled on the [Enable/Disable Features](#) (CS100000) form, an employee's pay rate for the UOM of the labor rate is shown in the **Rate** column of the table on the [Labor Rates](#) (PM209900) form, whose title was *Labor Cost Rates* in previous versions of Acumatica ERP.

If the *Payroll* feature is enabled, the label of the **Rate** column on the [Labor Rates](#) form changes to **Costing Rate** and two new columns, **Burden Rate** and **Wage Rate**, appear in the table, as shown in the following screenshot.

Labor Rates

Labor Rate Type: All Employee:   
 Project: Labor Item:   
 Project Task:   
 Effective Date:

	Labor Rate Type	Employee	Employee Name	Labor Item	Type of Employment	Regular Hours per week	Wage Rate	Burden Rate	Costing Rate	Union Local
>	Employee	EP00000001	Michael Andrews	LABORPM	Hourly	45.0	72.12	0.00	72.12	
	Employee	EP00000002	Maxwell Baker	LABORPM	Hourly	45.0	67.31	0.00	67.31	
	Employee	EP00000004	Joseph Becher	LABORSUPP	Hourly	45.0	67.31	0.00	67.31	
	Employee	EP00000005	Martin Bernia	LABORSR	Hourly	40.0	45.00	0.00	45.00	
	Employee	EP00000006	Todd Bloom	LABORJR	Hourly	40.0	40.00	0.00	40.00	
	Employee	EP00000006	Todd Bloom	LABORJR	Hourly	40.0	41.00	0.00	41.00	
	Employee	EP00000006	Todd Bloom	LABORJR	Hourly	40.0	42.00	0.00	42.00	
	Employee	EP00000007	Pam Brawner	LABORSALES	Hourly	40.0	40.00	0.00	40.00	
	Employee	EP00000007	Pam Brawner	LABORSALES	Hourly	40.0	41.00	0.00	41.00	
	Employee	EP00000007	Pam Brawner	LABORSALES	Hourly	40.0	42.00	0.00	42.00	
	Employee	EP00000008	Michal Bujacek	LABORSALES	Hourly	40.0	25.00	0.00	25.00	
	Employee	EP00000009	David Chubb	LABORSR	Hourly	40.0	30.00	0.00	30.00	
	Employee	EP00000010	Steve Church	LABORSALES	Hourly	40.0	32.00	0.00	32.00	
	Employee	EP00000011	Jesus Correa	LABORSUPP	Hourly	40.0	20.00	0.00	20.00	

**Figure: New columns on the Labor Rates form**

The system will use the information from the **Wage Rate** column when creating payroll transactions and the information from the **Costing Rate** column when creating project transactions. The burden rate is calculated as the costing rate minus the wage rate. If a user increases the wage rate above the costing rate, the system will automatically increase the costing rate so that the burden rate does not become negative.

## Changes to the Payroll Batches Form

On the **Earning** tab of the [Payroll Batches](#) (PR301000) form, the following changes have been introduced.

The **Record ID** column (which is hidden by default) has been added to the table and the **Import Time Activities** button has been added to the table toolbar. (See the following screenshot.)



Payroll Batches  
000066 - CSTRWEEKLY - 01-2021 - Construction Weekly Paygroup Payroll Batch 01-2021

NOTES FILES CUSTOMIZATION TOOLS

Batch ID: 000066 Pay Period: 01-2021 Number of Employees: 8  
 Status: Hold Period Start: 12/27/2020 Total Hour Qty: 280.00  
 Hold Period End: 1/2/2021 Total Earnings: 11,560.00  
 Payroll Type: Regular Transaction D.: 1/7/2021  
 Pay Group: CSTRWEEKLY Description: Construction Weekly Paygroup Payroll Batch 01-2021

EMPLOYEE EARNING DEDUCTIONS AND BENEFITS OVERTIME RULES

COPY SELECTED ENTRY IMPORT TIME ACTIVITIES

Record ID	Employee	Employee Name	Branch	Date	Code	Description	Location	Hours	Units	Unit Type	Rate	Manual Rate
6709	FARRALLPAT	Pat Farrall	PRODWH...	12/30/2020	RG	Regular Hours	BELLEVUE	8.00		Hour	30.00	<input type="checkbox"/>
6710	FARRALLPAT	Pat Farrall	PRODWH...	12/31/2020	RG	Regular Hours	BELLEVUE	8.00		Hour	30.00	<input type="checkbox"/>
6711	FARRALLPAT	Pat Farrall	PRODWH...	1/1/2021	RG	Regular Hours	BELLEVUE	8.00		Hour	30.00	<input type="checkbox"/>
6692	GIMMETHANN	Hanna Gimmet	PRODWH...	12/30/2020	RG	Regular Hours	BELLEVUE	8.00		Hour	45.00	<input type="checkbox"/>
6693	GIMMETHANN	Hanna Gimmet	PRODWH...	12/31/2020	RG	Regular Hours	BELLEVUE	8.00		Hour	45.00	<input type="checkbox"/>
6694	GIMMETHANN	Hanna Gimmet	PRODWH...	1/1/2021	RG	Regular Hours	BELLEVUE	8.00		Hour	45.00	<input type="checkbox"/>
6685	HANSONJOE	Joe Hanson	PRODWH...	12/28/2020	RG	Regular Hours	BELLEVUE	8.00		Hour	45.00	<input type="checkbox"/>
6686	HANSONJOE	Joe Hanson	PRODWH...	12/29/2020	RG	Regular Hours	BELLEVUE	8.00		Hour	45.00	<input type="checkbox"/>

Figure: New UI elements on the Earning tab of the Payroll Batches form

If a user imports records to the table by using the **Load Records from File** button on the table toolbar, the **Common Settings** dialog box opens, and the system uses the values in the **Record ID** column as follows:

- If the user selects **Update Existing** in the **Mode** box, the system will replace only the records that are already in the batch by using the **Record ID** values to determine which record must be replaced.
- If the user selects **Bypass Existing**, the system will do nothing with the records that are already in the batch by using the **Record ID** values to determine which records must be bypassed.
- If the user selects **Insert All Records**, the system will import all the records from the file, regardless of the **Record ID** values.

If a user clicks the **Import Time Activities** button on the table toolbar, the **Import Time Activities** dialog box opens. (See the following screenshot.) In this dialog box, the system lists all the released time activities that are available for the employees included in the batch and that belong to the pay period. A warning is shown next to each activity that is already included in the batch. If the user clears the **Show Imported Activities** check box, which is selected by default, the system will hide the activities that are already included in the batch. If the user deletes an earning record that is associated with a time activity, the time activity becomes available for import again.

Import Time Activities

Show Imported Activities

TOGGLE SELECTED

Selected	Owner	Employee Name	Branch ID	Date	Time Spent	Earning Type	Project	Projec
<input checked="" type="checkbox"/>	KINLEARJOR	Jordan Kinlear	PRODWHOLE	12/28/2020	10:00	RG	CSTRREST	01
<input checked="" type="checkbox"/>	KINLEARJOR	Jordan Kinlear	PRODWHOLE	12/29/2020	10:00	RG	CSTRREST	01
<input checked="" type="checkbox"/>	KINLEARJOR	Jordan Kinlear	PRODWHOLE	12/30/2020	10:00	RG	CSTRREST	01
<input checked="" type="checkbox"/>	KINLEARJOR	Jordan Kinlear	PRODWHOLE	12/31/2020	10:00	RG	CSTRREST	01
<input checked="" type="checkbox"/>	KINLEARJOR	Jordan Kinlear	PRODWHOLE	1/1/2021	10:00	RG	CSTRREST	01
<input type="checkbox"/>	SANCHEZALE	Alex Sanchez	PRODWHOLE	1/1/2021	10:00	RG	CSTRREST	08
<input type="checkbox"/>	SANCHEZALE	Alex Sanchez	PRODWHOLE	12/31/2020	10:00	RG	CSTRREST	08
<input type="checkbox"/>	SANCHEZALE	Alex Sanchez	PRODWHOLE	12/28/2020	06:00	RG	CSTRREST	08
<input type="checkbox"/>	SANCHEZALE	Alex Sanchez	PRODWHOLE	12/30/2020	08:00	RG	CSTRREST	08

ADD ADD & CLOSE CANCEL

Figure: The Import Time Activities dialog box

A user can edit the number of hours, the branch, the location, the account and subaccount, and the rate of an earning detail record that is linked with a time activity, but the information on the time activity will not be updated as a result.

The system now allows importing time activities with negative time specified but users cannot release batches with negative time activities. Also, if an earning record with zero hours is linked with a time activity, it is included in the payroll batch as well.

## Changes to the Paychecks and Adjustments Form

On the **Earning** tab of the *Paychecks and Adjustments* (PR302000) form, the **Import Time Activities** button has been added to the table toolbar. (See the following screenshot.) If a user clicks this button, the **Import Time Activities** dialog box opens. This dialog box is similar to the one described in the previous section.

Paychecks and Adjustments  
Regular 000479 - Michael Andrews

NOTES FILES CUSTOMIZATION

Type: Regular Employee: EP00000001 - Michael Andrews Gross Pay: 20,833.33  
 Reference Nbr.: 000479 Payment Method: FEDWIRE - Fedwire Deductions: 0.00  
 Status: Needs Calculation Cash Account: 10200 - Company Checking Account Taxes: 0.00  
 Hold Period Start: 6/1/2021 Net Pay: 20,833.33  
 Pay Group: MONTHLY - Monthly Pa Period End: 6/30/2021  
 Pay Period: 06-2021 Transaction Date: 6/1/2021  
 Posting Period: 06-2021 Description:

EARNING SUMMARY DEDUCTIONS TAXES PAID TIME OFF WORKERS' COMPENSATION UNION CERTIFIED PROJECT FINANCIAL

IMPORT TIME ACTIVITIES

Branch	Date	Code	Description	Location	Hours	Units	Unit Type	Rate	Manual Rate	Amount	Account	Subaccount	Project
PRODWH	6/1/2021	RG	Regular Hours	BELLEVUE	10.00		Hour			20,833.33	69500	000-000	

**Figure:** New button on the Earning tab of the Paychecks and Adjustments form

On this tab, a user also can edit the number of hours, the branch, the location, the account and subaccount, and the rate of an earning detail record that is linked with a time activity, but the information on the time activity will not be updated as a result.

The system now allows importing time activities with negative time specified but users cannot save or calculate a paycheck of the *Regular* or *Special* type with negative time activities. Also, if an earning record with zero hours is linked with a time activity, it is included in the paycheck as well.

## Changes to the Payroll Preferences Form

On the **General** tab of the *Payroll Preferences* (PR101000) form, the list of time posting options that indicate how the time and expenses transactions should be processed on release of time activities reported for payroll employees has been updated. With the new options, project costs may be at first calculated based on released time activities and then they may be recalculated based on earning details from released payroll documents. As a result, a project manager may be able to immediately review how the reported activities impact the project costs and then, after payroll documents are released, review the actual costs of the project.

Now the following options are available in the **Time Posting Option** drop-down list, as shown in the screenshot below:

- **Do Not Post PM Transactions:** The system generates no PM transactions. This option appears only if *No Cost Assigned* is selected in the **Project Cost Assignment** box.
- **Post PM Transactions from Time Activities Using an Off-Balance Account Group:** Project transactions are created during the release of time activities. The project transactions update the balances of the *Off-Balance* account group selected in the **Off-Balance Account Group** box, which appears under this box. When released, payroll transactions do not create any PM transactions—only GL transactions are created.

This option appears only if *No Cost Assigned* is selected in the **Project Cost Assignment** box.

- *Post PM Transactions from Time Activities and Override Them with Payroll Information*: Project transactions are created during the release of time activities. The project transactions update the balances of the *Off-Balance* account group selected in the **Off-Balance Account Group** box, which appears under this box. When released, payroll transactions create PM transactions and GL transactions while the system reverts the PM transactions that were previously generated from time activities.

This option appears only if *Wage Costs Assigned* or *Wage Costs and Labor Burden Assigned* is selected in the **Project Cost Assignment** box.

- *Post PM and GL Transactions from Time Activities and Override Them with Payroll Information*: Project transactions and GL transactions are created during the release of time activities. When released, payroll transactions create PM transactions and GL transactions while the system reverts the PM and GL transactions that were previously generated from time activities.

This option appears only if *Wage Costs Assigned* or *Wage Costs and Labor Burden Assigned* is selected in the **Project Cost Assignment** box.

- *Post PM and GL Transactions from Payroll Only*: No project transactions and no GL transactions are created during the release of time activities. When released, payroll transactions create PM transactions and GL transactions.

This option appears only if *Wage Costs Assigned* or *Wage Costs and Labor Burden Assigned* is selected in the **Project Cost Assignment** box.

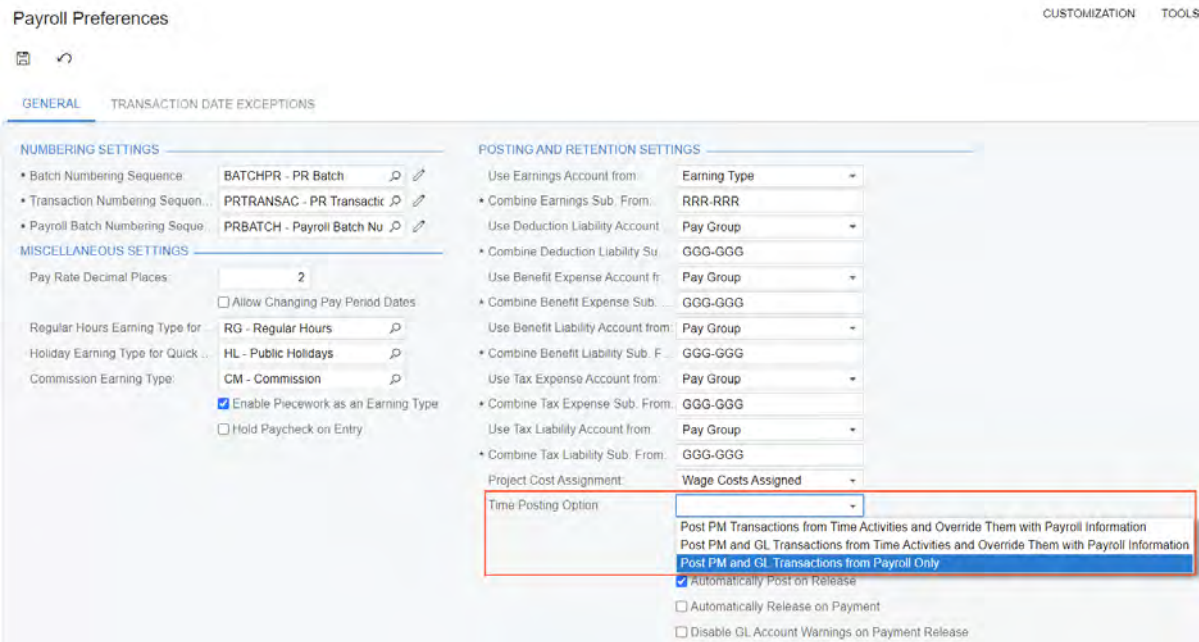


Figure: New time posting options

A posting option for non-payroll employees can be selected in the **Posting Option for Non-Payroll Employees** box on the **General Settings** tab of the *Time and Expenses Preferences* (EP101000) form.

### Other Changes

Now a user cannot correct a time card whose time activity has been imported to a payroll batch or paycheck, regardless of the status of the payroll document.

# Payroll: Improved Calculation of Taxable Wages

In Acumatica ERP 2021 R2, the way the system calculates the impact of deductions and benefits on taxable wages has been improved. To support this improvement, the following changes have been made on the **Tax Settings** tab of the [Deduction and Benefit Codes](#) (PR101060) form. (See the screenshot below.)

The **Benefit Type** box has been renamed to **Code Type**.

Also, the **Subject to Taxes** box has been renamed to **Impact on Taxable Wage**. As in previous versions of Acumatica ERP, this setting indicates the method to be used to determine the list of applicable taxes, but now the following options are available for selection:

- *Calculated by Tax Engine*: The code is subject to taxes retrieved from the tax engine based on the code type specified in the **Code Type** box, which is available only if this option is selected.
- *Reduced by Deduction Except Listed Below*: For a code with *Employee Deduction* selected in the **Contribution Type** box in the Summary area of the form, the system will use the code to decrease the taxable wage except for the taxes listed in the table on this tab. For a code with the *Both Deduction & Contribution* contribution type, the system will use the employee deduction component to decrease the taxable wage for every tax that is not added to the table and the employer contribution component to increase the taxable wage for the taxes added to the table.
- *Increased by Contribution Except Listed Below*: For a code with *Employer Contribution* selected in the **Contribution Type** box in the Summary area of the form, the system will use the code to increase the taxable wage except for the taxes listed in the table on this tab. For a code with the *Both Deduction & Contribution* contribution type, the system will use the employer contribution component to increase the taxable wage for every tax that is not added to the table and the employee deduction component to decrease the taxable wage for the taxes added to the table.

Deduction and Benefit Codes  
401P - 401P Pension Plan

Print              

* Code:	401P	<input checked="" type="checkbox"/> Active
* Description:	401P Pension Plan	<input type="checkbox"/> Is Garnishment
* Contribution Type:	Employer Contribution	<input checked="" type="checkbox"/> Affects tax calculation
Associated With:	Employee Settings	<input type="checkbox"/> ACA Applicable
Vendor:	BANKAMERIC - Bank of America	<input type="checkbox"/> Payable Benefit
Invoice Descr Source:	Code + Code Name	
Vendor Invoice Description:		

TAX SETTINGS   EMPLOYER CONTRIBUTION   GL ACCOUNTS

Impact on Taxable Wage: Calculated by Tax Engine  Allow Supplemental Election

\* Code Type:
 

- Calculated by Tax Engine
- Reduced by Deduction Except Listed Below
- Increased by Contribution Except Listed Below

Tax ID	Name
--------	------

Figure: Updated settings on the Tax Settings tab

# Payroll: Payroll Dashboards

Starting in 2021 R2, the following payroll dashboards are available in Acumatica ERP:

- *Payroll Operational View (DBPR001)*: A dashboard for payroll processing users where they can review the current situation for the current pay period for a selected pay group or for all pay groups at once. Also, by using the information on this dashboard, they can evaluate the readiness and completeness of the payroll processing.
- *Payroll Personal View (DBPR002)*: A dashboard for employees where they can review their personal information about past payments, income and deductions, and the availability of paid time off (PTO) hours.
- *Payroll Executive View (DBPR003)*: A dashboard for executives and auditors where they can review payroll-related information for the ongoing business year.

These dashboards include various key performance indicators (KPIs), metrics, and charts, and use generic inquiries to gather the underlying data. Users can access the dashboards from the **Dashboards** workspace, in the **Dashboard: Payroll** category.

## Payroll Operational View Dashboard

The *Payroll Operational View (DBPR001)* dashboard is shown in the following screenshot.



**Figure: Payroll Operational View dashboard**

The following table lists the widgets included in the *Payroll Operational View* dashboard and briefly describes each of them.

Widget	Widget Type	Description
<b>Current Pay Periods</b>	<i>Data Table</i>	All the current pay periods for all the pay groups or one pay period for the selected pay group.
<b>Headcount by Employee Class</b>	<i>Chart</i>	The number of active employees for each payroll employee class for the past six months, broken down by month.
<b>Payroll Processing Statistics</b>	<i>Pivot Table</i>	The number of paychecks created for the current pay period and processed. The information is broken down by status and paycheck type and includes unreleased and voided paychecks from the current pay period.
<b>Days Since Last Payment</b>	<i>Scorecard KPI</i>	The number of days since the last payment or transaction date of the pay periods preceding the current business date.
<b>Days Until Next Payment</b>	<i>Scorecard KPI</i>	The number of days until the first payment or transaction date after the current business date.
<b>New Hires/Rehires</b>	<i>Scorecard KPI</i>	The number of newly hired or rehired employees within the current pay period.
<b>Terminations</b>	<i>Scorecard KPI</i>	The number of employees whose employment was terminated within the current pay period.
<b>Changed Positions</b>	<i>Scorecard KPI</i>	The number of employees who were promoted or demoted within the current pay period.
<b>Employees Without Payroll Profile</b>	<i>Scorecard KPI</i>	The total number of active employees who have no linked payroll employee records.
<b>Payroll Hours by Employee Class</b>	<i>Chart</i>	Regular hours entered in paychecks for the current pay period and overtime hours for the current pay period, broken down by employee class. The information does not include hours of fringe rate earnings. For amount-based earning types, zero hours are displayed if no specific value is provided.
<b>Earnings by Employee Class</b>	<i>Chart</i>	The gross amount entered or calculated for each earning type and broken down by employee class. The information does not include fringe rate earnings.
<b>Deductions and Benefits</b>	<i>Chart</i>	Deductions and benefits calculated within the current pay period and broken down by deduction and benefit code. The information does not include zero deductions and benefits.
<b>Payroll Hours by Project</b>	<i>Chart</i>	Regular hours entered in paychecks for the current pay period and overtime hours broken down by project code. The information does not include fringe rate earnings.
<b>Earnings by Project</b>	<i>Chart</i>	The gross amount entered or transferred to paychecks for the payroll calculation, broken down by project and earning type code. The information does not include fringe rate earnings.

Widget	Widget Type	Description
<b>Payments by Type</b>	Chart	The sum of paycheck net amount for each payment type within the current pay period. The information includes all the paychecks with nonzero net pay amounts and does not include paychecks of the <i>Void</i> and <i>Adjustment</i> types.
<b>Taxes</b>	Chart	The tax amount calculated for the paychecks within the current pay period broken down by tax code.
<b>Liability Amount Due by Vendor</b>	Chart	The unbilled amount of liability bills grouped by category and vendor for the latest top 10 transaction dates. The information includes released paychecks that have not been voided and that have updated the general ledger. The information does not include payable benefits.

## Payroll Personal View Dashboard

The *Payroll Personal View (DBPR002)* dashboard is shown in the following screenshot.



Figure: Payroll Personal View dashboard

The following table lists the widgets included in the *Payroll Personal View* dashboard and briefly describes each of them.

Widget	Widget Type	Description
<b>Gross Pay</b>	Scorecard KPI	The total amount of the employee's earnings before taxes from all paid paychecks from the last pay period. The information does not include voided checks.
<b>Deductions</b>	Scorecard KPI	The total amount of the employee's deductions from all paid paychecks from the last pay period. The information does not include voided checks.

Widget	Widget Type	Description
<b>Benefits</b>	<i>Scorecard KPI</i>	The total amount of the employee's benefits from all paid paychecks from the last pay period. The information does not include voided checks.
<b>Taxes</b>	<i>Scorecard KPI</i>	The total amount of the employee's taxes from all paid paychecks from the last pay period. The information does not include voided checks.
<b>Net Pay</b>	<i>Scorecard KPI</i>	The employee's total net amount from all paid paychecks from the last pay period. The information does not include voided checks.
<b>My Income and Deductions</b>	<i>Chart</i>	The employee's summarized net pay amount and the summarized amount of the employee's deductions and taxes taken from the paychecks for the last six pay periods grouped by period and category. The information does not include voided checks.
<b>PTO Hours Used This Year</b>	<i>Chart</i>	The number of hours used for each active PTO bank of the employee during the current business year. The information does not include voided checks but includes adjustments.
<b>My Pay Stubs</b>	<i>Data Table</i>	The list of the employee's pay stubs for the last six pay periods of the current business year.
<b>My Payroll Hours</b>	<i>Chart</i>	The summarized number of hours entered or transferred to the employee's paychecks for the payroll calculation differentiated by earning types and grouped by pay period for the last six pay periods. The information does not include voided checks and fringe rate earnings.
<b>My PTO Hours Balance</b>	<i>Data Table</i>	The employee's active PTO banks with the hours earned, spent and available for the current business year as of selected business date. The information does not include voided paychecks but includes adjustments.
<b>Days Since Last Payment</b>	<i>Scorecard KPI</i>	The number of days since the last payment or transaction date of the pay periods preceding the current business date.
<b>Days Until Next Payment</b>	<i>Scorecard KPI</i>	The number of days until the first payment or transaction date after the current business date.
<b>My Earnings Last Pay Period</b>	<i>Chart</i>	The summarized amount of the employee's earnings from all paid paychecks in the last pay period split by earning type code. The information does not include voided paychecks.
<b>My Project Hours Last Pay Period</b>	<i>Chart</i>	The number of project hours the employee worked, according to the paychecks from the last pay period. The information does not include voided checks and fringe rate earnings.
<b>My Last Payment Details</b>	<i>Data Table</i>	The list of accounts or checks used for the last payment.



## Payroll Executive View Dashboard

The *Payroll Executive View (DBPR0003)* dashboard is shown in the following screenshot.

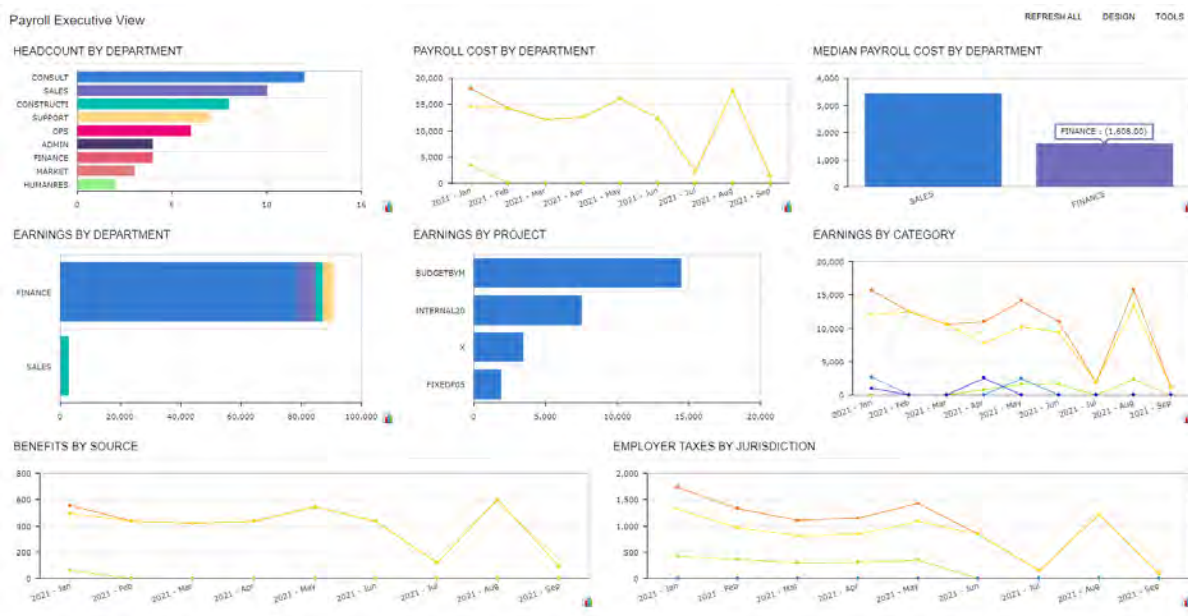


Figure: Payroll Executive View dashboard

The following table lists the widgets included in the *Payroll Executive View* dashboard and briefly describes each of them.

Widget	Widget Type	Description
<b>Headcount by Department</b>	Chart	The number of active employees in each department as of the current business date.
<b>Payroll Cost by Department</b>	Chart	The summary of gross amounts, benefit amounts, and employer tax amounts of paychecks for the selected period of time, which is the current business year by default, broken down by department. Also, the total cost amount across all the departments is displayed.
<b>Median Payroll Cost by Department</b>	Chart	The median cost of payroll for each department over the selected period of time, which is the current business year by default.
<b>Earnings by Department</b>	Chart	The total amount earned by employees over the selected period of time, broken down by department. Only the ten most expensive departments are displayed.
<b>Earnings by Project</b>	Chart	The total amount earned by employees over the selected period of time, broken down by project. The information includes non-project activities associated with the project X. Only the ten most expensive projects are displayed.

Widget	Widget Type	Description
<b>Earnings by Category</b>	<i>Chart</i>	The total amount earned by employees over the selected period of time, broken down by earning type category. Also, the total amount earned across all the categories is displayed.
<b>Benefits by Source</b>	<i>Chart</i>	The amount of benefits paid by the employer over the selected period of time, which is the current business year by default, broken down by source. Also, the total amount of all the listed benefits is displayed. The information does not include codes related to workers' compensation and certified projects.
<b>Employer Taxes by Jurisdiction</b>	<i>Chart</i>	The amount of taxes paid by the employer over the selected period of time, which is the current business year by default, broken down by tax jurisdiction. Also, the total monthly tax amount across all the categories is displayed.

# Payroll: Projects and Project Tasks as Sources of GL Accounts and Subaccounts

Starting in Acumatica ERP 2021 R2, projects and project tasks can be used as the sources of the earning, benefit expense, and tax expense accounts and subaccounts that are used in paychecks and payroll batches, and if an earning detail line is not linked with a project or project task, the system will use the fallback source settings to obtain the accounts. This will help payroll administrators better understand where the costs originate.

## Changes to the Projects and Project Tasks Forms

If the *Projects* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, a user can specify earning, benefit expense, and tax expense accounts and subaccounts in the **Payroll Values** section that has been added on the following forms:

- [Projects](#) (PM301000), on the **Defaults** tab
- [Project Tasks](#) (PM302000), on the **Summary** tab

An example of the new settings is shown in the following screenshot.

Project Tasks  
INTERNAL21 02TRAIN - Training Internal projects 2021 - track expenses

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\* Project ID: INTERNAL21 - Internal projects 2021 · ⓘ Status: Active  
 \* Task ID: 02TRAIN - Training ⓘ  Default  
 \* Description: Training

SUMMARY RECURRING BILLING ACTIVITIES ATTRIBUTES

**TASK PROPERTIES**

Planned Start Date: \_\_\_\_\_  
 Planned End Date: \_\_\_\_\_  
 Start Date: 1/1/2021 ▾  
 End Date: 12/31/2021 ▾  
 \* Completion Method: Manual ▾  
 Completed (%): 0.00  
 Approver: \_\_\_\_\_ ⓘ

**BILLING AND ALLOCATION SETTINGS**

Bill Separately

Customer: \_\_\_\_\_  
 Location: \_\_\_\_\_ ⓘ  
 Allocation Rule: CPINT - Cost-Plus internal projects (b ⓘ  
 Billing Rule: INTERNAL - Internal projects - no billir ⓘ  
 Branch: \_\_\_\_\_ ⓘ  
 Rate Table: STANDARD - Standard Rate Table ⓘ  
 Billing Option: By Billing Period  
 Non-Billable WIP Acco... \_\_\_\_\_ ⓘ

**DEFAULT VALUES**

Default Sales Account: 40000 - Sales Revenue ⓘ  
 Default Sales Subacco... 000-000 - Default  
 Default Cost Account: 40000 - Sales Revenue ⓘ  
 Default Cost Subaccount: 000-000 - Default  
 Accrual Account: \_\_\_\_\_ ⓘ  
 Accrual Subaccount: \_\_\_\_\_  
 Tax Category: \_\_\_\_\_ ⓘ

**PAYROLL VALUES**

Earnings Account: 69500 - Wages ⓘ  
 Earnings Sub.: 000-CON - Consulting  
 Benefit Expense Account: 69500 - Wages ⓘ  
 Benefit Expense Sub.: 000-CON - Consulting  
 Tax Expense Account: 65300 - Wages:Payroll Tax Expenses ⓘ  
 Tax Expense Sub.: 000-CON - Consulting

**VISIBILITY SETTINGS**

GL  AP  AR  SO  PO  
 IN  CA  CRM  
 Time Entries  Expenses

Figure: Payroll Values section of settings

On the **Tasks** tab of the *Projects* form, the **Earnings Account**, **Earnings Sub.**, **Benefit Expense Account**, **Benefit Expense Sub.**, **Tax Expense Account**, and **Tax Expense Sub.** columns have been added. These columns are hidden by default, but they can be made visible in the table through the **Column Configuration** dialog box.

## Changes to the Payroll Preferences Form

On **General** tab of the *Payroll Preferences* (PR101000) form, the following changes have been made (as illustrated in the screenshot below):

- In the **Use Earnings Account From**, **Use Benefit Expense Account From**, and **Use Tax Expense Account From** boxes, the *Project* and *Task* options are now available for selection. Depending on the selected option, the system will be able to use the corresponding account from the **Payroll Values** settings of the project or project task.
- If *Project*, *Task*, or *Labor Item* is selected in the **Use Earnings Account From**, **Use Benefit Expense Account From**, or **Use Tax Expense Account From** box, the **Fallback Account Source** box appears next to the updated box. In the **Fallback Account Source** box, the user can specify the source of the account that the system should use for the earning detail lines that are not associated with any project, project task, or labor item, respectively.
- In the **Combine Earnings Sub. From**, **Combine Benefit Expense Sub. From**, and **Combine Tax Expense Sub. From** boxes, the following additional options can be used in each segment of the subaccount mask:
  - *J*: The subaccount associated with the project
  - *T*: The subaccount associated with the project task
- If an option for a project, project task, or labor item is used in the **Combine Earnings Sub. From**, **Combine Benefit Expense Sub. From**, or **Combine Tax Expense Sub. From** box, the **Fallback Sub. Source** box appears next to the updated box. In the **Fallback Sub. Source** box, the user can specify the source of the subaccount that the system should use for the earning detail lines that are not associated with any project, project task, or labor item, respectively.

The screenshot displays the 'Payroll Preferences' form, specifically the 'GENERAL' tab. The 'POSTING AND RETENTION SETTINGS' section is highlighted with a red box. This section contains several dropdown menus for selecting account sources. The 'Use Earnings Account from' dropdown is set to 'Project'. The 'Use Benefit Expense Account from' dropdown is set to 'Task'. The 'Use Tax Expense Account from' dropdown is set to 'Project'. To the right of these dropdowns, there are three 'Fallback Account Source' and 'Fallback Sub. Source' fields. The first 'Fallback Account Source' is set to 'Earning Type' and the corresponding 'Fallback Sub. Source' is 'RRR-RRR'. The second 'Fallback Account Source' is set to 'Benefit & Deduction Code' and the corresponding 'Fallback Sub. Source' is 'GGG-GGG'. The third 'Fallback Account Source' is set to 'Tax Code' and the corresponding 'Fallback Sub. Source' is 'GGG-GGG'. The 'Project' and 'Task' options in the dropdowns are highlighted with a red box.

Figure: New elements on the Payroll Preferences form

# Payroll: Shift Differential

In Acumatica ERP 2021 R2, the ability to set up an employee's pay rate that depends on the employee work schedule has been introduced.

The following changes have been implemented to support this new capability.

## Changes to the Enable/Disable Features Form

On the [Enable/Disable Features](#) (CS100000) form, the check box that was previously labeled as **Time Reporting on Activity** has been moved from the **Platform > Monitoring and Automation** group of features into a separate node under the **Platform** node and renamed to **Time Management**.

A new check box, **Shift Differential**, has been added to the **Time Management** group of features, as shown in the following screenshot. If this check box is selected, a new form, *Shift Codes* (EP103000), becomes available in the **Time and Expenses** workspace, in the **Preferences** category. (If the *Payroll* feature is also enabled, the *Shift Codes* form appears in the **Payroll** workspace, in the **Preferences** category, as well.) Also, UI elements that allow establishing the connection between pay rates and work shifts become available on various forms related to employee time activities, employee settings, and payroll documents.



*Figure: The Time Management group of features*

## Shift Codes Form

The *Shift Codes* (EP103000) form, which is shown in the following screenshot, is available only if the *Shift Differential* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

* Effective Date	Type	Percent	Wage Amount	Costing Amount	Burden Amount
1/1/2019	Percent	10.00			
1/1/2021	Amount		1.00	2.00	1.00

**Figure: Shift Codes form**

By using this form, a payroll manager can create rules of pay increase calculation for a work shift.

The form consists of a form toolbar, which includes only standard toolbar buttons, and two panes.

On the left pane, a user can enter a shift identifier and a description of the shift. A shift with the **Active** check box selected is available for selection on the relevant forms.

On the right pane, a user can specify how a pay increase should be calculated for the work shift that is selected on the right pane. If different rules should be used for the same shift over the course of time, the user can enter multiple rules, but each entry must have a different effective date. When the shift is specified for a time activity or earning detail line, the system compares the activity date or the earning date with the effective dates of the shift rules to determine which rule must be used for the pay rate calculation.

When creating a rule, the user can specify in the **Type** column whether the current pay rate should be increased by an amount or by a percentage. If *Percent* is selected, the user can enter a percent of the current pay rate in the **Percent** column; in this case, the system will add the percentage to the current pay rate. If *Amount* is selected, the user can do the following:

- In the **Wage Amount** column, specify the amount to be added to the pay rate used for earning entries in payroll documents
- In the **Costing Amount** column, specify the amount to be added to the labor rate used in project cost calculation. This amount includes the wage amount and the cost of benefits and taxes incurred for the employee, or the burden amount.

In the **Burden Amount** column, the difference between the costing amount and wage amount is displayed.

In a rule, a costing amount cannot be lower than the wage amount in the same line, and a wage amount cannot be higher than the costing amount.

A shift code that is specified for a time activity or earning entry cannot be deleted.

## Other Changes

The **Shift Code** column has been added to the tables on the following forms:

- [Employee Time Activities](#) (EP307000)
- [Weekly Crew Time Entry](#) (EP307100), on the **Time Activities** tab
- [Employee Time Card](#) (EP305000), on the **Summary** and **Details** tabs
- [Payroll Batches](#) (PR301000), on the **Earning** tab and in the **Employee Earning Details** dialog box
- [Paychecks and Adjustments](#) (PR302000), on the **Earning** tab

If a user imports earned hours from an Excel spreadsheet by using the **Load Records from File** button on the table toolbar of the **Earning** tab of the *Payroll Batches* form, the information about the shift codes specified for the time activities will also be imported (if available).

On the **General Info** tab of the *Employees* (EP203000) form, in the **Employee Settings** section, the **Shift Code** box has been added, as shown in the following screenshot. The shift code specified in this box will be inserted by default for any new time activity or earning record entered for the employee. This shift code will not be inserted for an imported time activity that already has a different shift code specified.

Employees NOTES FILES CUSTOMIZATION TOOLS ▾

EP00000020 - Eric Killian

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\* Employee ID: EP00000020 Status: Active ▾

Employee Name: Eric Killian

GENERAL INFO EMPLOYMENT HISTORY FINANCIAL SETTINGS ATTRIBUTES ACTIVITIES MAILINGS >>

---

**CONTACT INFO**

Title: Mr. ▾

First Name: Eric

Middle Name:

\* Last Name: Killian

Phone 1: Home ▾ +1 (777) 898-4254

Phone 2: Cell ▾

Phone 3: Business 1 ▾

Fax: Home Fax ▾

Email: ekillian@revisiontwo.com ✉

Web: ✎

---

**ADDRESS INFO**

ADDRESS LOOKUP

Address Line 1: 1517 Farsta Ct

Address Line 2:

City: Reston

\* Country: US - United States of America ▾

State: VA - VIRGINIA ▾

Postal Code: 20190

---

**EMPLOYEE SETTINGS**

Employee Ref. No.:

\* Employee Class: EMPHOURLY - Employee - Hourly 🔍 ✎

\* Branch: SERVEAST - Services East 🔍 ✎

\* Department: SALES - Sales 🔍 ✎

\* Calendar: EST - Eastern Time Zone 🔍 ✎

Default Workgroup: 🔍

Regular Hours Validation: Warning Only ▾

Reports to: EP00000024 - Jason Mendenhall 🔍 ✎

Salesperson: SP0005 🔍 ✎

Employee Login: killian - Eric Killian

Currency ID: USD 🔍  Enable Currency Override

Curr. Rate Type: SPOT 🔍  Enable Rate Override

Base Currency ID: USD

Labor Item: LABORSALES - Labor - Sales 🔍

**Shift Code: SECOND - Second shift 🔍**

Route Emails

Time Card is Required

Staff Member in Service Management

Synchronize to Exchange

---

**PERSONAL INFO**

Date Of Birth: 10/10/1980 ▾

**Figure: The new box on the Employees form**

# Payroll: Support of the Salaried Exempt Employee Type in Payroll Documents

In previous versions of Acumatica ERP, the system allowed using overtime earnings in payroll batches and paychecks of salaried exempt employees. Also, for different pay periods, salaried employees could receive pay stubs for different amounts.

In Acumatica ERP 2021 R2, employees with the *Salaried Exempt* employee type cannot have overtime earnings. If needed, the employee type of an employee can be changed for a particular paycheck or payroll batch.

## Changes to the Payroll Batches Form

The following changes have been made to the [Payroll Batches](#) (PR301000) form.

In the **Employee Earning Details** dialog box, which opens if a user clicks **Employee Earning Details** on the table toolbar of the **Employee** tab, the **Salaried Non-Exempt** check box has been replaced with the **Employee Type** box with a drop-down list that includes the following options (as shown in the following screenshot):

- *Salaried Exempt*: The employee is compensated based on their salary. Overtime hours are not allowed for this type of employee.
- *Salaried Non-Exempt*: The employee is compensated based on their salary, with overtime hours paid additionally.
- *Hourly*: The employee is paid based on an hourly rate for the hours worked.
- *Other – piecework, commission only, etc.*: The employee is compensated based on some other factor (for example, for each item produced).

*Branch	*Date	*Code	Description	*Location	Hours	Units	Unit Type	Rate	Manual Rate	Amount	Account	Subaccount	P
> PRODWH...	12/28/2020	RG	Regular Hours	BELLEVUE	8.00		Hour		<input type="checkbox"/>	240.00	69500	000-000	
PRODWH...	12/29/2020	RG	Regular Hours	BELLEVUE	8.00		Hour		<input type="checkbox"/>	240.00	69500	000-000	
PRODWH...	12/30/2020	RG	Regular Hours	BELLEVUE	8.00		Hour		<input type="checkbox"/>	240.00	69500	000-000	
PRODWH...	12/31/2020	RG	Regular Hours	BELLEVUE	8.00		Hour		<input type="checkbox"/>	240.00	69500	000-000	
PRODWH...	1/1/2021	RG	Regular Hours	BELLEVUE	8.00		Hour		<input type="checkbox"/>	240.00	69500	000-000	

Figure: The Employee Earning Details dialog box

On the **Earning** tab, for a salaried exempt employee, if the user inserts overtime hours or imports time activities that include overtime hours, an error message will be displayed until the user deletes the overtime record or changes the employee type.

## Changes to the Paychecks and Adjustments Form

On the **Financial** tab of the [Paychecks and Adjustments](#) (PR302000) form, the **Salaried Non-Exempt** check box has been replaced with the **Employee Type** box.



If the *Salaried Exempt* employee type is selected, the paycheck cannot include overtime hours. For an earning detail line with overtime hours, an error message will be displayed until the user deletes the overtime record or changes the employee type.

If a user changes the employee type to *Salaried Exempt*, the overtime rules, if any specified in the related payroll batch, will not be applied to the document.

## Changes to the Employee Class and Employee Payroll Settings Forms

The following changes have been made on the **Payroll** tab of the *Employee Payroll Class* (PR202000) form and on the **General** tab of the *Employee Payroll Settings* (PR203000) form:

- If a user selects *Salaried Exempt* in the **Employee Type** box, the **Exempt from Overtime Rules** check box becomes selected and non-editable.
- If a user selects *Salaried Non-Exempt* in the **Employee Type** box, the **Exempt from Overtime Rules** check box becomes cleared and non-editable.

## Upgrade Notes

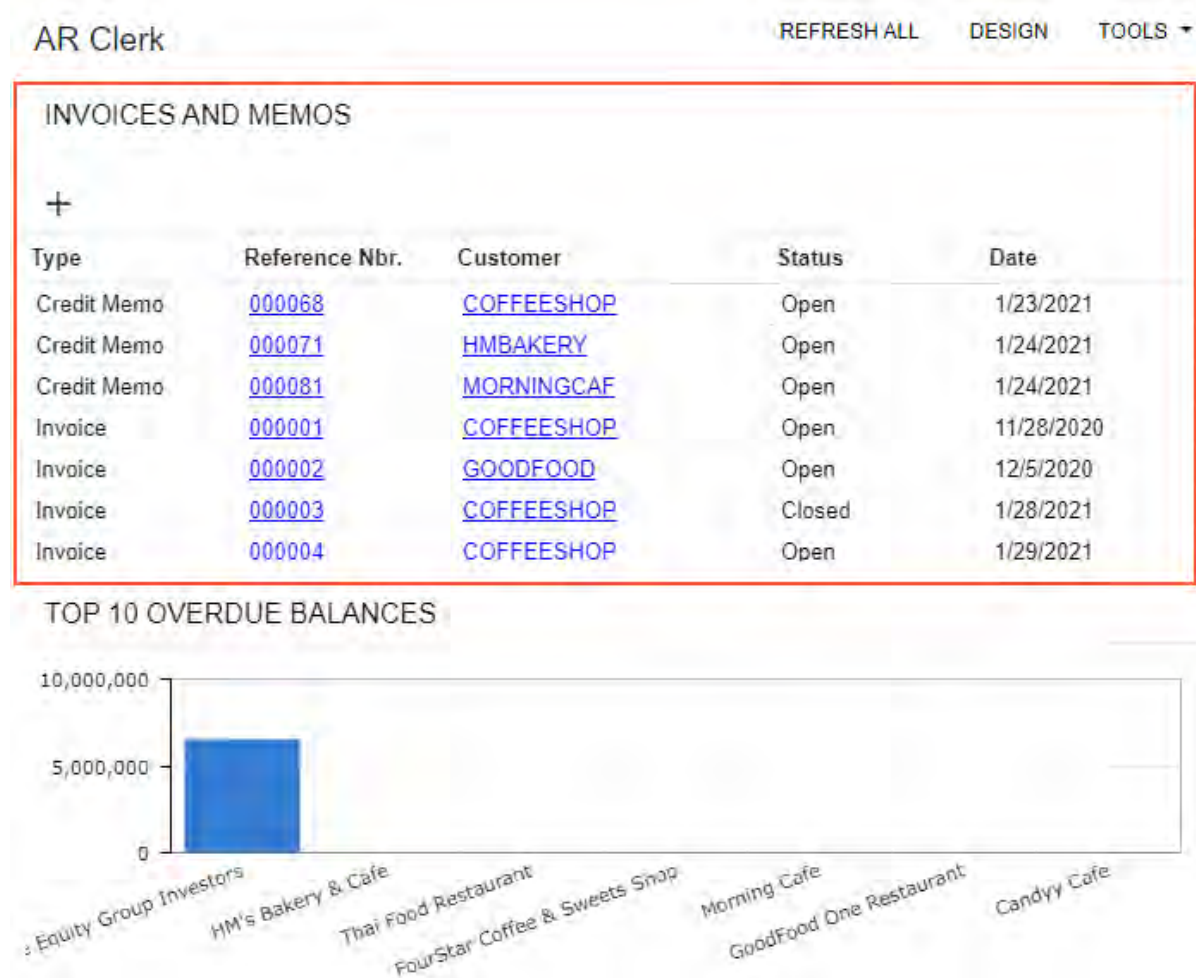
After an upgrade to Acumatica ERP 2021 R2, all existing payroll batches and paychecks with the cleared **Salaried Non-Exempt** check box will have **Employee Type** set to *Hourly*.

# Platform: Data Sorting in the Data Table Widget

Starting in Acumatica ERP 2021 R2, a user can sort the data in a data table widget on a dashboard.

## Sorting of the Data in a Data Table Widget

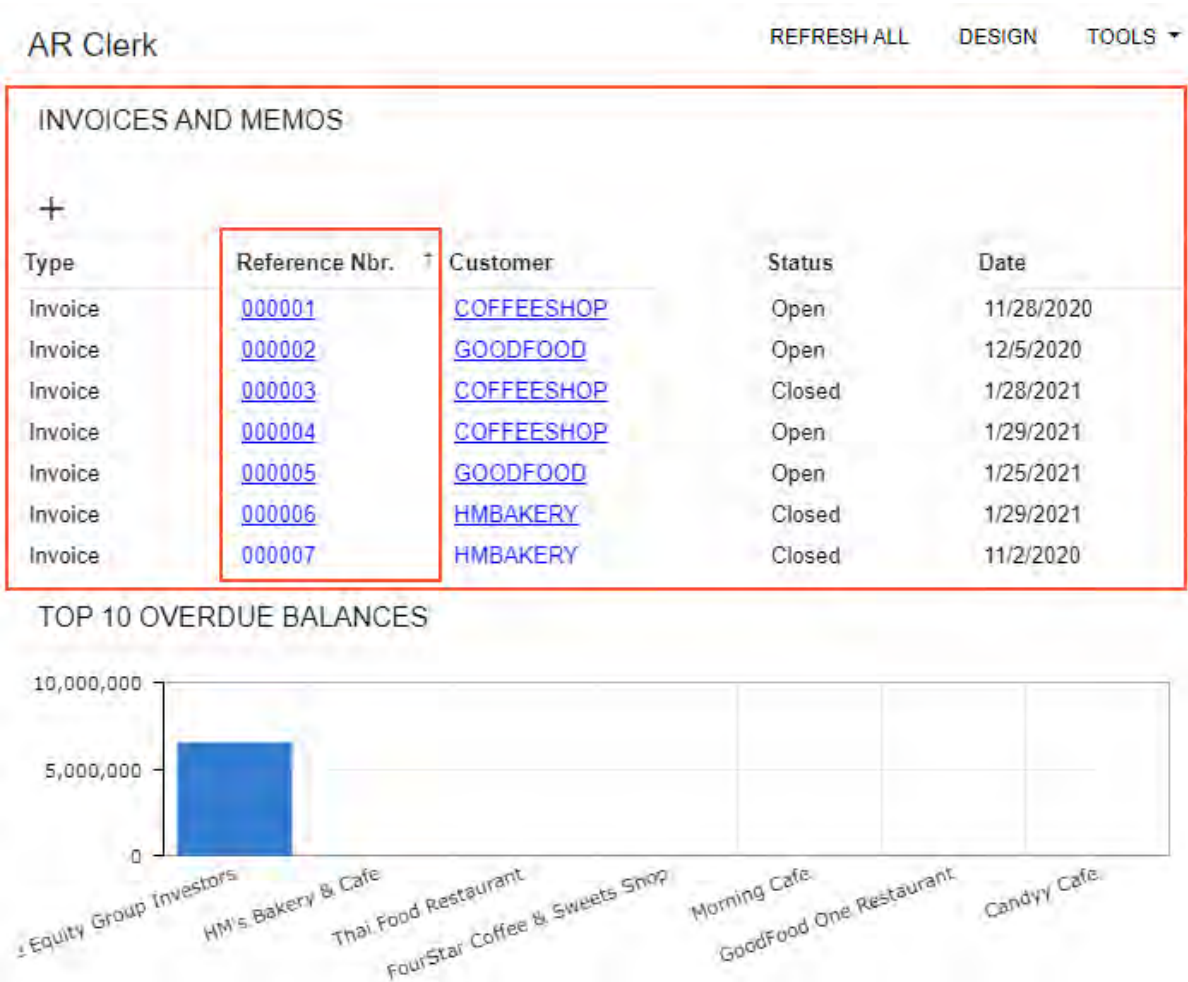
When a data table widget is used on a dashboard, the data in the widget is not sorted. For example, the following screenshot demonstrates the AR Clerk dashboard with the *Invoices and Memos* data table widget before its data has been sorted by a user.



**Figure:** The *Invoices and Memos* data table widget before sorting

A dashboard user can sort the rows in the table by the values in a column of the data table widget by clicking the column header. Each time a user clicks a column header, Acumatica ERP sorts the data in the table by the data in this column in ascending or descending order and displays an arrow icon right of the column header that indicates the sort order. The up arrow means that the rows are sorted in ascending sorting order of the values in this column, and the down arrow means that the rows are sorted in descending sorting order of the values in the column. The following screenshot shows the AR Clerk dashboard with the *Invoices and Memos* data table widget after a user has sorted the data in the table by the data in the **Reference Nbr.** column in ascending order.

Figure: The Invoices and Memos data table widget with sorting by reference number



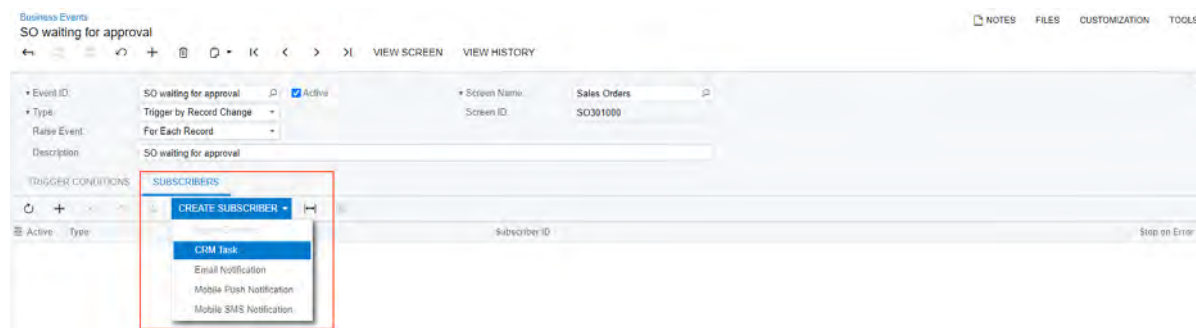
Acumatica ERP saves the sorting in the data table widget on the dashboard within the user's session. The user can open any Acumatica ERP forms and then return to this dashboard, and the data in the data table widget on the dashboard remains sorted until the user signs out. When the user signs in to Acumatica ERP again, the data in the data table widget on the dashboard is displayed without the user's previous sorting applied—that is, the data is displayed in its predefined state.

# Platform: New CRM Task Subscriber on the Business Events Form

In Acumatica ERP 2021 R2, a new type of subscriber, *CRM Task*, has been added to the [Business Events](#) (SM302050) form. Now a customizer can create a task template for a task that is automatically assigned to an assignee when a particular business events occurs in the system. For example, the customizer can create a task template for a task that will be assigned to an approver after a new sales order is assigned the *Pending Approval* status.

## Creating a Task Template

To create a new task template for a task related to a business event, the customizer opens an existing event or creates a new one on the [Business Events](#) (SM302050) form. On the table toolbar of the **Subscribers** tab, the customizer clicks **Create Subscriber > CRM Task**, as shown in the following screenshot.



*Figure: The new CRM Task subscriber type*

When the customizer selects the new subscriber type, the system opens the [Task Templates](#) (SM204005) form, which opens in a pop-up window. On this form, the customizer specifies the settings of the task related to the particular business event.

In the Summary area, the customizer specifies the following required settings:

- **Description:** The description of the task template. The system uses this description as a unique ID of the created task template.
- **Screen ID:** The screen name of the inquiry or data entry form whose data the system should monitor to detect whether the business event has occurred. The values of the data fields of the selected screen ID can be used in the boxes of the task template. If the customizer creates the task template from [Business Events](#) (SM302050) form, the system automatically fills in this box with the screen ID selected for the business event.
- **Owner:** The employee for whom the system assign the task.
- **Summary:** A short summary of the task. The customizer can select data fields of the selected screen ID.

On the **Body** tab, in the message body, the customizer can enter a message with required details that will be displayed to an assignee of a task. The customizer can click **Insert Data Field** on the formatting toolbar to insert as a placeholder any data field provided by the data entry form or the inquiry selected in the **Screen ID** box of the form. The customizer can click **Insert Previous Data Field** on the formatting toolbar to insert as a placeholder any data field whose value was retrieved before the business event occurred.

On the **Task Settings** tab, the customizer defines the following properties of the task:

- **Start Date:** The start date and time of the task.
- **End Time:** The end date of the task.
- **Priority:** The priority level of the task: *Low*, *Normal*, or *High*.

- **Status:** The status of the task.
- **Category:** The category of the task.
- **Workgroup:** The responsible workgroup.
- **Contact:** The contact person associated with the task.
- **Business Account:** The business account associated with the task.
- **Internal:** A check box that a customizer selects if the task should be hidden from external users.
- **Reminder:** A check box that a customizer selects if a reminder should be set for the task.
- **Remind at:** The date when the reminder should be sent.
- **Project:** The project associated with this task.
- **Project Task:** The particular project task with which this task is associated.

The following screenshot shows an example of the specified task settings on the **Task Settings** tab of the *Task Templates* form.

Active	Field Name	From Schema	Value
<input checked="" type="checkbox"/>	Start Date	<input checked="" type="checkbox"/>	5/5/2021 12:00 AM
<input checked="" type="checkbox"/>	End Time	<input type="checkbox"/>	@Today+5
<input checked="" type="checkbox"/>	Priority	<input checked="" type="checkbox"/>	Normal
<input checked="" type="checkbox"/>	Status	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Category	<input checked="" type="checkbox"/>	Green Category
<input checked="" type="checkbox"/>	Workgroup	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Contact	<input checked="" type="checkbox"/>	3213
<input checked="" type="checkbox"/>	Business Account	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Reminder	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Remind at	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	Project	<input type="checkbox"/>	SOOrder.ProjectID
<input checked="" type="checkbox"/>	Project Task	<input type="checkbox"/>	SOOrder.ProjectTaskID

*Figure: Task settings on the Task Templates form*

If a subscriber to a business event is a CRM task, when the business event occurs in the system, the system automatically creates a new task and fills in the necessary boxes based on the task template the customizer has configured.

## Viewing the Business Events that Trigger the Task Template

The **Created by Events** tab of the *Task Templates* (SM204005) form, which the customizer uses to view or change the business events that trigger the selected task template, is shown in the following screenshot.

*Event ID	Description	Active	Type
SO_WAITING_FOR_APPROVAL	SO waiting for approval	<input checked="" type="checkbox"/>	Trigger by Record Change

*Figure: Business events associated with the task template*

If the customizer clicks a link in the **Event ID** column on the tab, the system opens the [Business Events](#) form for the selected event. The customizer can also create an event by clicking **Create Business Event** on the table toolbar, add a link to an existing event by clicking **Add Row** on the table toolbar, or delete a business event from the list.

# Platform: Customization of the New Toolbar

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In Acumatica ERP 2021 R2, the user interface of the form toolbars of multiple forms has been enhanced. All form-specific commands are now grouped in a separate menu. Within the menu, the commands are sorted by category. For details on the new toolbar, see [User Interface: Redesigned Form Toolbar](#).



During an update to Acumatica ERP 2021 R2, all custom and customized forms will be updated to display the redesigned toolbar. To cause the toolbar to be displayed correctly on custom and customized forms or to display the old version of the toolbar, before the update, a developer needs to modify these forms, as described in Upgrade Procedure: Redesigned Form Toolbar on Custom and Customized Forms in the [Release Notes for Developers](#).

## Customization of the New Toolbar

The new toolbar can be customized through both the UI and code.

To customize the new toolbar through the user interface, a customizer uses the Customization Project Editor and specifies connotations, categories, and the order of the commands on the More menu. For details on how to modify the toolbar through the UI, see [Customization: Updates in the Customization Project Editor](#) (the **Actions Page** section).

For details on how to customize the toolbar through code, see [Workflow: Ability to Assign Categories and Connotations to Actions](#).

# Platform: DAC Schema Browser

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Users of Acumatica ERP do not access the database directly. Instead, they access data access classes (DACs)—that is, programming objects used to represent and provide access to a database table in the code of Acumatica ERP. These DACs are used when customizations are made to Acumatica ERP, including the design of generic inquiries and reports.

Starting in Acumatica ERP 2021 R2, customizers and users designing generic inquiries and reports can use the new Acumatica ERP DAC Schema Browser to get such information as the following about any DAC:

- Basic details about the selected DAC—for example, display name, namespace, description, and related DACs
- A table showing all fields of the selected DAC and information about each field, such as the field name, field type, description, and icons that are shown if the field is a primary key, a foreign key, or both types of keys
- Tags that indicate additional information about the type of the DAC—for example, *Obsolete*, *Hidden*, and *Projection*

For generic inquiry and report designers, all this information can be used to understand which DACs should be used in generic inquiries and reports, and how to join these DACs.

For customizers, this information can be used to do the following:

- Obtain more detailed information about a DAC than the Element Inspector provides
- Learn the dependencies between DACs
- Ascertain where the data is used and understand the origin of the field data
- Determine what fields have been added or modified by customization projects, and find out the names of these projects

To access the DAC Schema Browser, an Acumatica ERP user should have at least one of the following predefined roles:

- *Administrator*
- *Report Designer*
- *Customizer*

## Opening of the DAC Schema Browser

A customizer or a designer of generic inquiries and reports can open the DAC Schema Browser by doing one of the following:

- Selecting a generic inquiry on the [Generic Inquiry](#) (SM208000) form and clicking the name of a DAC in the **Table Name** column on the **Tables** tab. This opens the DAC Schema Browser for the selected DAC.  
For details, see the *Changes to the Generic Inquiry (SM208000) Form* section below.
- Opening a form and clicking **Tools > DAC Schema Browser** on the form title bar. This opens the DAC Schema Browser for the primary DAC of the current form. If a form does not have a primary DAC, the DAC Schema Browser opens with an empty page.  
For details, see the *Changes to the Tools Menu on Forms* section below.
- Opening the Element Inspector for the needed element and clicking the link in the **Data Class** box. This opens the DAC Schema Browser for the selected DAC.  
For details, see the *Changes in the Element Properties Dialog Box on Forms* section below.

## DAC Schema Browser Overview

The DAC Schema Browser consists of the following parts, which are shown in the following screenshot and described in detail in the following sections:



- Search box (see Item 1 in the following screenshot)
- DAC navigation menu (Item 2)
- Page title bar (Item 3)
- Main information area (Item 4)
- Summary and Remarks area (Item 5)
- List of DAC fields (Item 6)
- Incoming references (Item 7)
- Outgoing references (Item 8)

The screenshot displays the DAC Schema Browser interface for the 'BAccount' DAC. The interface is divided into several sections:

- Search Box (1):** Located at the top left, containing a search input field.
- DAC Navigation Menu (2):** A tree view on the left side listing various DACs under namespaces like 'PX Objects'.
- Page Title Bar (3):** At the top, showing the DAC name 'BAccount' and tabs for 'Definition', 'Fields', 'Incoming References', and 'Outgoing References'.
- Main Information Area (4):** Displays key details for the selected DAC, such as 'Display Name: Business Account', 'Namespace: PX Objects.CR', and 'Customization: BAccountExt (PX Objects.dll)'.
- Summary and Remarks Area (5):** Provides a detailed description of the DAC, explaining its role as a base class for derived DACs like Customer, Vendor, and Employee.
- List of DAC Fields (6):** A table listing fields with columns for Name, Type, Display Name, and Foreign Reference. Fields include 'AcctCD', 'AcctName', 'AcctReferenceNbr', 'BAccountID', 'BaseCurID', 'CampaignSourceID', and 'CasesCount'.
- Incoming References (7):** A table showing relationships where other DACs reference this one, including fields like 'Parent Key Fields' and 'Child Key Fields'.
- Outgoing References (8):** A table showing relationships where this DAC references others, including fields like 'Child Key Fields' and 'Parent Key Fields'.

Figure: The DAC Schema Browser

## Search Box and the DAC Navigation Menu

The left pane of the page contains a search box and the DAC navigation menu. In the search box, a customizer or a designer of generic inquiries or reports can search for a DAC by its name or display name. The navigation menu, which contains the list of DACs, has a tree structure in which DACs are listed below their namespaces.

## Page Title Bar

The page title bar helps a customizer or a designer of generic inquiries or reports to go to the needed sections of a page. It contains the following elements:

- DAC name
- Optional tags (such as *Customized*; see the *DAC and Field Tags* section below)
- The *Definition*, *Fields*, *Incoming References*, and *Outgoing References* links, which give the customizer or a designer of generic inquiries or reports the ability to quickly scroll to the corresponding sections on the page (which are described below)

- The *Preview Source Data* link (on the far right of the title bar), which opens a new tab with a generic inquiry form showing all the data of the selected DAC



To open this link, a customizer or a designer of generic inquiries or reports should have access to the [Generic Inquiry](#) (SM208000) form.

## Main Information Area

The main information area contains the following elements, which may or may not be displayed depending on the type of the selected DAC:

- **Base DAC:** A link to the base data access class. This element appears only if the selected DAC is based on another DAC.
- **Display Name:** The display name of a UI element related to the selected DAC. This element appears only if a corresponding element is displayed on the UI.
- **Namespace:** The namespace of the selected DAC.
- **Primary Screens:** The links to the forms whose primary view is based on the selected DAC. This element appears only for primary DACs.
- **Customization:** The customization projects that modify the selected DAC and the links to the customization packages. This element appears for only customized DACs.

## Summary and Remarks Area

This area contains a general description of the DAC and remarks about it, if this information has been specified in the XML comments in the code. If a field has been added through the publication of a customization project, the field description from this project is added under **Summary** as a separate paragraph with the link to the customization project.

## List of DAC Fields

The **Fields** table shows the list of all fields of the selected DAC. The fields are sorted alphabetically, except for primary keys, which are always listed at the top of the table. The table contains the following columns:

- **Key icon column:** A column that may contain an icon or two icons to indicate that the field is a primary key (yellow key), a foreign key (black key), or both types of keys.
- **Name:** The name of the field.

If a customizer hovers over the field name, the link icon is displayed. If the customizer clicks this icon, the system opens the field details in a dialog box that contains the following elements:

- A header with the following elements: Field name, type (*Field*), and optional tags (see the *DAC and Field Tags* section below)
- The main information area with the following elements: **Display Name**, **Parent DAC**, **Type**, **Customization**, and a link to the foreign DAC (for a foreign key)
- A Summary area with a short field description, as specified in the XML comments in the code
- A Remarks area with additional information about the field, as specified in the XML comments in the code



These elements may or may not be displayed, depending on the field type.

- **Tag (optional):** The type of the field (see the *DAC and Field Tags* section below).
- **Type:** The type of the field.
- **Display Name:** The name of the field as it is displayed in Acumatica ERP.

- **Foreign Reference:** The link to the foreign DAC if the current field is a foreign key.

## Incoming References and Outgoing References

Below the list of fields for a DAC, a DAC Schema Browser page displays the lists of incoming and outgoing references (see Items 1 and 2, respectively, in the following screenshot). Incoming references are the DACs that reference the selected DAC, and outgoing references are the DACs that the selected DAC references.

The screenshot shows the DAC Schema Browser interface for the 'CRCaseClass' DAC. The 'Incoming References' table (Item 1) is as follows:

Parent Key Fields	Child DAC	Child Key Fields
CaseClassID	CRCase	CaseClassID
CaseClassID	CRCaseClassLaborMatrix	CaseClassID <b>CASCADE DELETION</b>
CaseClassID	CRClassSev erityTime	CaseClassID
CaseClassID	CRLead	ClassID
CaseClassID	CRopportunity	ClassID
CaseClassID	CRSetup	DefaultCaseClassID
CaseClassID	EMailAccount	CreateCaseClassID

The 'Outgoing References' table (Item 2) is as follows:

Child Key Fields	Parent DAC	Parent Key Fields
DefaultEMailAccountID	EMailAccount	EmailAccountID
LabourItemID	InventoryItem	InventoryID
OvertimeItemID	InventoryItem	InventoryID
CreateByID	Users	PKID
LastModifiedByID	Users	PKID

**Figure: The tables with references**

The table with incoming references contains the following columns:

- **Parent Key Fields:** The key field or fields of the selected DAC
- **Child DAC:** A link to the DAC that references the selected DAC
- **Child Key Fields:** The key field or fields of the child DAC

The table with outgoing references contains the following columns:

- **Child Key Fields:** The key field or fields of the DAC
- **Parent DAC:** A link to the data access class that references the selected DAC
- **Parent Key Fields:** The key field or fields of the parent DAC

## DAC and Field Tags

In the DAC Schema Browser, DACs and their fields can be marked with one tag or multiple tags; these tags are described in the following table. A tag provides additional information about the type of the DAC or field.

Tag	Description
<i>Obsolete</i>	A deprecated DAC or field.
<i>Nonexistent in DB</i>	A virtual DAC or field (for example, a filter).

Tag	Description
<i>Hidden</i>	A hidden DAC or field.
<i>Nested</i>	A nested DAC or field.
<i>Customization</i>	A DAC or field that has been added or modified through the publication of one customization project or multiple projects.
<i>Projection</i>	A DAC with the <code>PXProjection</code> attribute.
<i>Accumulator</i>	A DAC with the <code>PXAccumulator</code> attribute.
<i>Cascade Deletion</i>	A field of a DAC with the <code>PXParent</code> attribute.
<i>User-Defined</i>	A user-defined field.
<i>Name-Value</i>	A field of the <code>NameValuePair</code> type that has been added through the publication of any number of customization projects.
<i>Default Navigation</i>	A field of a DAC with the <code>PXSelector</code> attribute.
<i>Row-Level Security</i>	A DAC that contains the <code>GroupMask</code> field, and to which row-level security is applied.

### Changes to the Generic Inquiry (SM208000) Form

When a generic inquiry designer adds a table on the **Tables** tab of the *Generic Inquiry* (SM208000) form, the name of the table is displayed in the **Table Name** column. Starting in Acumatica ERP 2021 R2, for all predefined and custom generic inquiries in the system, the table names in the **Table Name** column are displayed as links. If the generic inquiry designer clicks a link in this column, the system opens the DAC Schema Browser in a separate browser tab with the information about the selected data access class. In the following screenshot, which shows the **Tables** tab of the *Generic Inquiry* form, the names of DACs are displayed as links, each of which can be clicked to view information about the DAC in the DAC Schema Browser.

Generic Inquiry

NOTES FILES CUSTOMIZATION TOOLS

VIEW INQUIRY

\* Inquiry Title: SO-SalesOrder

Site Map Title: Sales Orders

Workspace:

Category:

Screen ID: SO3010PL

Make Visible on the UI

Show Deleted Records

Expose via OData

Expose to the Mobile Application

Arrange Parameters in: 3 columns

Select Top: 0 records

Records per Page: 0

Export Top: 0 Records

Attach Notes To:

TABLES RELATIONS PARAMETERS CONDITIONS GROUPING SORT ORDER RESULTS GRID

ADD RELATED TABLE

* Table Name	Description	* Alias
<a href="#">PX.Objects.AR.Customer</a>		Customer
<a href="#">PX.Objects.CR.BAccount</a>	Represents a business account used ...	BAccountR
<a href="#">PX.Objects.GL.Branch</a>	Represents a Branch of the company...	Branch
<a href="#">PX.Objects.PM.PMProject</a>	Planned set of interrelated tasks to be...	PMProject
<a href="#">PX.Objects.SO.SOOrder</a>		SOOrder

Figure: Links to the DAC Schema Browser

## Changes to the Tools Menu on Forms

Almost every form in Acumatica ERP, except generic inquiries and reports, has a primary DAC—that is, the DAC through which the system receives data. For example, the *Batch* DAC is the primary DAC for the [Journal Transactions](#) (GL301000) form.

Starting in Acumatica ERP 2021 R2, the **DAC Schema Browser** command has been added to the **Tools** menu on the right side of the form title bar of all forms. (This command is shown on the form only if the user account is assigned any of the following roles: *Administrator*, *Customizer*, or *Report Designer*.) If a customizer clicks this option, the DAC Schema Browser opens in a separate browser tab with the primary DAC of the form selected, or with no DAC selected if the form does not have a primary DAC. The following screenshot shows the command on the **Tools** menu of the [Journal Transactions](#) form.

The screenshot shows the 'Journal Transactions' window for 'GL GL000021 - Investment transaction'. The 'TOOLS' menu is open, and 'DAC Schema Browser' is highlighted. The window displays various transaction details and a table of accounts.

* Branch	* Account	Description	Project/Contract	Project Task	Cost Code
TBGROUP	10200	Company Checking Account	X		00-000
TBGROUP	30100	Capital Stock	X		00-000

Figure: The DAC Schema Browser option on the Tools menu

## Changes in the Element Properties Dialog Box

Starting in Acumatica ERP 2021 R2, in the **Element Properties** dialog box, which opens when a customizer or a user designing generic inquiries and reports inspects UI elements on a data entry form, the name in the **Data Class** box is displayed as a link. If the user clicks this link, the system opens the DAC Schema Browser in a separate browser tab with the information about selected data access class. The following screenshot shows the **Element Properties** dialog box with a link to the DAC Schema Browser on the *SOOrder* data access class.

The screenshot shows the 'Sales Orders' window for 'SO 000062 - FourStar Coffee & Sweets Shop'. The 'Element Properties' dialog box is open, showing the 'Data Class' as 'SOOrder', which is a clickable link. The dialog also displays the 'Control Type' as 'Form View', 'View Name' as 'Document', and 'Business Logic' as 'SOOrderEntry'.

* Branch	* Inventory ID	Related Svc. Doc. Nbr.	Require Appointment	Free Item	Warehouse	Line Description	* UOM	Quantity
RETAIL	GREENTEA...		<input type="checkbox"/>	<input type="checkbox"/>	RETAIL	An assorted package of tea variety (6 green t...	PACK	30.00
RETAIL	BLACKTEA06		<input type="checkbox"/>	<input type="checkbox"/>	RETAIL	An assorted package of tea variety (6 black te...	PACK	30.00
RETAIL	FRUITTEA12		<input type="checkbox"/>	<input type="checkbox"/>	RETAIL	An assorted package of tea variety (12 fruit te...	PACK	30.00

Figure: The Element Properties dialog box

## Use of the DAC Schema Browser During Generic Inquiry or Report Design

To design a generic inquiry or report, a designer needs to find the appropriate DACs and build relations between these DACs. For a generic inquiry, a designer can build relations automatically by means of the **Related Tables** dialog box, which is available on the *Generic Inquiry* (SM208000) form. (The generic inquiry designer can also build the DAC relations manually, relying upon their own experience.) In the Report Designer, there is no feature to build DAC relations automatically, and a report designer needs to build relations manually. The DAC Schema Browser provides information on the DACs in the system and thus eases the work of the generic inquiry or report designer.

Suppose that a generic inquiry designer needs to create an inquiry that shows a list of AR invoices with detailed information about customers and the branch related to each AR invoice. The designer needs to select the correct DACs for this inquiry and specify the correct fields to link these DACs. The designer opens the *Invoices and Memos* (AR301000) form and invokes the **Element Properties** dialog box for the Summary area of the form. In the **Element Properties** dialog box, the designer clicks the *ARInvoice* link, and the system opens the DAC Schema Browser (see the following screenshot) in a separate browser tab.

The screenshot shows the DAC Schema Browser for the **ARInvoice** DAC. The left sidebar lists various DACs, with **ARInvoice** selected. The main area has tabs for **Definition**, **Fields**, **Incoming References**, and **Outgoing References**. The **Fields** tab is active, showing a table of fields:

Name	Type	Display Name	Foreign Reference
DocType	char(3)	Type	
RefNbr	nvarchar(15)	Reference Nbr.	ARRegister
AdjCntr	int		
ApplicationBalance	decimal		
ApplyOverdueCharge	bit	Apply Overdue Charges	
ApplyPaymentWhenTaxAvailable	bit		

**Figure: The DAC Schema Browser showing the ARInvoice DAC**

In the DAC Schema Browser, in the **Name** column of the **Fields** table, the generic inquiry designer looks for the key fields of the *ARInvoice* DAC and finds that *BranchID* and *CustomerID* are foreign keys. In the rows with the key fields, the designer looks for the DACs specified in the **Foreign Reference** column and opens the DAC Schema Browser to explore these DACs—that is, *Branch*, *BAccount*, and *Customer*. Further suppose that after inspecting the *Customers* (AR303000) form, the designer concludes that it is the *Customer*, but not *BAccount*, DAC that must be used for the generic inquiry. Thus, for the generic inquiry, the following DACs are necessary: *ARInvoice*, *Customer*, and *Branch*; the designer adds these DACs on the **Tables** tab of the *Generic Inquiry* form. Then in the **Outgoing References** table, the designer determines that the following relations should be used for the selected DACs:

- *ARInvoice* and *Branch*: *ARInvoice.BranchID* = *Branch.BranchID*
- *ARInvoice* and *Customer*: *ARInvoice.CusomerID* = *Customer.BAccountID*

The designer now needs to specify these relations on the **Relations** tab of the *Generic Inquiry* form.

# Projects and Construction: Inventory Tracking

---

In previous Acumatica ERP versions, to receive stock items that had been purchased for a project to a warehouse and issue the items from the warehouse, users had to configure a warehouse location for each project task. This configuration was necessary for the system to keep project-specific stock items separate from other inventory and to have project quantities and costs segregated in inventory balances. However, businesses often could not use this configuration for many reasons, including the following:

- If a project task was linked to a warehouse location, a user was no longer able to use this location for any other project. Therefore, a physical location could not be assigned to a project: a user could either use linked warehouse locations for projects, or use physical locations without being able to allocate particular stock items on projects.
- If many projects were being processed at the same time, and materials were purchased frequently for each project, the maintenance of warehouse locations could become very complex. The users were forced to create numerous locations in the system for each project and task combination within the same physical warehouse.

In Acumatica ERP 2021 R2, with the new *Project-Specific Inventory* feature enabled on the [Enable/Disable Features](#) (CS100000) form, users can set up the tracking of the quantity and cost of inventory items for projects without any additional configuration of each warehouse. Users can receive the stock items of projects to regular warehouse locations where the items are easy to locate and are protected from being issued to other projects or to customers outside of projects. Items related to projects are recorded as separate inventory quantities and costs. These items are available for shipping only for a particular project; for other projects the items are not available unless users explicitly transfer them to those projects first. As a project's stock items are consumed and users issue them, depending on the inventory tracking setting of the project, the project expenses will be captured at the costs that are calculated within the physical warehouse, a separate warehouse location, or within the virtual project location based on valuation method of the item.

The remainder of this topic contains details about how to initialize, configure, and use the new functionality, and provides an example which explains in detail how inventory tracking is performed.

## System Preparation

For inventory tracking to be used for projects, the following features must be enabled on the [Enable/Disable Features](#) (CS100000) form:

- *Inventory and Order Management*
- *Inventory*
- *Project-Specific Inventory*

When the *Project-Specific Inventory* feature is enabled, an administrative user must perform the stock initialization procedure by clicking **Initialize Stock** on the form toolbar of the [Recalculate Project Balances](#) (PM504000) form.

## Inventory Tracking Modes

When the *Project-Specific Inventory* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, on the **Summary** tab of the [Projects](#) (PM301000) form, the new **Inventory Tracking** box has been added. For a new project, a user can select one of the following modes in the box (see the following screenshot):

- *Track by Location*: The quantity and cost of the purchased materials are tracked at the warehouse location level. The system does not reserve the purchased quantity and does not track the cost of materials for the project.



This is a backward-compatible mode that corresponds to the inventory tracking process that has been used in previous Acumatica ERP versions. In this mode, a user configures inventory tracking by linking warehouse locations to particular projects and project tasks.



- *Track by Project Quantity*: The quantity of the purchased materials is tracked at the project level, whereas the cost of the materials is tracked at the warehouse location level. The system tracks the quantity but not the cost of the materials reserved for the project.
- *Track by Project Quantity and Cost*: The quantity and cost of the purchased materials are tracked at the project level. The system tracks the quantity and cost of the materials reserved for the project.

Projects  
PR00000021 - Construction T&M Project

← ↻ 🖨️ + 🗑️ ⌂ ⏪ ⏩ COMPLETE PROJECT RUN PROJECT BILLING ...

\* Project ID: PR00000021 - Construction T&M Proj. Status: Active Actual Income: 0.0  
 Customer: AACUSTOMER - Alta Ace Actual Expenses: 955.0  
 Template: CSTRM - Construction T&M Project Margin: -955.0  
 \* Description: Construction T&M Project  
 Currency Rate for Budget: USD 1.00 VIEW BASE

SUMMARY TASKS REVENUE BUDGET COST BUDGET BALANCES COMMITMENTS INVOICES CHANGE ORDERS CHANGE

PROJECT PROPERTIES PROJECT ADDRESS

Revenue Budget Level: Task and Cost Code Address Line 1: 4196 Angus Road  
 Cost Budget Level: Task and Cost Code City: New York  
 \* Start Date: 8/12/2021 Country: US - United States of America  
 End Date: State: NY - NEW YORK  
 Project Manager: Postal Code: 10003 VIEW ON MAP  
 Last Revenue Change ... Latitude:  
 \* Project Currency: USD SET RATES Longitude:  
 Currency Rate Type: BILL-TO  
 Inventory Tracking: Track by Project Quantity and Cost (selected)  
 Track by Project Quantity and Cost  
 Track by Project Quantity  
 Track by Location

Account Name: Alta Ace  
 Attention: Amelia Armstrong

Figure: The inventory tracking modes available for a project

### Tracking by Location

The *Track by Location* inventory tracking mode corresponds to the functionality of previous Acumatica ERP versions. In this mode, a dedicated warehouse location is created for the project or project task on the **Locations** tab of the **Warehouses** (IN204000) form, as the following screenshot shows. For this location, the **Cost Separately** check box is selected automatically.

Warehouses EQUIPHOUSE - Warehouse for Equipment Storage

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

\* Warehouse ID: EQUIPHOUSE Location Entry: Do Not Allow On-the-Fly En...  
 \* Branch: SWEETEQUIP - Ser Avg. Default Returns C... Average  
 Replenishment Class: FIFO Default Returns C... Average  
 Active  
 Description: Warehouse for Equipment Storage

LOCATIONS TOTES GLACCOUNTS ADDRESS MANUFACTURING

Receiving Location: MAIN RMA Location: MAIN  Use Item Default Location for Picking  
 Shipping Location: MAIN Drop-Ship Location: MAIN

Location Table

Location ID	Active	Project	Project Task	Sort Location	Include in Qty. Available	Cost Separately	Sales Allowed	Receipts Allowed	Transfers Allowed	Production Allowed	Pick Priority
HMBAKERY2	<input checked="" type="checkbox"/>	HMBAKERY2	INSTALL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2
HMBAKERY4	<input checked="" type="checkbox"/>	HMBAKERY4		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2
MAIN	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1

Figure: The warehouse locations created for a project and project task

With these settings, the quantity and cost of the items purchased for the project are tracked at the warehouse location level. The system does not reserve the purchased quantity and does not track the cost of materials for the project. A user (typically a project manager or purchasing manager) creates and processes the following documents with project stock items:

- For the purchase of project items, the user creates a purchase order on the [Purchase Orders](#) (PO301000) form. These expenses can be captured to the project as project commitments. The purchased materials are not reserved for the project and can be shipped for other projects and customers. The purchased materials are received to the warehouse location with a purchase receipt that the user creates on the [Purchase Receipts](#) (PO302000) form.



In this mode, the system tracks assets purchased for the project only if the inventory account of the corresponding stock items is linked to an account group. Also, with this configuration, the system does not track project-specific quantity and cost of purchased items.

- For the sale of project items, the user creates a sales order on the [Sales Orders](#) (SO301000) form. The shipment is processed for the sales order from the same location on the [Shipments](#) (SO302000) form with the quantity available for shipping that is defined by the warehouse location.

## Tracking Project Inventory

For a project in which *Track by Project Quantity* or *Track by Project Quantity and Cost* inventory tracking mode is selected, a project manager or purchasing manager creates and processes the following documents with stock items:

- To purchase stock items for project, the user creates a purchase order on the [Purchase Orders](#) (PO301000) form. The expenses are captured to the project cost budget as a project commitment.
- To receive items to a warehouse, the user processes a purchase receipt on the [Purchase Receipts](#) (PO302000) form, or processes an inventory receipt on the [Receipts](#) (IN301000) form. The system automatically creates a virtual project-specific location within the warehouse location where the materials are received to separate the project items from free stock. The purchased materials are reserved for the project and cannot be issued for another project.
- To issue the materials for the customer, the user processes an inventory issue for the project on the [Issues](#) (IN302000) form, or processes a sales order on the [Sales Orders](#) form and a corresponding shipment on the [Shipments](#) (SO302000) form. The quantity available for issuing is defined by the warehouse location, the project, and project task.

## Item Cost Calculation

When the *Project-Specific Inventory* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, more levels of inventory tracking can be used for inventory and order management and the complete set of inventory operations is supported—receipts, issues, adjustments, transfers, and physical counts. All the valuation methods that are supported in inventory and order management are also supported with the *Project-Specific Inventory* feature.

In a project with the *Track by Location* mode, the cost of the issued materials is not project-specific and is defined by general cost calculation rules. The cost of an item depends on the item valuation method and is affected by other factors: the warehouse location from which the item is issued, the account and subaccount, the selected subitem, and the lot or serial number of the item.

In a project with the *Track by Project Quantity* mode, the cost of the issued materials is not project-specific and is defined by general cost calculation rules. The cost of an item depends on the item valuation method and is affected by other factors: the warehouse location from which the item is issued, the account and subaccount, the selected subitem, and the lot or serial number of the item).

In a project with the *Track by Project Quantity and Cost* mode, the system tracks project-specific cost layers. That is, for each combination of project and project task, the system calculates the cost of an item depending on the item

valuation method and other applicable factors: the warehouse location from which the item is issued, the account and subaccount, the selected subitem, and the lot or serial number of the item.

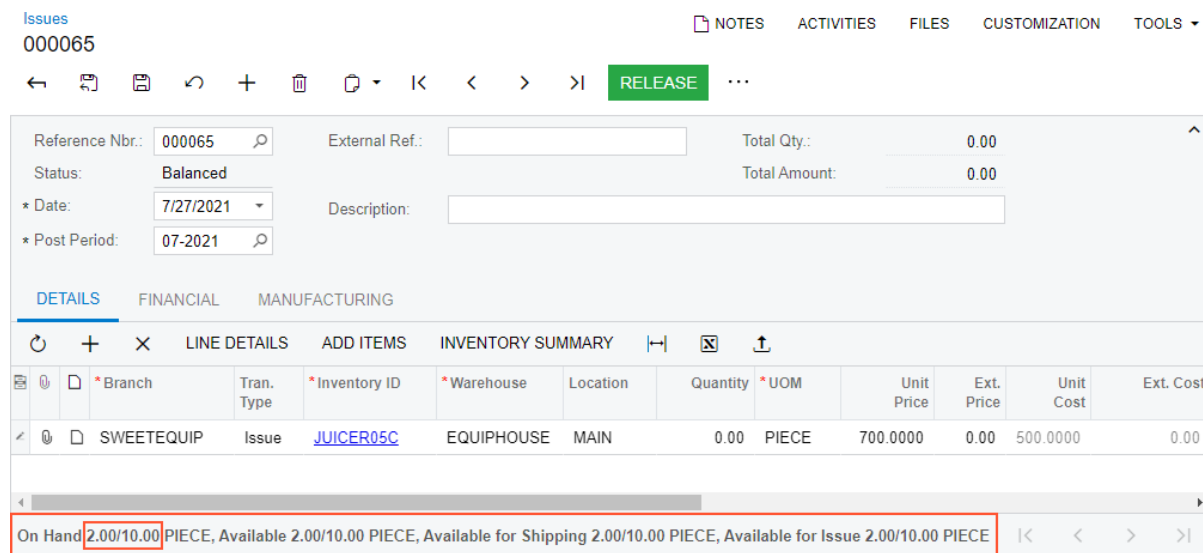
For example, suppose that the project is configured to use the *Track by Project Quantity and Cost* inventory tracking mode. Further suppose that a stock item with the *Average* valuation method is purchased as follows:

- 10 units (at a cost of \$100) that are not related to any project
- 10 units (at a cost of \$100) that are not related to any project
- 10 units (at a cost of \$100) that are purchased for Project A
- 12 units (at a cost of \$110) that are purchased for Project A

The system will issue the item for Project A at the unit cost of \$105.45; the unit cost is calculated as follows:  $(10 * \$100 + 12 * \$110) / 22$ . The system will issue the item for a non-project-specific shipment at a unit cost of \$100; the unit cost is calculated as follows:  $(10 * \$100 + 10 * \$100) / 20$ .

### Calculation of Item Availability

When a user adds a line with an inventory item to a sales order, shipment, transfer, or issue, in the table footer, the system calculates and shows the availability status of the item of the selected line, based on the line attributes, such as subitem, lot or serial number, and warehouse location. When the *Project-Specific Inventory* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, the system calculates two figures for each availability bucket, such as On Hand, Available, Available for Shipping, and Allocated (see the following screenshot).



**Figure: The availability status of an item**

The first figure is the available quantity for the selected line, which depends on the inventory tracking mode of the project selected in the line or at the document level as follows:

- *Track by Location*: The quantity of items related to the project linked to the selected location and items that correspond to no project (that is, that have the non-project code specified)
- *Track by Project Quantity*: The quantity of items related to the selected project and project task
- *Track by Project Quantity and Cost*: The quantity of items related to the selected project and project task
- None (the non-project code, which is X by default, is selected in the line): The quantity of items that correspond to no project (that is, that have the non-project code specified) and the items related to the projects linked to the selected location

The second figure is the entire available quantity of the item of selected line, including the quantity related to the selected project.

## Transferring of Project-Related Items

When the *Project-Specific Inventory* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, issuing materials for a project tracked by quantity (for example, Project 1) or by quantity and cost (for example, Project 2) is allowed only within a single project. In order to issue materials reserved for Project 1 but utilize those materials for Project 2 (and thus, capture the expenses for this project), a user has to process a transfer from Project 1 to Project 2 on the [Transfers](#) (IN304000) form first; only then the user can create an issue for Project 2.

Also, issuing items from the free stock (that is, materials related to the non-project code, which is X by default) to Project 1 or Project 2 is not supported. This scenario is also addressed with a preliminary transfer (as illustrated in the following screenshot).

The screenshot shows the 'Transfers' form with the following details:

- Reference Nbr.: 000058
- Warehouse ID: EQUIPHOUSE - Warehouse for Equipme
- Status: Balanced
- Transfer Type: 1-Step
- Date: 7/28/2021
- Post Period: 07-2021
- \* To Warehouse: EQUIPHOUSE - Warehouse for Equip
- Total Qty.: 1.00

The table below shows the inventory item being transferred:

Inventory ID	Location	Project	Project Task	Cost Code	To Location ID	To Project	To Project Task	To Cost Code	UOM	Quantity
JUICER05C	MAIN	X			MAIN	HMBAKERY3	MATERIALS	00-000	PIECE	1.00

Figure: Transferring of an item between projects

## Physical Inventory Review

With the new *Project-Specific Inventory* feature enabled on the [Enable/Disable Features](#) (CS100000) form, at the time of actual physical counting, warehouse clerks count units without taking projects into consideration because the clerks may not have information which particular items are reserved for projects and which are not. The [Physical Inventory Review](#) (IN305000) form does not contain information about projects and their virtual locations within the physical bin locations, as the screenshot below shows. Because the physical count process stops all the inventory operations and it is important to quickly get back to the operating system state, the decision on which projects to affect is made at the stage of the inventory adjustment generated from the physical count.

Physical Inventory Review  
000007

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

Reference Nbr.: 000007 Total Physical Qty.: 48.00  
 Warehouse: EQUIPHOUSE - Warehouse for Total Variance Qty.: -13.00  
 Status: Data Entering Total Variance Cost: -6,500.00  
 Freeze Date: 7/28/2021  
 Description: Count of juicers

PHYSICAL INVENTORY DETAILS ADJUSTMENT INFO

Status	Line Nbr.	Inventory ID	Description	Location	Book Quantity	Base Unit	Physical Quantity	Variance Quantity	Unit Cost	Estimated Ext. Variance Cost
Entered	1	JUICER05C	Juicer with a production rate of 0.5 litre per minute	MAIN	17.00	PIECE	4.00	-13.00	500.0000	-6,500.00
Entered	2	JUICER10	Pro series juicer with a production rate of 1 litre per minute	MAIN	10.00	PIECE	10.00	0.00	1,200.0000	0.00
Entered	3	JUICER15	Commercial juicer with a production rate of 1.5 litres per minute	MAIN	17.00	PIECE	17.00	0.00	2,000.0000	0.00
Entered	4	JUICER20C	Commercial citrus juicer with a production rate of 2 litres per minute	MAIN	17.00	PIECE	17.00	0.00	3,000.0000	0.00

Figure: The Physical Inventory Review form

On the *Adjustments* (IN303000) form, in the adjustment generated based on a physical count, the number of adjustment lines created for a physical count line equals the number of different cost layers found for the physical count line. For projects with the *Track by Project Quantity and Cost* inventory tracking mode, the system auto-splits free stock items by their cost layers. For those cost layers, a user can then manually select a project and a project task to adjust the corresponding virtual location.

After a physical count on the *Physical Inventory Review* form, if a negative variance quantity of an item is greater than the number of this item that corresponds to no project (the non-project code), the adjustment originating from this physical inventory review is generated but cannot be released until the variance is manually distributed between projects on the *Adjustments* form. A user performs this distribution by selecting the line and clicking the **Split** button on the toolbar of the **Details** tab of the *Adjustments* form, as shown in the following screenshot.

Adjustments  
000006

NOTES ACTIVITIES FILES CUSTOMIZATION TOOLS

Reference Nbr.: 000006 External Ref.: Total Qty.: -13.00  
 Status: Balanced PI Count Reference Nbr.: 000007 Total Cost: -6,500.00  
 \* Date: 7/28/2021 Description:  
 \* Post Period: 07-2021

DETAILS FINANCIAL MANUFACTURING

**SPLIT** ADD ITEMS INVENTORY SUMMARY

PI Line Nbr.	*Branch	*Inventory ID	*Warehouse	Location	*Project	Project Task	Cost Code	Quantity	*UOM	Unit Cost	Ext. Cost
1	SWEETEQUIP	JUICER05C	EQUIPHOUSE	MAIN	X		00-000	-13.00	PIECE	500.0000	-6,500.00

Figure: Splitting of the selected adjustment line

A user can perform a split operation for the following projects:

- The X non-project code.
- Projects that have the *Track by Location* inventory tracking mode. In the split line, the user can change only the cost code because each project tracked by location has a single cost layer
- Projects that have the *Track by Quantity* inventory tracking mode.

For projects that have the *Track by Quantity and Cost* inventory tracking mode, the manual split functionality is not supported.

### Inventory Tracking Process

Suppose that a company has two different physical warehouses: one in New York, and one in Seattle. Each warehouse has two physical bin locations that initially are empty.

Also, in the company, there are currently three active projects:

- Project A, in which the *Track by Location* mode is used; in the project, the TA project task is configured
- Project B, in which the *Track by Project Quantity* mode is used; in the project, the TB1 and TB2 project tasks are configured
- Project C, in which the *Track by Project Quantity and Cost* mode is used; in the project, the TC3 and TC4 project tasks are configured

Then suppose that the purchasing manager has processed an inventory receipt (shown in the following diagram) with two types of stock items: Item 1 and Item 2. For both items, the *Average* costing method is used.

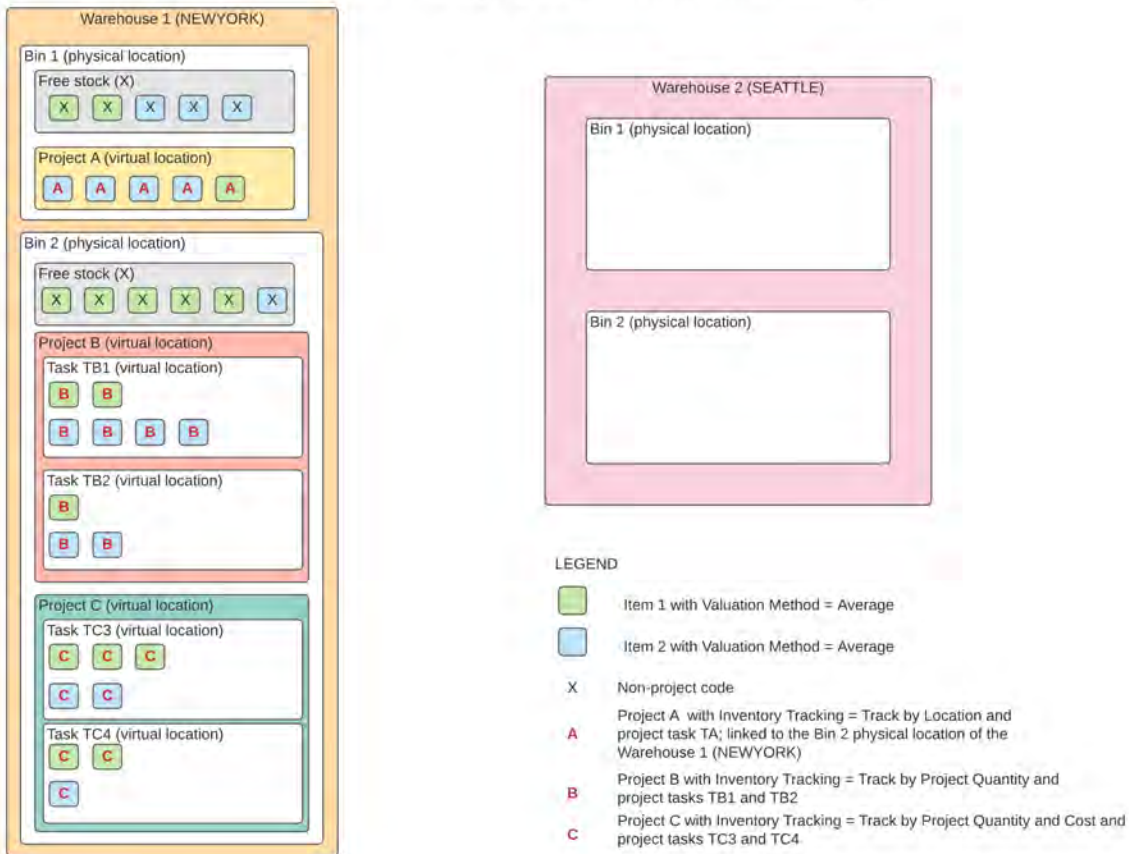
Inventory receipt transaction

Inventory Receipt (IN301000)						Data Storage					
Inventory ID	Warehouse	Warehouse Location	Project	Project Task	Quantity	Ext. Cost	Qty to be received on the Physical + Virtual Warehouse	Qty to be reserved for the Project and	Total Cost	Unit Cost for Issue	
Item 1	NEW YORK	Bin 1	A	TA	1	\$100.00	3	0	\$100.00 + 150.00 = \$250.00	\$250.00 / 3 = \$83.33	
			X	-	2	\$150.00		0			
		Bin 2	X	-	5	\$200.00	5	0	\$200.00 + 250.00 + 300.00 = \$750.00	\$750.00 / (5 + 2 + 1) = \$83.75	
			B	TB1	2	\$250.00	2	2			
				TB2	1	\$300.00	1	1			
			C	TC3	3	\$450.00	3	3			\$450.00 / 3 = \$150.00
	TC4	2	\$500.00	2	2	\$500.00 / 2 = \$250.00					
Item 2	NEW YORK	Bin 1	A	TA	4	\$70.00	7	0	\$70.00 + 80.00 = \$150.00	\$150.00 / 7 = \$21.43	
			X	-	3	\$80.00		0			
		Bin 2	X	-	1	\$72.00	1	0	\$72.00 + 85.00 + 90.00 = \$247.00	\$247.00 / (1 + 4 + 2) = \$35.29	
			B	TB1	4	\$85.00	4	4			
				TB2	2	\$90.00	2	2			
			C	TC3	2	\$120.00	2	2			\$120.00 / 2 = \$60.00
				TC4	1	\$130.00	1	1			\$130.00

"Cost layers" auto-generated on inventory receipt release

The system automatically tracks which particular units of item 1 and item 2 are reserved for which project and which of these items are free stock not related to any project. The item availability information and the structure of company warehouses is shown in the following diagram).

Structure of Company Warehouses and Item Availability



In the diagram above, the quantity of items in the warehouse locations after releasing the inventory receipt transaction is as follows:

- Warehouse 1 (New York):
  - Bin 1, non-project code: Two units of Item 1 and three units of Item 2
  - Bin 1, items reserved for project A: One unit of Item 1 and four units of Item 2
  - Bin 1, items reserved for project B: No units
  - Bin 1, items reserved for project C: No units
  - Bin 2, non-project code: Five units of Item 1 and one unit of Item 2
  - Bin 2, items reserved for project A: No units
  - Bin 2, items reserved for project B: Three units of Item 1 and six unit of Item 2
  - Bin 2, items reserved for project C: Five units of Item 1 and three unit of Item 2
- Warehouse 2 (Seattle):
  - Bin 1, non-project code: no units
  - Bin 1, items reserved for project A: No units
  - Bin 1, items reserved for project B: No units
  - Bin 1, items reserved for project C: No units
  - Bin 2, non-project code: no units
  - Bin 2, items reserved for project A: No units
  - Bin 2, items reserved for project B: No units

- Bin 2, items reserved for project C: No units

The inventory items are shown as assets in the balance sheet.

Balance Sheet		September, 30 2021
<b>Assets</b>		
Current assets:		
Inventories.....	2,597.00	
Cash and cash equivalents.....	35,000.00	
Other current assets.....	12,580.00	
Total current assets.....	50,177.00	
Acquired intangible assets, net.....	2,870.00	
Long-term marketable securities.....	16,320.00	
<b>Total assets.....</b>	<b>69,367.00</b>	
<b>Liabilities and Shareholders' Equity</b>		
...		

Figure: Balance Sheet

Then suppose that purchasing manager has processed the inventory issue shown in the following diagram.

Inventory issue transaction

Inventory Issue (IN302000)							Data Storage			
Inventory ID	Warehouse	Warehouse Location	Project	Project Task	Quantity	Ext. Cost	Qty left on the Physical + Virtual Warehouse Location	Qty left reserved for the Project and Project Task	Cost Layer affected Total Cost	Unit Cost for future Issue
Item 1	NEW YORK	Bin 1	A	TA	0	0	2	0	1 \$(250.00 - 83.33) = \$166.67	\$166.67 / 2 = \$83.34
			X	-	1	1 * \$83.33 = 83.33		0		
		Bin 2	X	-	0	\$0.00	5	0	2 \$(750.00 - 93.75) = \$656.25	\$626.25 / (5 + 1 + 1) = \$93.75
			B	TB1	1	1 * \$93.75	1	1		
				TB2	0	\$0.00	1	1	3 \$450.00 \$450.00 / 3 = \$150.00	
			C	TC3	0	\$0.00	3	3		
	TC4	2	2 * \$250.00 = \$500.00	0	0	4 \$(500 - 500) = \$0.00	\$0.00			
Item 2	NEW YORK	Bin 1	A	TA	3	3 * \$21.43 = \$64.29	4	0	5 \$(150.00 - 64.29) = \$85.71	\$85.71 / 4 = \$21.43
			X	-	0	\$0.00		0		
		Bin 2	X	-	0	\$0.00	1	0	6 \$(72.00 + \$5.00 + \$0.00) = \$247.00	\$247.00 / (1 + 4 + 2) = \$35.29
			B	TB1	0	\$0.00	4	4		
				TB2	0	\$0.00	2	2	7 \$120.00 \$120.00 / 2 = \$60.00	
			C	TC3	0	\$0.00	2	2		
	TC4	0	\$0.00	1	1	8 \$130.00 \$130.00				

With this transaction, the following inventory operation are performed in the New York warehouse:

- One unit of Item 1 is issued from free stock of bin 1.
- One unit of Item 1 that has been reserved for project task TB1 of project B is issued from Bin 2.
- Two units of Item 1 that have been reserved for project task TC4 of project C are issued from Bin 2.
- Three units of Item 2 that have been reserved for project task TA of project A are issued from Bin 1.



After that, the purchasing manager has processed the inventory transfer transactions shown in the following diagram.

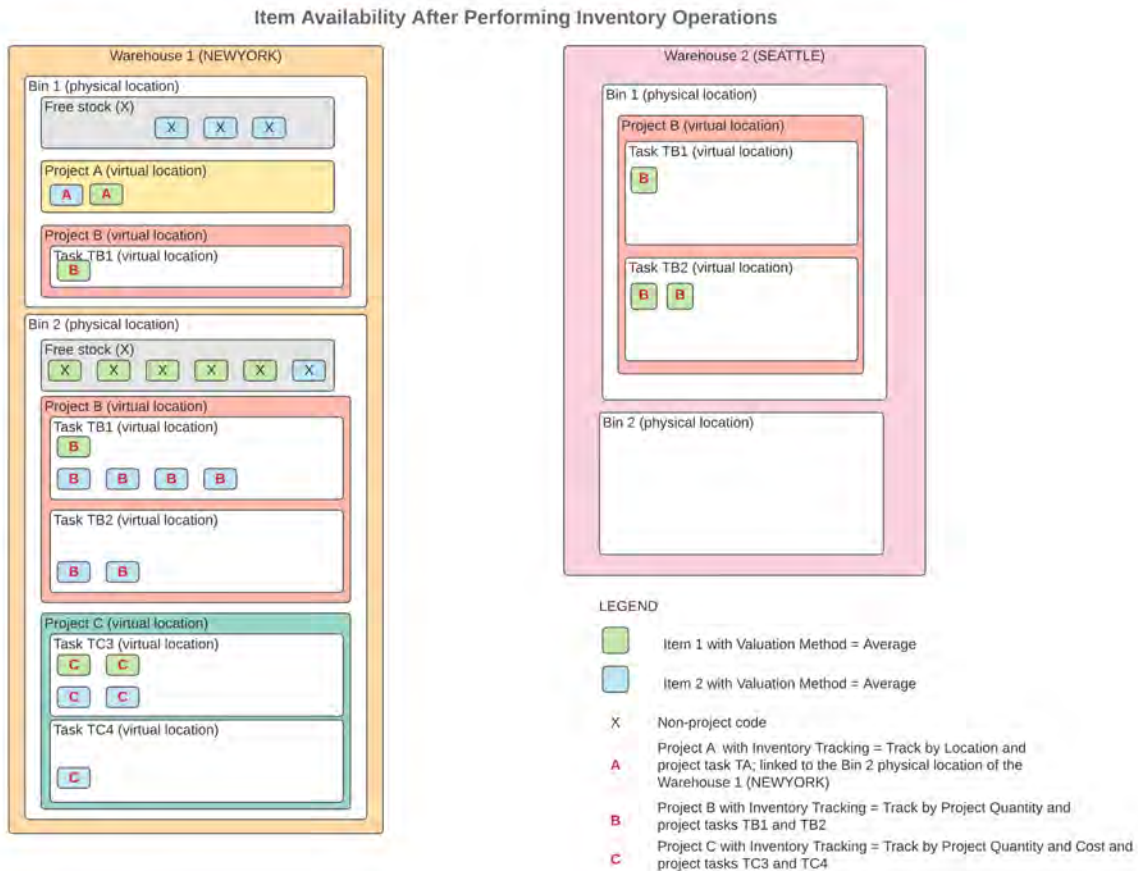
Inventory transfer transaction

Inventory Transfer (IN304000)											Data Storage		
Inventory ID	From Warehouse	From Warehouse Location	From Project	From Project Task	To Warehouse	To Warehouse Location	To Project	To Project Task	Quantity	Ext. Cost	Cost FROM Layer affected Total Cost	Cost Layer TO affected, Total Cost	Unit Cost for future issue
Item 1	NEW YORK	Bin 1	A	TA	SEATTLE	Bin 1	B	TB1	1	1 * \$83.34 = \$83.34	1 * (\$166.67 - \$83.34) = \$83.33	8 * \$83.34 = \$666.72	\$83.34 / 1 = \$83.34
			X				B	TB2	1	1 * \$83.33 = \$83.33	8 * (\$83.34 + \$83.33) = \$166.67	\$166.67 / 2 = \$83.34	
		Bin 2	B	TB1	NEW YORK	Bin 2	B	TB2	1	1 * \$35.29 = \$35.29	2 * (\$247.00 - \$35.29) = \$421.42	10 * \$35.29 = \$352.90	\$35.29
			B	TB2	NEW YORK	Bin 1	B	TB1	1	1 * \$35.29 = \$35.29	2 * (\$211.71 - \$35.29) = \$376.42	1 * (\$35.29 + \$35.29) = \$70.58	\$35.29 / 1 = \$35.29
		C	TC3	NEW YORK	Bin 1	A	TA	1	1 * \$60.00 = \$60.00	7 * (\$120.00 - \$60.00) = \$420.00	8 * (\$35.29 + \$95.29) = \$130.58	\$95.29 / 2 = \$47.65	

With this transaction, the following inventory operation are performed:

- One unit of Item 1 that has been reserved for project A is issued from Bin 1 of the New York warehouse and is received to Bin 1 of the Seattle warehouse and reserved for project B.
- One unit of Item 1 is issued from the free stock of Bin 1 of the New York warehouse and is received to Bin 1 of the Seattle warehouse.
- One unit of Item 1 that has been reserved for project task TB1 of project B is issued from Bin 2 of the New York warehouse. The item is received to Bin 2 of the Seattle warehouse and is reserved for project task TB2 of project B.
- One unit of Item 1 that has been reserved for project task TB2 of project B is issued from Bin 2 of the New York warehouse. The item is received to Bin 1 of the Seattle warehouse and is reserved for project task TB1 of project B.
- One unit of Item 1 that has been reserved for project task TC3 of project C is issued from Bin 2 of the New York warehouse. The item is received to Bin 1 of the Seattle warehouse and is reserved for project task TA of project A.

As a result of the processed transactions, the following items are available in the warehouses:



In the diagram above, the resulting quantity of items in the warehouse bins is as follows:

**Italic text highlights the changes in item availability after performing inventory operations.**

- Warehouse 1 (New York):
  - Bin 1, non-project code: *No units of item 1* and three units of Item 2
  - Bin 1, items reserved for project A: *One unit of Item 1* and *one unit of Item 2*
  - Bin 1, items reserved for project B: *One unit of Item 1*
  - Bin 1, items reserved for project C: *No units*
  - Bin 2, non-project code: *Five units of Item 1* and one unit of Item 2
  - Bin 2, items reserved for project A: *No units*
  - Bin 2, items reserved for project B: *One unit of Item 1* and six units of Item 2
  - Bin 2, items reserved for project C: *Two units of Item 1* and three unit of Item 2
- Warehouse 2 (Seattle):
  - Bin 1, non-project code: *no units*
  - Bin 1, items reserved for project A: *No units*
  - Bin 1, items reserved for project B: *Three units of Item 1*
  - Bin 1, items reserved for project C: *No units*
  - Bin 2, non-project code: *no units*
  - Bin 2, items reserved for project A: *No units*
  - Bin 2, items reserved for project B: *No units*

- Bin 2, items reserved for project C: No units

### **Additional Information**

For details on tracking inventory in projects, see [Inventory Tracking by Locations: General Information](#) and [Project Inventory: General Information](#).

# Projects and Construction: Reclassification of Bills

In previous versions of Acumatica ERP, there was no ability to quickly correct the lines of an accounts payable bill after bill release if an incorrect account or subaccount had been specified in these lines. Also, there was no ability to correct actual amounts for a project (that is, move a bill from a project budget line with a particular project, project task, and cost code to another project budget line) after the bill has been released.

Starting in Acumatica ERP 2021 R2, a user can reclassify an accounts payable bill—that is, change the account, subaccount, project, project task, or cost code in the lines of the bill. Also, a user can now link a commitment-related line of a bill to another commitment line to reclassify it in the project budget.

## Configuration of the Bill Reclassification Functionality

In the **Posting Settings** section on the [Accounts Payable Preferences](#) (AP101000) form, a new **Allow Bill Reclassification** check box has been added (see the screenshot below). If this check box is selected, the bill reclassification functionality is available for users that are assigned either (or both) of the following predefined roles: *Financial Supervisor* and *Project Accountant*.



No other access roles can be configured to provide access to the functionality.

That is, a user with the *Financial Supervisor* or *Project Accountant* role (or both roles) can select the **Allow Bill Reclassification** check box on the [Accounts Payable Preferences](#) form; after that, this user can use the **Reclassify Bill** menu command on the [Bills and Adjustments](#) (AP301000) form for bills that are assigned the *Open* or *Closed* status.

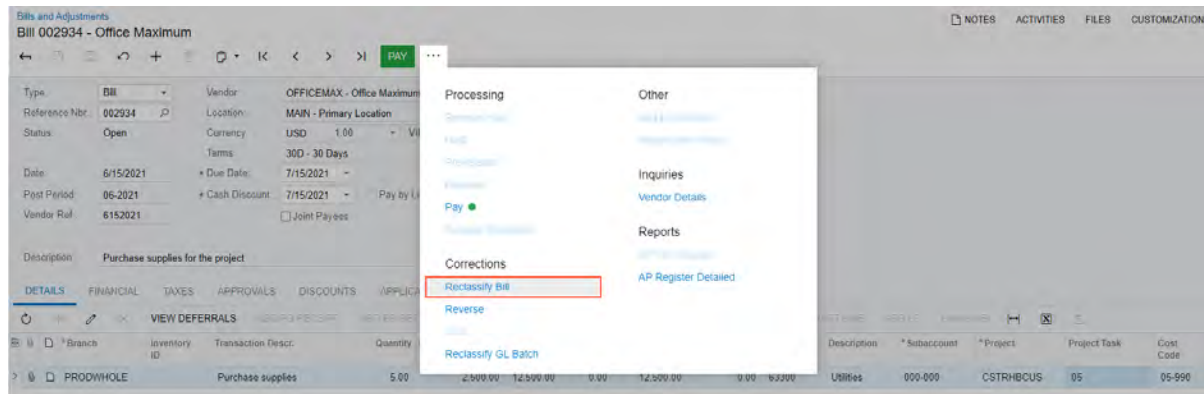
### Accounts Payable Preferences

The screenshot shows the 'Accounts Payable Preferences' form with the following sections and settings:

- GENERAL** (selected), PRICING, APPROVAL, 1099 SETTINGS, MAILING & PRINTING
- NUMBERING SETTINGS**
  - \* Batch Numbering Sequence: BATCHAP - AP Batch
  - \* Bill Numbering Sequence: APBILL - AP Bill
  - \* Debit Adjustment Numbering Sequence: APBILL - AP Bill
  - \* Credit Adjustment Numbering Sequence: APBILL - AP Bill
  - \* Payment Numbering Sequence: APPAYMENT - AP Payment
  - \* Price Worksheet Numbering Sequence: APPRICEWS - AP Price Work
- POSTING SETTINGS**
  - Automatically Post on Release
  - Post Summary on Updating GL
  - Activate Migration Mode
  - Allow Bill Reclassification** (highlighted with a red box)
- AGING SETTINGS**
  - Aging Period 1: 7 Days
  - Aging Period 2: 14 Days
  - Aging Period 3: 30 Days
- DATA ENTRY SETTINGS**
  - Default Vendor Class ID: [ ]
  - \* Combine Expense Sub. From: III-III
  - Use Intercompany Expense Account From: Inventory Item
  - Payment Lead Time: 7 Days
  - Hold Documents on Entry
  - Require Approval of Bills Prior to Payment
  - Enable Early Checks
  - Validate Document Totals on Entry
  - Set Zero Payment Amount to Application Amount
  - Require Vendor Reference
  - Raise an Error on Duplicate Vendor Reference Num...
- RETAINAGE SETTINGS**
  - Retain Taxes
  - Automatically Release Retainage Bills
- VAT RECALCULATION SETTINGS**
  - Debit Adjustment Description: [ ]

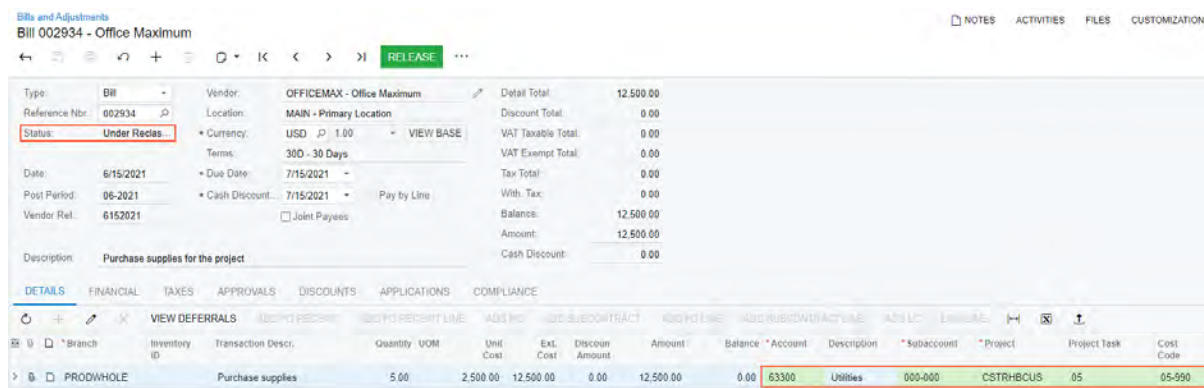
**Figure: The Allow Bill Reclassification check box**

To reclassify a bill, this user opens it on the [Bills and Adjustments](#) form and on the More menu, clicks **Reclassify Bill** (under **Corrections**), as shown in the following screenshot.



**Figure: The Reclassify Bill menu command**

The system changes the status of the bill to *Under Reclassification* (which is the new status that has been introduced for the reclassification functionality). In the bill lines on the **Document Details** tab, the columns whose values are available for reclassification become editable and are highlighted in green (see the following screenshot).



**Figure: The bill assigned the Under Reclassification status**

For each bill line, the user can change the values in any of the following columns:

- **Account**
- **Subaccount**, which appears on the form if the *Subaccounts* feature is enabled on the [Enable/Disable Features](#) (CS100000) form,
- **Project**, which appears on the form if the *Project Accounting* feature is enabled on the [Enable/Disable Features](#) form
- **Project Task**, which appears on the form if the *Project Accounting* feature is enabled on the [Enable/Disable Features](#) form
- **Cost Code**, which appears on the form if the *Cost Codes* feature is enabled on the [Enable/Disable Features](#) form

After the user has made changes to the bill being reclassified, the user releases the bill. On release of the bill, the system reverses the original transaction linked to the bill and generates a new GL transaction based on the updated bill details. In the bill, the link to the reversed transaction is replaced with a link to the newly generated GL transaction. See the following screenshots, which show the batches on the [Journal Transactions](#) (GL301000) form that were affected by the reclassification process:

- In the Summary area of the form, for the batch that was initially created on release of the bill, the link to the reversing batch is shown in the **Orig. Batch Number** box, as shown in the following screenshot.

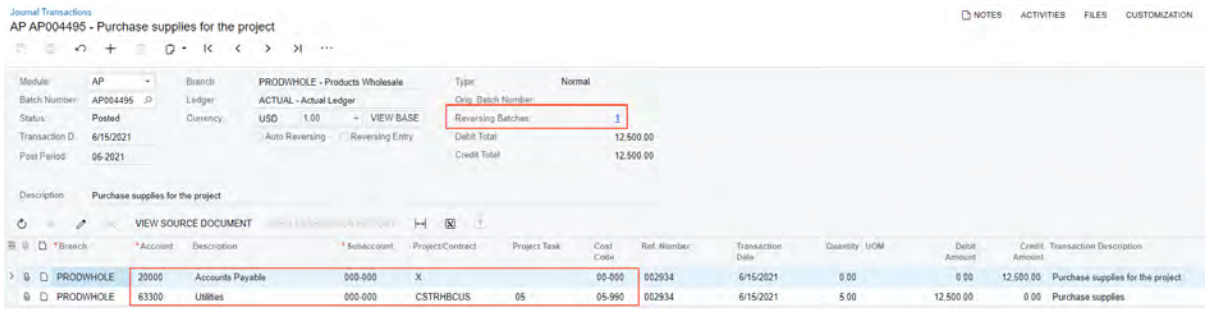


Figure: Original batch that has been reversed during reclassification

- In the Summary area of the form, for the reversing batch, the link to the original batch is shown in the **Orig. Batch Number** box, as shown in the following screenshot.

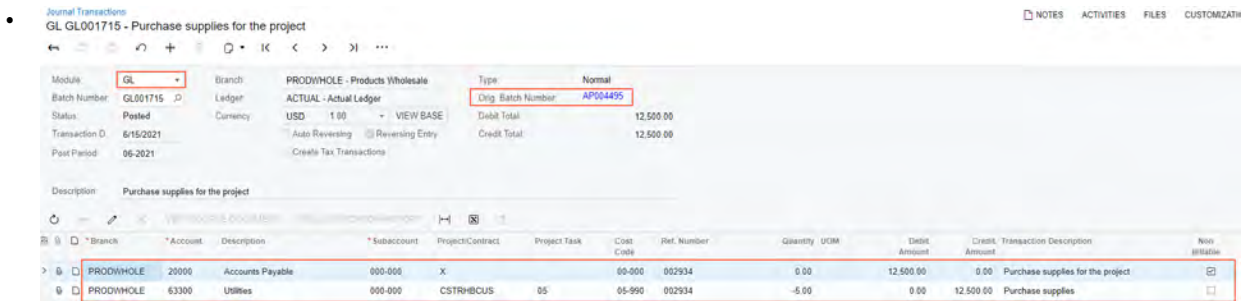
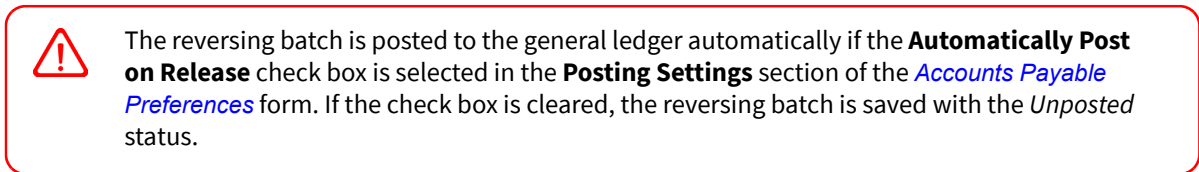


Figure: Reversing batch generated during reclassification

- In the Summary area of the form, for the batch that has been created on release of the reclassified bill, the link to the original batch is shown in the **Orig. Batch Number** box

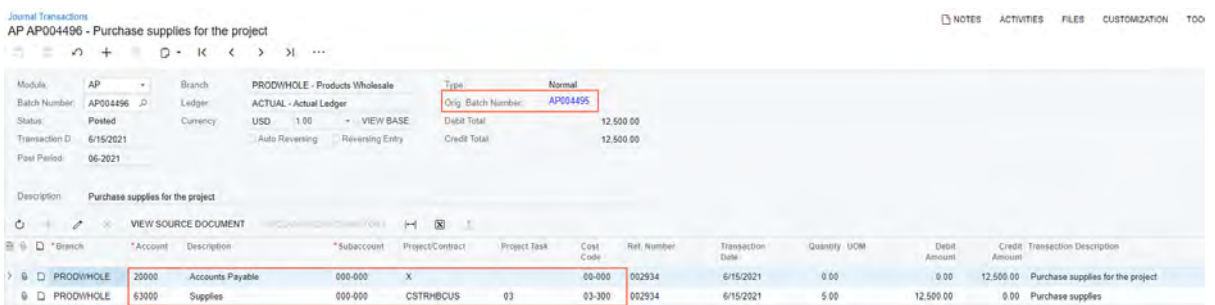
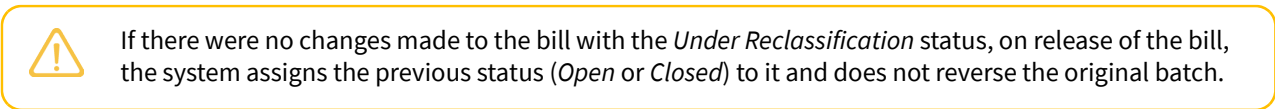


Figure: Reclassified batch generated during reclassification



For the project-related bills, the system also reverses the original project transaction (the first screenshot below shows the original project transaction, and the second screenshot shows the reversing project transaction) and generates a new project transaction (see the third screenshot below) with the new project budget key and *GL* selected in the Summary area of the *Project Transactions* (PM304000) form.

Project Transactions  
AP PM00001965 - Purchase supplies for the project

Module: AP Total Quantity: 5.00  
 Ref. Number: PM00001965 Total Billable Quantity: 5.00  
 Status: Released Total Amount: 12,500.00  
 Description: Purchase supplies for the projec

DETAILS COMPLIANCE

Branch	Project	Project Task	Cost Code	Account Group	Customer/Vendor	Quantity	Inventory ID	Description	Amount	Debit Account	Debit Subaccount
PRODWHOLE	CSTRHBCUS	05	05-990	MATERIAL	OFFICEMAX	5.00	<N/A>	Purchase supplies	12,500.00	63300	000-000

Figure: Original project transaction that has been reversed during reclassification

Project Transactions  
GL PM00001966 - Purchase supplies for the project

Module: GL Total Quantity: -5.00  
 Ref. Number: PM00001966 Total Billable Quantity: -5.00  
 Status: Released Total Amount: -12,500.00  
 Description: Purchase supplies for the projec

DETAILS COMPLIANCE

Branch	Project	Project Task	Cost Code	Account Group	Customer/Vendor	Quantity	Inventory ID	Description	Amount	Debit Account	Debit Subaccount
PRODWHOLE	CSTRHBCUS	05	05-990	MATERIAL	OFFICEMAX	-5.00		Purchase supplies	-12,500.00	63300	000-000

Figure: Reversing project transaction generated during reclassification


Project Transactions  
AP PM00001967 - Purchase supplies for the project

Module: AP Total Quantity: 5.00  
 Ref. Number: PM00001967 Total Billable Quantity: 5.00  
 Status: Released Total Amount: 12,500.00  
 Description: Purchase supplies for the projec

DETAILS COMPLIANCE

Branch	Project	Project Task	Cost Code	Account Group	Customer/Vendor	Quantity	Inventory ID	Description	Amount	Debit Account	Debit Subaccount
PRODWHOLE	CSTRHBCUS	03	03-300	MATERIAL	OFFICEMAX	5.00	<N/A>	Purchase supplies	12,500.00	63000	000-000

Figure: Reclassified project transaction generated during reclassification

 In the reclassified project transaction, the system will specify the account group to which the specified general ledger account is linked.

If a project-related bill has been reclassified as a non-project bill (that is, a particular project has been changed to a non-project code), the system reverses the original project transaction and does not generate a new one.

## Reclassification of Commitment-Related Bill Lines


If a bill being reclassified includes lines related to commitments (that is, purchase orders or subcontracts) on the **Details** tab of the *Bills and Adjustments* (AP301000) form, the only columns available for editing in these lines are **PO Line** and **Subcontract Line**, as shown in the following screenshot.

**Bills and Adjustments**  
Bill 002936 - Concrete Supply Co.

Type: Bill Vendor: CONCRETSUP - Concrete Supply Co. Detail Total: 14,100.00  
 Reference Nbr: 002936 Location: MAIN - Primary Location Discount Total: 0.00  
 Status: Under Reclas... Currency: USD 1.00 VIEW BASE VAT Taxable Total: 0.00  
 Terms: 30D - 30 Days VAT Exempt Total: 0.00  
 Date: 6/29/2021 Due Date: 7/29/2021 Tax Total: 0.00  
 Post Period: 06-2021 Cash Discount: 7/29/2021 Pay by Line With Tax: 0.00  
 Vendor Ref: 45582 Joint Payees Balance: 14,100.00  
 Description: Metal rails Amount: 14,100.00  
 Cash Discount: 0.00

Branch	Inventory ID	Transaction Descr.	Quantity	UOM	Unit Cost	Ext. Cost	Discount Amount	Amount	Balance	*Account	Description	*Subaccount	*Project	Project Task	Cost Code	PO Line	Subcontract Line
PRODWHOLE	CSTRMA	Construction - P...	5.00	EA	2,500.00	12,500.00	0.00	12,500.00	0.00	50000	COGS - Inv...	000-000	CSTRHBCUS	05	05-990	2	
PRODWHOLE	CSTRMA	Metal rails	4.00	EA	400.00	1,600.00	0.00	1,600.00	0.00	50000	COGS - Inv...	000-000	CSTRHBCUS	03	03-300	4	

Figure: Reclassification of bill lines with linked commitments

 By default, the **PO Line** and **Subcontract Line** columns are hidden on the **Details** tab of the *Bills and Adjustments* form. The user needs to add these columns via the **Column Configuration** dialog box.

A user can link a bill line to another commitment line with the same **Inventory ID**. Once a user selects a new commitment line to be linked to a bill line, the system copies the following settings from the newly specified commitment line to the bill line: **Account, Subaccount, Project, Project Task, and Cost Code**, as shown in the following screenshot.

**Bills and Adjustments**  
Bill 002936 - Concrete Supply Co.

Type: Bill Vendor: CONCRETSUP - Concrete Supply Co. Detail Total: 14,100.00  
 Reference Nbr: 002936 Location: MAIN - Primary Location Discount Total: 0.00  
 Status: Under Reclas... Currency: USD 1.00 VIEW BASE VAT Taxable Total: 0.00  
 Terms: 30D - 30 Days VAT Exempt Total: 0.00  
 Date: 6/29/2021 Due Date: 7/29/2021 Tax Total: 0.00  
 Post Period: 06-2021 Cash Discount: 7/29/2021 Pay by Line With Tax: 0.00  
 Vendor Ref: 45582 Joint Payees Balance: 14,100.00  
 Description: Metal rails Amount: 14,100.00  
 Cash Discount: 0.00

Branch	Inventory ID	Transaction Descr.	Quantity	UOM	Unit Cost	Ext. Cost	Discount Amount	Amount	Balance	*Account	Description	*Subaccount	*Project	Project Task	Cost Code	PO Line	Subcontract Line
PRODWHOLE	CSTRMA	Construction - P...	5.00	EA	2,500.00	12,500.00	0.00	12,500.00	0.00	50000	COGS - Inv...	000-000	CSTRHBCUS	05	05-990	2	
PRODWHOLE	CSTRMA	Metal rails	4.00	EA	400.00	1,600.00	0.00	1,600.00	0.00	50000	COGS - Inv...	000-000	CSTRHBCUS	05	05-990	3	

Figure: Updated information in the reclassified line

A commitment line can be linked to only one line of a particular bill.

## Reports with Reclassification Information

A new *Reclassified Bills* (AP657000) report has been added. This report shows the bills that have been reclassified and the bills that are assigned the *Under Reclassification* status (see the following screenshot). The user can run the report even if the **Allow Bill Reclassification** check box has been cleared on the *Accounts Payable Preferences* (AP101000) form.



RECLASSIFIED BILLS										
Company/Branch		PRODW/WHOLE								
From Period		06-2021								
To Period		06-2021								
Bill Reference Nbr.		002932								
		Status			Open		Vendor		ATDSECUR	
							ATD Security Services, Inc.		Currency USD	
BILL LINE DESCRIPTION	INVENTORY ID	QUANTITY	UNIT COST	EXT. COST	AMOUNT	ACCOUNT	SUBACCOUNT	PROJECT	PROJECT TASK	COST CODE
Monthly Alarm Monitoring		0.00	\$0.00	\$99.99	\$99.99	81010	000-000	X		
BATCH NBR.		RELEASED BY		RELEASE DATE	ACCOUNT	SUBACCOUNT	PROJECT	PROJECT TASK	COST CODE	
AP004499		Michael Andrews		6/29/2021	81010	000-000	X		00-900	
AP004493		Michael Andrews		6/1/2021	81000	000-000	X		00-900	
Bill Reference Nbr.		002934								
		Purchase supplies for the project			Status		Open		Vendor	
							OFFICEMAX		Office Maximum	
									Currency USD	
BILL LINE DESCRIPTION	INVENTORY ID	QUANTITY	UNIT COST	EXT. COST	AMOUNT	ACCOUNT	SUBACCOUNT	PROJECT	PROJECT TASK	COST CODE
Purchase supplies		5.00	\$2,500.00	\$12,500.00	\$12,500.00	63000	000-000	CSTRHBCUS	03	03-300
BATCH NBR.		RELEASED BY		RELEASE DATE	ACCOUNT	SUBACCOUNT	PROJECT	PROJECT TASK	COST CODE	
AP004496		Michael Andrews		6/29/2021	63000	000-000	CSTRHBCUS	03	03-300	
AP004495		Michael Andrews		6/29/2021	63300	000-000	CSTRHBCUS	05	05-990	

Figure: The Reclassified Bills report

The following reports also now include the bills with the *Under Reclassification* status:

- [AP Edit Detailed](#) (AP610500)
- [AP Register Detailed](#) (AP622000)
- [Unreleased AP Documents](#) (AP656100)

### Notes on Reclassification Processing

A user should be aware of the following specifics of processing reclassified bills:

- If the approval process is configured for AP bills on the **Approval** tab of the [Accounts Payable Preferences](#) (AP101000) form, for the bills with the *Under Reclassification* status, the system skips the approval process.
- If a bill in the system has the *Under Reclassification* status, a user will not be able to close the corresponding financial period in AP on the [Manage Financial Periods](#) (GL503000) form.
- A user cannot clear the **All Bill Reclassification** check box on the [Accounts Payable Preferences](#) form if at least one bill is still assigned the *Under Reclassification* status.
- Bills assigned the *Under Reclassification* status cannot be mass-released and thus are not shown on the [Release AP Documents](#) (AP501000) form.
- If the **Pay by Line** check box is selected for a bill on the [Bills and Adjustments](#) (AP301000) and if a payment has been applied to this bill, the payment lines will not be updated during reclassification.
- If the system is configured to use a single project for all bill lines—that is, if the **Require Single Project per Document** check box is selected on the [Accounts Payable Preferences](#) (AP101000) form—and a user changes the project in the **Project** box on the [Bills and Adjustments](#) (AP301000) form, the system updates the project in all lines of the bill accordingly. If there is at least one bill line linked to a commitment, a user cannot change the project in the **Project** box.

### Limitations on Bill Reclassification

A bill cannot be reclassified if any of the following criteria are met:

- The bill has the applied retainage; the retainage has been released.
- It is a retainage bill.
- The bill has multiple-installment credit terms.
- For the bill, a consolidated GL transaction has been generated if the **Generate Consolidated Batches** check box was selected on the [General Ledger Preferences](#) (GL102000) form or the **Post Summary on Updating GL** check box was selected on the [Accounts Payable Preferences](#) (AP101000) form.
- For the bill, the corresponding GL transaction has been reclassified on the [Journal Transactions](#) (GL301000) form.
- The project transaction corresponding to the bill has been reallocated.

- The project transaction corresponding to the bill has been billed.
- The bill has been created in migration mode.
- The bills is linked to an expense claim.
- The bill is linked to a service order or appointment.

An individual bill line cannot be reclassified if any of the following is true:

- It has a specified deferral code.
- It is linked to purchase order line with a line type other than *Service*.
- It is linked to a purchase order that is linked to a receipt.

## **Additional Information**

For details on reclassifying project-related bills, see [Project Expense Reclassification: General Information](#).

# Projects and Construction: Reclassification of GL Transactions

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In previous versions of Acumatica ERP, the functionality of the reclassification of general ledger transactions was limited, so that users were able to reclassify only general ledger transactions that were not linked to projects. In Acumatica ERP 2021 R2, this functionality has been extended so that a user can now perform the reclassification of a project-related general ledger transaction to change an incorrectly specified account, subaccount, or branch, or to move posted amounts between the projects, project tasks, and cost codes.

## UI Changes on the General Ledger Forms

New UI elements have been added to general ledger forms to support the functionality of the reclassification of general ledger transactions.



The project-related boxes and columns are shown on the form if the *Project Accounting* feature is enabled on the [Enable/Disable Features](#) (CS100000) form. The cost code-related boxes and columns are shown on the form if the *Cost Codes* feature is enabled.

The following UI elements have been added to the [Reclassify Transactions](#) (GL506000) form:

- In the table, the **Project**, **To Project**, **Project Task**, **To Project Task**, **Cost Code**, and **To Cost Code** columns have been added.
- In the **Load Transactions** dialog box, the **Project**, **From Project Task**, **To Project Task**, **From Cost Code**, and **To Cost Code** boxes have been added.
- In both the **Find** section and the **Replace** section of the **Find and Replace** dialog box, the **Project**, **Project Task**, and **Cost Code** boxes have been added.

Also, on the [Reclassification History](#) (GL405000) form, the **Project**, **Project Task**, and **Cost Code** columns have been added.

## Reclassification of GL Transactions

To reclassify a particular transaction, a user clicks **Reclassify** on the form toolbar of the [Account Details](#) (GL404000) or [Journal Transactions](#) (GL301000). To reclassify a transaction that corresponds to a particular document, the user opens this documents and clicks **Reclassify GL Batch** on the form toolbar of the [Invoices and Memos](#) (AR301000) or [Bills and Adjustments](#) (AP301000) form.

Alternatively, the user can open the [Reclassify Transactions](#) (GL506000) form, specify the selection criteria in the **Load Transactions** dialog box, and load the required list of transactions to be reclassified. Then in each transaction line to be reclassified, the user specifies new values in any of the following columns:

- **To Branch**, which appears if the *Multi-Branch Support* feature is enabled on the [Enable/Disable Features](#) (CS100000) form
- **To Account**
- **To Subaccount**, which appears on the form if the *Subaccounts* feature is enabled on the [Enable/Disable Features](#) form
- The transaction date (**New Tran. Date**)
- The transaction description (**New Transaction Description**)
- **To Project**, which appears on the form if the *Project Accounting* feature is enabled on the [Enable/Disable Features](#) form
- **To Project Task**, which appears on the form if the *Project Accounting* feature is enabled on the [Enable/Disable Features](#) form

- **To Cost Code**, which appears on the form if the *Cost Codes* feature is enabled on the [Enable/Disable Features](#) form

In a modified transaction line, the system automatically selects the unlabeled check box. The following screenshot illustrates the details of a general ledger transaction being reclassified.

To Branch	To Account	Description	To Subaccount	To Project	To Cost Code	New Trans. Date	New Transaction Description	Debit Amount	Credit Amount	Currency	Project	Project Task	Cost Code	Branch	Account	Debit Subaccount
PRODWHOLE	20000	Accounts P.	000-000	X	00-000	6/15/2021	Purchase supplies fo	4,800.00	0.00	USD	X	00-000	PRODWHOLE	20000	Accounts Payable	000-000
PRODWHOLE	63000	Supplies	000-000	CSTRHBCUS	02-200	6/15/2021	Purchase supplies	0.00	4,800.00	USD	CSTRHBCUS	05-990	PRODWHOLE	63300	Utilities	000-000

**Figure: Reclassification of a project-related transaction**

After the user has made changes to the transaction line and clicked **Process** on the form toolbar of the [Reclassify Transactions](#) form, the system generates a new GL transaction of the *Reclassification* type (shown in the following screenshot) that offsets the original transaction and posts the transaction amounts.

Branch	Account	Description	Subaccount	Project/Contract	Project Task	Cost Code	Ref. Number	Quantity	UOM	Debit Amount	Credit Amount	Transaction Description	Non-Billable	Orig. Batch Nbr.
PRODWHOLE	63300	Utilities	000-000	CSTRHBCUS	05	05-990	002934	-22.00		4,800.00	0.00	Purchase supplies		GL001717
PRODWHOLE	63000	Supplies	000-000	CSTRHBCUS	02	02-200	002934	22.00		0.00	4,800.00	Purchase supplies		GL001717

**Figure: Reclassification transaction**

If the reclassified transaction relates to a project, the corresponding project transaction is generated to updated the actual project values, as shown in the following screenshot.

Branch	Project	Project Task	Cost Code	Account Group	Quantity	Description	Amount	Debit Account	Debit Subaccount
PRODWHOLE	CSTRHBCUS	05	05-990	MATERIAL	-22.00	Purchase supplies	4,800.00	63300	000-000
PRODWHOLE	CSTRHBCUS	02	02-200	MATERIAL	22.00	Purchase supplies	-4,800.00	63000	000-000

**Figure: Project transaction generated for the reclassification GL transaction**

### Limitations on Transaction Reclassification

The following project-related transactions cannot be reclassified:

- Transactions that have been billed
- Transactions that have been allocated

- Transactions linked to project commitments
- Transactions that are related to the project that is not active

### **Additional Information**

For details on reclassifying project-related GL transactions, see [Transaction Reclassification: General Information](#).

# Projects and Construction: Multiple Base Currencies in Expense Receipts and Claims

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In previous versions of Acumatica ERP, all companies within one tenant had the same base currency. In Acumatica ERP 2021 R2, in one tenant, users can implement multiple companies with different base currencies. For more information about the functionality and its implementation, see [Finance: Support of Multiple Base Currencies](#). This topic describes the use of this functionality for expense receipts and expense claims.

## Applicable Scenarios

Users of Acumatica ERP that use the functionality of expense receipts and claims may need the new functionality of multiple base currencies in the following scenarios:

- An employee works in a US company and pays a USD meal expense out of pocket while working on a project that belongs to a Canadian company. The expense is captured for the US branch, the expense currency, base currency, and claim currency is USD. The AP account is updated under the US branch.
- An employee works in a US company and pays a CAD meal expense out of pocket while working on a project that belongs to a Canadian company. The expense is captured for the US branch, the expense currency is CAD, the base currency and claim currency is USD. The AP account is updated under the US branch. In this scenario, the expense currency can be any non-accounting currency instead of CAD.
- An employee works in a US company and pays a CAD meal expense out of pocket while working on a project that belongs to a Canadian company. The expense is captured for the US branch, the expense currency is CAD, the base currency is USD, and the claim currency is CAD because the employee requests the reimbursement in the expense currency. The AP account is updated under the US branch. CAD has to be an accounting currency to support this scenario.
- An employee works in a US company and pays a CAD meal expense with a USD corporate card while working on a project that belongs to a Canadian company. The corporate card is provided by the US branch. The expense is captured for the US branch, the expense currency is CAD, the base currency and claim currency is USD. The AP account is updated under the US branch.
- An employee has been working in a US company for some time and has been getting reimbursements for travel expenses every month. Now the employee is moving to a Canadian company. The employee account manager has to create a new employee entry for the moved employee, link it to the Canadian branch, and deactivate the old employee entry. The employee has to use the new account for new expense receipts because from now on he or she will be claiming expenses from the Canadian branch.

## Process Limitations

The new functionality of multiple base currencies currently does not support the following scenarios:

- An employee works in a US company and pays a CAD meal expense with a CAD corporate card while working on a project that belongs to a Canadian company. The corporate card is provided by the Canadian branch. The system prohibits the employee to enter an expense receipt using a corporate card of the different base currency.
- An employee works in a US company and pays a CAD meal expense with any means of payment while working on a project that belongs to a Canadian company and tries to select the Canadian branch to capture expenses for it. The system prohibits the employee to enter an expense receipt using the Canadian branch with a different base currency.
- An employee works in a US company and pays a CAD meal expense with any means of payment while working on a project that belongs to a Canadian company and tries to select the Canadian branch as the originating branch to claim the expense and update the AP account for the Canadian branch. The system prohibits the employee to enter an expense claim using the Canadian branch with a different base currency.

## Changes to the Employees Form

If the *Multiple Base Currencies* feature is enabled, the new **Base Currency ID** box appears on the **General Info** tab of the *Employees* (EP203000) form, as shown in the following screenshot.

The screenshot shows the 'Employees' form for Michael Andrews (Employee ID: EP00000001). The 'GENERAL INFO' tab is selected. The form is divided into two main sections: CONTACT INFO and EMPLOYEE SETTINGS.

**CONTACT INFO:**

- Title: Mr.
- First Name: Michael
- Middle Name:
- Last Name: Andrews
- Phone 1: Home
- Phone 2: Cell
- Phone 3: Business 1
- Fax: Home Fax
- Email: mandrews@revisiontwo.com
- Web:

**ADDRESS INFO:**

- Address Line 1: 417 32nd Ave E
- Address Line 2:

**EMPLOYEE SETTINGS:**

- Employee Ref. No.:
- \* Employee Class: EMPSTAND - Employee - Standard
- \* Branch: PRODWHOLE - Products Wholesale
- \* Department: ADMIN - Administration
- \* Calendar: PST - Pacific Time Zone
- Default Workgroup:
- Regular Hours Validation: Warning Only
- Reports to:
- Salesperson:
- Employee Login: andrews - Michael Andrews
- Currency ID: USD (highlighted in red)
- Enable Currency Override:
- Curr. Rate Type: SPOT
- Enable Rate Override:
- Base Currency ID: USD (highlighted in red)
- Labor Item: LABORPM - Labor - Project Manager

**Figure: Employee's base currency**

The employee's base currency is the base currency of the branch selected in the **Branch** box on the **General Info** tab; a user cannot change it manually. Employee's branch can be changed to a branch with a different base currency if the employee has no unreleased documents in the previous base currency, the base currency is updated, otherwise, the branch cannot be changed.

On the **Corporate Cards** tab of the form, a user can assign a corporate card for processing expense receipts to an employee only if the cash account associated with the corporate card is in the same base currency as the employee's base currency.

## Additional Information

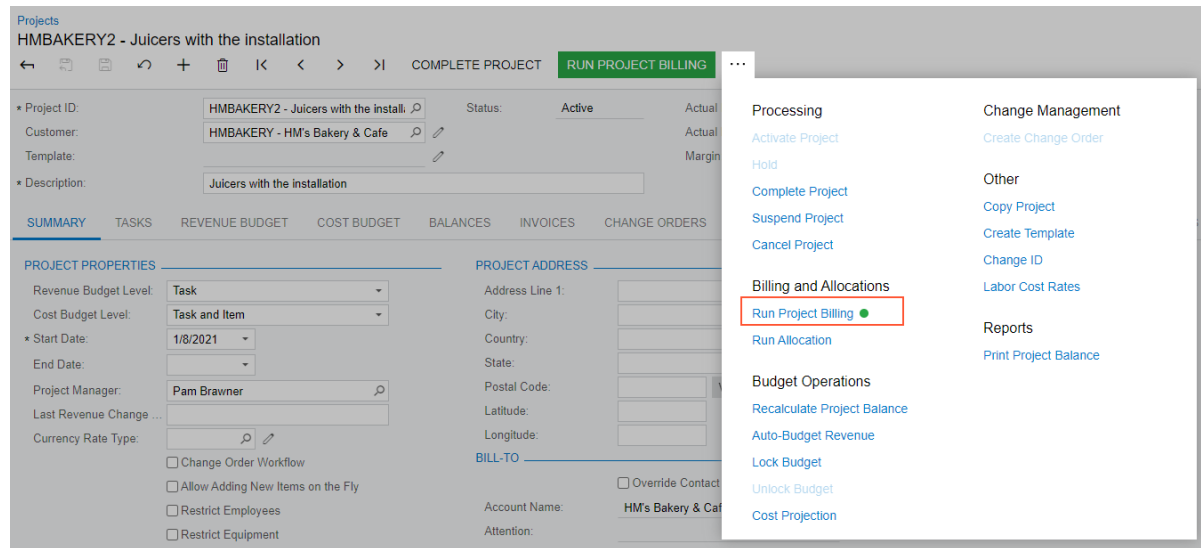
For details on configuring the multiple base currencies functionality, see [Multiple Base Currencies: General Information](#), [Customer Visibility: General Information](#), [Vendor Visibility: General Information](#), and [Company Groups: General Information](#).

# Projects and Construction: Other UI Enhancements

In Acumatica ERP 2021 R2, the user interface of the form toolbars of multiple project, construction, and time and expense forms has been enhanced. All form-specific commands on the toolbars of these forms are now grouped in a separate menu. Multiple tabs on multiple forms have been renamed to get rid of extra words in titles, which makes it possible to fit more tabs on the screen. Also, multiple menu commands has been renamed to make them clearer to users. In addition, a number of minor fixes have been made to the titles of UI elements in order to make them consistent throughout the system.

## Form Toolbar Enhancements

On multiple forms related to project, construction, and expenses, form-specific commands on the toolbar are now located on a separate menu, which opens when a user clicks the More button, shown as ..., on the form toolbar. On the More menu, which opens, commands are grouped by categories, as shown for the *Projects* (PM301000) form in the following screenshot.



**Figure:** The commands grouped by categories in the More menu on the Projects form



These commands work as they did in the previous versions; only the placement of the commands has changed.

For more information, see [User Interface: Redesigned Form Toolbar](#).

## Added Side Panels

The side panel, which is a navigation option where users can drill down to relevant details about any record listed on the form, has been added to the following forms:

- *Projects* (PM3010PL), as shown in the following screenshot
- *Subcontracts* (SC3010PL)
- *Billing rules* (PM2070PL)



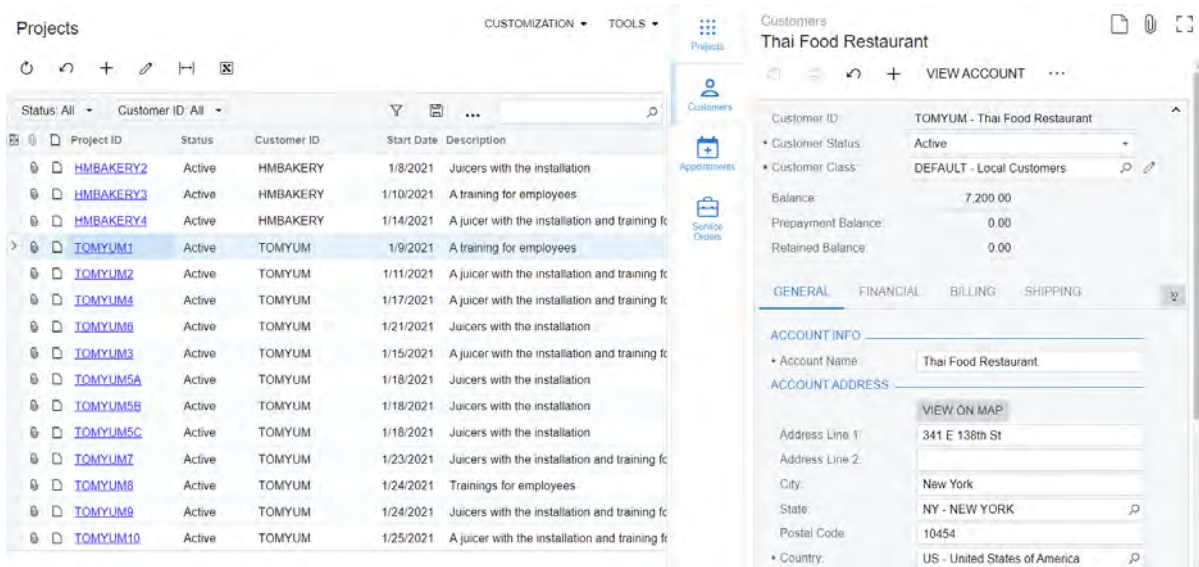


Figure: The side panel on the Projects form

For more information, see [Side Panels in Generic Inquiry Forms](#).

### Renamed Tabs

The following table lists all the tabs on the project, construction, and time and expense forms that have been renamed in 2021 R2.

Form	Tab title in previous version	Tab title in 2021 R2
<a href="#">Change Orders</a> (PM308000)	Approval Details	Approvals
<a href="#">Change Requests</a> (PM308500)	Approval Details	Approvals
<a href="#">Compliance Preferences</a> (CL301000)	Lien Waiver Reporting Settings	Lien Waiver Mailing & Printing
<a href="#">Cost Projections</a> (PM305000)	Approval Details	Approvals
<a href="#">Expense Claim</a> (EP301000)	Approval Details	Approvals
	Expense Claim Details	Details
	Financial Details	Financial
	Tax Details	Taxes
<a href="#">Expense Receipt</a> (EP301020)	Receipt Details	Details
	Tax Details	Taxes
<a href="#">Photo Log Preferences</a> (PJ103000)	General Settings	General
<a href="#">Pro Forma Invoices</a> (PM307000)	Address Details	Addresses
	Approval Details	Approvals

Form	Tab title in previous version	Tab title in 2021 R2
	<b>Financial Details</b>	<b>Financial</b>
	<b>Tax Details</b>	<b>Taxes</b>
<i>Project Issue</i> (PJ302000)	<b>Related Activities</b>	<b>Activities</b>
<i>Project Management Preferences</i> (PJ101000)	<b>General Settings</b>	<b>General</b>
	<b>Weather Service Integration Settings</b>	<b>Weather Services</b>
<i>Project Quotes</i> (PM304500)	<b>Approval Details</b>	<b>Approvals</b>
	<b>Billing Info</b>	<b>Billing</b>
	<b>Shipping Info</b>	<b>Shipping</b>
	<b>Tax Details</b>	<b>Taxes</b>
<i>Project Tasks</i> (PM302000)	<b>Activity History</b>	<b>Activities</b>
<i>Project Templates</i> (PM208000)	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
	<b>Settings</b>	<b>Defaults</b>
<i>Project Transactions</i> (PM304000)	<b>Document Details</b>	<b>Details</b>
<i>Projects</i> (PM301000)	<b>Activity History</b>	<b>Activities</b>
	<b>Approval Details</b>	<b>Approvals</b>
	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
	<b>Settings</b>	<b>Defaults</b>
<i>Projects Preferences</i> (PM101000)	<b>General Settings</b>	<b>General</b>
	<b>Mailing Settings</b>	<b>Mailing &amp; Printing</b>
<i>Subcontracts</i> (SC301000)	<b>Approval Details</b>	<b>Approvals</b>
	<b>Discount Details</b>	<b>Discounts</b>
	<b>Document Details</b>	<b>Details</b>
	<b>Other Information</b>	<b>Other</b>
	<b>SC History</b>	<b>Billing</b>
	<b>Tax Details</b>	<b>Taxes</b>
	<b>Vendor Info</b>	<b>Vendor</b>
<i>Subcontracts Preferences</i> (SC101000)	<b>General Settings</b>	<b>General</b>

Form	Tab title in previous version	Tab title in 2021 R2
	Mailing Settings	Mailing & Printing

## Renamed Commands

The following table lists all the menu command on the project, construction, and time and expense forms that have been renamed in 2021 R2.

Form	Command name in previous version	Command name in 2021 R2
<a href="#">Change Requests</a> (PM308500)	Email Change Request	Email
	Print Change Request	Print
<a href="#">Change Orders</a> (PM308000)	Email Change Order	Email
	Print Change Order	Print
<a href="#">Cost Projections</a> (PM305000)	Refresh Budget	Refresh and Recalculate
<a href="#">Daily Field Report</a> (PJ304000)	Print/Email	Print Daily Field Report
<a href="#">Drawing Log</a> (PJ303000)	Download ZIP	Export Drawing Log
	Email Drawing	Email
	New Project Issue	Create Project Issue
	New Revision/Sketch	Create Revision
	New RFI	Create RFI
<a href="#">Expense Claim</a> (EP301000)	Print Expense Claim	Print
<a href="#">Photo Logs</a> (PJ305000)	Download ZIP	Export Photo Log
<a href="#">Print/Email Subcontracts</a> (SC503000)	Email Subcontract	Email
	Print Subcontract	Print
<a href="#">Pro Forma Invoices</a> (PM307000)	AIA Report	Print AIA Report
	Correct Pro Forma Invoice	Correct
	Email Pro Forma Invoice	Email
	Print Pro Forma Invoice	Print
<a href="#">Project Budget Forecast</a> (PM209600)	Distribute	Generate Forecast

Form	Command name in previous version	Command name in 2021 R2
	<b>Project Budget Forecast By Month</b>	<b>Print Project Budget Forecast</b>
<i>Project Issue</i> (PJ302000)	<b>Print/Email</b>	<b>Print Project Issue</b>
<i>Project Quotes</i> (PM304500)	<b>Copy Quote</b>	<b>Copy</b>
	<b>Edit Quote</b>	<b>Edit</b>
	<b>Print Quote</b>	<b>Print</b>
	<b>Send Quote</b>	<b>Email</b>
	<b>Submit Quote</b>	<b>Submit</b>
<i>Project Templates</i> (PM208000)	<b>Copy Template</b>	<b>Copy</b>
<i>Projects</i> (PM301000)	<b>Auto-Budget Time and Material Revenue</b>	<b>Auto-Budget Revenue</b>
	<b>Currency Rates</b>	<b>Print Currency Rates</b>
<i>Request for Information</i> (PJ301000)	<b>Email RFI</b>	<b>Email</b>
	<b>Print RFI</b>	<b>Print</b>
<i>Submittals</i> (PJ306000)	<b>Close Submittal</b>	<b>Close</b>
	<b>Open Submittal</b>	<b>Open</b>
	<b>Print Submittal</b>	<b>Print</b>
	<b>Send Email</b>	<b>Email</b>
<i>Subcontracts</i> (SC301000)	<b>Cancel Subcontract</b>	<b>Cancel</b>
	<b>Complete Subcontract</b>	<b>Complete</b>
	<b>Email Subcontract</b>	<b>Email</b>
	<b>Print Subcontract</b>	<b>Print</b>
	<b>Reopen Subcontract</b>	<b>Reopen</b>

## Renamed UI Elements

The following table lists all the UI elements on the project, construction, and time and expense forms that have been renamed in 2021 R2:

Form	UI element title in previous version	UI element title in 2021 R2
<a href="#">Allocation Rules</a> (PM207500)	<b>Can be used as source in another allocation</b>	<b>Can Be Used as a Source in Another Allocation</b>
	<b>Do not allocate</b>	<b>Do Not Allocate</b>
	<b>If @Rate is not defined</b>	<b>If @Rate Is Not Defined</b>
<a href="#">Billing Rules</a> (PM207000)	<b>Do not bill</b>	<b>Do Not Bill</b>
	<b>If @Rate is not defined</b>	<b>If @Rate Is Not Defined</b>
	<b>Use Sales Account from</b>	<b>Use Sales Account From</b>
<a href="#">Change Order Classes</a> (PM203000)	<b>2-tier Change Management</b>	<b>Two-Tier Change Management</b>
<a href="#">Change Orders</a> (PM308000)	<b>Commitments Change Total</b>	<b>Commitment Change Total</b>
	<b>Draft Invoices Amount</b>	<b>Draft Invoice Amount</b>
<a href="#">Change Requests</a> (PM308500)	<b>Amount Subject To Markup</b>	<b>Amount Subject to Markup</b>
<a href="#">Pro Forma Invoices</a> (PM307000)	<b>Current Invoiced (%)</b>	<b>Currently Invoiced (%)</b>
<a href="#">Projects</a> (PM301000)	<b>Create Pro Forma on Billing</b>	<b>Create Pro Forma Invoice on Billing</b>
	<b>Draft Invoices Amount</b>	<b>Draft Invoice Amount</b>
<a href="#">Projects Preferences</a> (PM101000)	<b>Quote Pending Approval Notification</b>	<b>Pending Quote Approval Notification</b>
<a href="#">Recalculate Project Balances</a> (PM504000)	<b>Recalculate Draft Invoices Amount</b>	<b>Recalculate Draft Invoice Amount</b>

## Other Changes

The following minor changes have been introduced in the system:

- The value for *Project* in subaccount masks has been changed from *P* to *J* in the system. The following boxes and forms have been affected:
  - **Sales Subaccount Mask** box on the [Billing Rules](#) (PM207000) form
  - **Subaccount** boxes on the [Allocation Rules](#) (PM207500) form
  - **Expense Sub. Source** and **Expense Accrual Sub. Source** boxes on the [Projects Preferences](#) (PM101000) form
  - **Combine Expense Sub. From** box on the [Accounts Payable Preferences](#) (AP101000) form
  - **Combine Sales Sub. From** and **Combine Expense Sub. From** boxes on the [Time and Expenses Preferences](#) (EP101000) form

- **Combine Expense Sub. From** on the **Defaults** tab of the [Project Templates](#) (PM208000) form
- **Combine Expense Sub. From** on the **Defaults** tab of the [Projects](#) (PM301000) form
- On the **Other Information** tab of the [Subcontracts](#) (SC301000) form, the **Allow AP Bill Before Receipt** check box has been removed, because it is not applicable to the subcontract workflow.
- In the **Project Task** box on the **Revenue Budget** tab on the [Projects](#) (PM301000) form, the user can now select only project tasks of the *Revenue Task* type and the *Cost and Revenue Task* type.
- In the **Project Task** box on the **Cost Budget** tab on the [Projects](#) form, the user can now select only project tasks of the *Cost Task* type and the *Cost and Revenue Task* type.
- On the [Projects](#) form, the *Task, Item, and Cost Code* option is now available in the **Revenue Budget Level** box and in the **Cost Budget Level** box if the *Cost Codes* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.
- On the [Project Transactions](#) (PM401000) form, the **Employee Name** column has been added to the table and is hidden by default.

# Projects and Construction: Visibility of Project Transactions

In Acumatica ERP 2021 R2, by using row-level security, administrative users can limit the visibility of some transactions that can contain information about employees' hour rates and wages for the users who are not supposed to see this information.

For these purposes, the new [Project Transaction Visibility by Account Group](#) (PM103000) form has been introduced (see the following screenshot). On this form, administrative users can configure restriction groups for managing the visibility of account groups to users. The form is visible if the *Row-Level Security* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

For more information about restriction groups, see [Restriction Groups in Acumatica ERP](#).

Project Transaction Visibility by Account Group      CUSTOMIZATION    TOOLS ▾

📄 ↶ + ⏪ < > ⏩

\* Group Name:  🔍

Description:

Group Type:  ▾

Active

USERS    **ACCOUNT GROUPS**

🔄 ⏪ 🗑️

🗑️	🔒	📄	Account Group ID	Description
>	🔒	📄	<a href="#">BURDEN</a>	Allocated Project Burden
	🔒	📄	<a href="#">CPMARGIN</a>	Cost Plus Project Margin
	🔒	📄	<a href="#">EQUIPMENT</a>	Equipment
	🔒	📄	<a href="#">LABOR</a>	Labor
	🔒	📄	<a href="#">MATERIAL</a>	Materials for projects

**Figure: The Project Transaction Visibility by Account Group form**

The restriction groups configured on the *Project Transaction Visibility by Account Group* form affects project transaction lines that contain the corresponding account groups on the following forms:

- [Project Transactions](#) (PM304000)
- [Project Transaction Details](#) (PM401000)
- [Project Transaction Register](#) (PM633000)
- [Project Cost Transaction History](#) (PM706230)
- [Project Transaction Inquiry](#) (PMGI0035)



On all other forms besides the listed above, the restricted account groups can be viewed and selected regardless of the row-level security settings.

On these forms, a user is not able to view transactions where the debit account group or credit account group is one of the restricted accounts groups for the user. If any transaction lines are hidden for this reason on one of the forms, the system displays a warning (see the following screenshot) and calculates the totals shown on the forms based on the visible transaction lines.

Project Transactions

PM PM00000034 - Baker Maxwell, Mr. - 201336

NOTES FILES TOOLS

← ↻ 📄 + 🗑️ 📄 K < > >| RELEASE REVERSE ALLOCATION

Module:	PM	Orig. Doc. Type:	Time Card	Total Quantity:	0.00
Ref. Number:	PM00000034	Orig. Doc. Nbr.:	TC000011		0.00
Status:	Released				0.00
Description:	Baker Maxwell, Mr. - 201336				

One or multiple lines are hidden in the document because you do not have permissions to view them. This value is calculated based on the displayed lines.

Figure: The warning on the Project Transactions form

This restriction functionality is also implemented for lookup boxes and the **Copy, Paste, Release, and Reverse Allocation** commands on the forms listed above, with the purpose to deny operations with the restricted account groups. For example, users with limited access cannot select the restricted account groups or select accounts that belong to restricted account groups, as the following screenshot shows.

Project Transactions

PM

NOTES FILES TOOLS

← ↻ 📄 + 🗑️ 📄 K < > >| RELEASE REVERSE ALLOCATION

Module:	PM	Orig. Doc. Type:		Total Quantity:	0.00
Ref. Number:	<NEW>	Orig. Doc. Nbr.:		Total Billable Quantity:	0.00

DETAILS

VIEW ALLOCATION SOURCE SELECT PROJECT CURRENCY RATE SELECT BASE CURRENCY RATE VIEW BASE

Amount	Currency	Project Currency Amount	Project Currency	Project Currency Rate	Debit Account	Debit Subaccount	Credit Account	Credit Subaccount	*Date	*Fin. Period
0.00	USD	0.00	USD	1.00000000			51000		7/29/2021	07-2021

The account is included in the account group for which you do not have permissions to operate. Select another account.

Figure: The selection of an account belonging to a restricted account group

Also, on the new [Restriction Groups by Account Group](#) (PM103010) form, the user can view the restriction groups that are configured in the system and find out which of these groups include a particular account group (see the following screenshot).



### Restriction Groups by Account Group

\* Account Group ID:

Account Group Description:

Account Group Type:

Active

<input type="checkbox"/>	Restriction Group Name	Restriction Group Description	Active	Restriction Group Type
> <input type="checkbox"/>	Cash Account Access	Block non-finance from cash accounts	<input type="checkbox"/>	A
<input type="checkbox"/>	International Customers	International Customer Access	<input checked="" type="checkbox"/>	A
<input type="checkbox"/>	International Vendors	Limit access to international vendors	<input type="checkbox"/>	A
<input checked="" type="checkbox"/>	Labor transactions	Project labor	<input checked="" type="checkbox"/>	B
<input type="checkbox"/>	Limit Access to Employees	Limit Access to Employees	<input type="checkbox"/>	A

*Figure: Restriction groups configured for the LABOR account group*

### Additional Information

For details on configuring user access in projects, see [Project Security](#).

# Self-Service Portal: Support of User-Defined Fields

Starting in Acumatica ERP 2021 R2, user-defined fields can be added on forms used for submitting a case in the Acumatica Self-Service Portal. With the user-defined fields, users can add various information to a case.

On the New Case (SP203000) or Case Details (SP203010) forms of the Self-Service Portal, shown in the following two screenshots, a system administrator or customizer can define a set of user-defined fields. User-defined fields are based on attributes that have been defined in the system. Thus, before adding new user-defined fields to a form, the administrator or customizer needs to create the attributes for the field on the [Attributes](#) (CS205000) form or make sure they have already been created.

When the user-defined fields have been added to the New Case (SP203000) or Case Details (SP203010) forms, the system displays the **Document** and **User-Defined Fields** tabs (see Item 1 in the first screenshot) in the Summary area of the form. The UI elements that were previously in the Summary area of the form are on the **Document** tab, and the user-defined fields are displayed as UI elements on the **User-Defined Fields** tab (Item 2).

The screenshot displays the 'New Case' form interface. At the top, there are navigation tabs: 'NOTES', 'FILES', 'CUSTOMIZATION', and 'TOOLS'. Below these, a 'SUBMIT' button is visible, marked with a red circle and the number '1'. The main content area is divided into two tabs: 'DOCUMENT' and 'USER-DEFINED FIELDS'. The 'USER-DEFINED FIELDS' tab is selected and highlighted with a red box, also marked with a red circle and the number '2'. Under this tab, there are two dropdown menus: 'Shirt Size:' with 'Small' selected, and 'Color:' with 'Black' selected. Below the dropdowns, there are two more tabs: 'DETAILS' and 'ATTRIBUTES'. At the bottom of the form, there is a rich text editor toolbar with options for 'VISUAL', 'Paragraph', 'B', 'I', 'U', and color selection. The text area contains the following content: 'Hi, 25 shirts were not delivered yesterday. Please deliver. Sincerely, Hugo Bell'.

*Figure: User-defined fields on the New Case form*

The screenshot shows the 'Case Details' interface. At the top, there are tabs for 'NOTES', 'FILES', 'CUSTOMIZATION', and 'TOOLS'. Below these are action buttons: 'ADD COMMENT', 'CLOSE CASE', 'REOPEN', and 'NEW SUPPORT CASE'. The 'DOCUMENT' tab is active, and a sub-tab 'USER-DEFINED FIELDS' is highlighted with a red box. Under this sub-tab, there are two dropdown menus: 'Shirt Size:' with 'Small' selected, and 'Color:' with 'Black' selected. Below the form, there are tabs for 'ACTIVITIES', 'CASE DESCRIPTION', and 'ATTRIBUTES'. The 'CASE DESCRIPTION' tab is active, showing a text area with the following content: 'Hi, 25 shirts were not delivered yesterday. Please deliver. Sincerely, Hugo Bell'.

**Figure: User-defined fields on the Case Details form**

The attributes created on the [Attributes](#) (CS205000) form can be used for user-defined fields in both Acumatica ERP and the Self-Service Portal.

In Acumatica ERP, a system administrator or customizer can define user-defined fields on the [Cases](#) (CR306000) form. If the user-defined fields added to the [Cases](#) form include user-defined fields that have also been added to the New Case (SP203000) and Case Details (SP203010) forms, and if a user has submitted a case in the Self-Service Portal and filled in the values in the user-defined fields for the case, a support engineer can view these values on the [Cases](#) form for the case, as shown in the following screenshot.

The screenshot shows the 'Cases' interface for case '000161 - 25 shirts undelivered'. At the top, there are tabs for 'NOTES', 'FILES', 'CUSTOMIZATION', and 'TOOLS'. Below these are action buttons: 'OPEN' and 'TAKE CASE'. The 'DOCUMENT' tab is active, and a sub-tab 'USER-DEFINED FIELDS' is highlighted with a red box. Under this sub-tab, there are two dropdown menus: 'Shirt Size:' with 'Small' selected, and 'Color:' with 'Black' selected. Below the form, there are tabs for 'DETAILS', 'ADDITIONAL INFO', 'ATTRIBUTES', 'ACTIVITIES', 'RELATED CASES', and 'RELATIONS'. The 'DETAILS' tab is active, showing a text area with the following content: 'Hi, 25 shirts were not delivered yesterday. Please deliver. Sincerely, Hugo Bell'. Below the text area is a rich text editor toolbar with options for 'VISUAL', undo, redo, paragraph style, bold, italic, underline, text color, background color, bulleted list, numbered list, and indent.

**Figure: User-defined fields on the Cases form**

# System Administration: Improved Tracking of ERP Transactions

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In Acumatica ERP, an administrative user monitors the monthly number of ERP transactions on the [License Monitoring Console](#) (SM604000) form. An ERP transaction is any transaction in the system that is conducted when a user changes an entity: for example, when a user clicks **Save** on any Acumatica ERP form or initiates mass processing of documents. The system counts each entity change as a separate ERP transaction.

In Acumatica ERP 2021 R2 an administrative user can review the details of each ERP transaction (the involved forms user action, and document) to understand what user action resulted in the transaction.

## Viewing the Details of ERP Transactions

On the **Statistics** tab of the [License Monitoring Console](#) (SM604000) form, an administrative user can review detailed statistics of system resource use by month and by day—in particular, the current number of ERP transactions in the **ERP Transactions (% of Limit)** column. When the user clicks the link in the column for a day or month, the system opens the **Transaction Details** dialog box.

In Acumatica ERP 2021 R2 the new **Document Details** tab has been added to the dialog box. The upper table displays the number of transactions generated by the user action that occurred at particular day and time on a form (see Item 1 in the following screenshot). The lower table displays the list of documents affected by the transactions in the row selected in the upper table (Item 2).

The screenshot displays the License Monitoring Console interface. At the top, there are tabs for LICENSE, STATISTICS, WARNINGS, and CONSTRAINT HISTORY. The STATISTICS tab is active, showing a summary for August 2021: Commercial Transactions at 1.0% and ERP Transactions at 29.0%. A modal window titled 'Transaction Details' is open, showing filters for Period Type (Monthly) and Transaction Type (ERP), with dates from 8/3/2021 to 8/3/2021. Below the filters, there are two sub-sections: 'STATISTICS PER SCREEN' with a 'DOCUMENT DETAILS' link, and a table of transactions. The table has columns for Registered At (UTC), Screen ID, Action, Action Type, and Number of Transactions. Below the table is a section for 'Documents: Source of Transactions' with a table listing Document Type and Document Link. A red box highlights the entire modal content, and red circles with numbers 1 and 2 point to the table and document list respectively. An 'OK' button is at the bottom right of the modal.

License Monitoring Console

LICENSE STATISTICS WARNINGS CONSTRAINT HISTORY

Month: 08-2021 Commercial Transactions (% of Limit): 1.0% ERP Transactions (% of Limit): 29.0%

Transaction Details

Period Type: Monthly From: 8/3/2021

Transaction Type: ERP To: 8/3/2021

STATISTICS PER SCREEN DOCUMENT DETAILS

Registered At (UTC)	Screen ID	Action	Action Type	Number of Transactions
8/2/2021 1:57:19 PM	SM200550	Save	UI	1
8/1/2021 5:01:59 PM	AP303000	Save	UI	1
8/1/2021 3:58:38 PM	CS101500	Save	UI	3
8/1/2021 3:49:06 PM	CS101500	Save	UI	1
8/1/2021 12:13:58 PM	CA306000	ProcessMatched	UI	5

Documents: Source of Transactions

Document Type	Document Link
CS.BranchMaint+BranchBAccount	<a href="#">MHEAD</a>
CS.BranchMaint+BranchBAccount	<a href="#">MRETAIL</a>
CS.DAC.OrganizationBAccount	<a href="#">MUFFINS</a>

OK

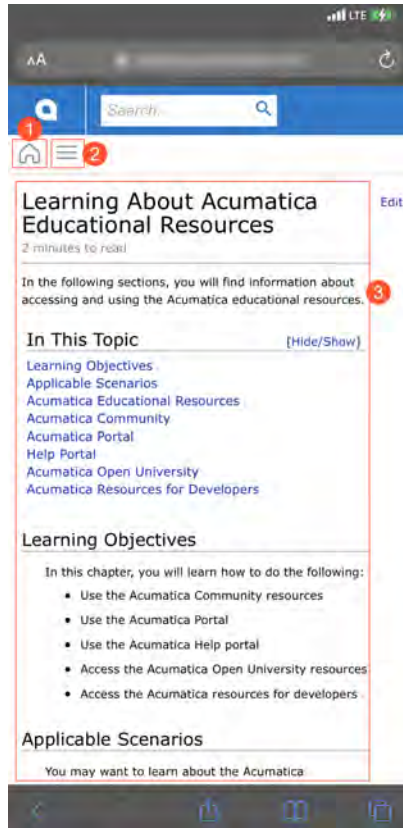
Figure: Details of ERP transactions

# User Interface: Mobile-Friendly Acumatica ERP Help

In a world where mobile devices are used more and more frequently, surfing for information is easier and faster on a mobile device than on a desktop or laptop. Starting in Acumatica ERP 2021 R2, Help topics have become flexible and easy to read on mobile devices.

## User Interface of the Mobile Help

To make the Help Portal mobile-friendly, some changes have been made to the user interface of Help topics on the Help Portal (see the following screenshot).



**Figure: Help topic on a mobile device**


The following items are shown in the screenshot:

1. Home button: Opens the Help dashboard, which has cards for the guides available on the Help Portal
2. Open/Hide button: Displays or hides the tree of topics available in the Help guide of the selected topic
3. Topic text: Is adjusted to the width of the screen of the device

## Enhancements to the Help Portal

When users open a Help topic on a mobile device, the system opens it with the topic tree closed by default. A user can click the Open/Hide button to open the tree of available topics.

If the user clicks the Home button, the system navigates to the Help dashboard with the list of available guides. The

user can then click the Back button (  ) to return to the topic that was last opened.

In the mobile view of the topic, the Help topic toolbar has been removed.

Text blocks are adjusted to the screen size automatically to fit the text to the screen, whereas the code blocks remains as is but a horizontal scroll bar appears for such blocks. If a user rotates the screen, the system automatically resizes the blocks to fit them to the screen width.

# User Interface: Redesigned Form Toolbar

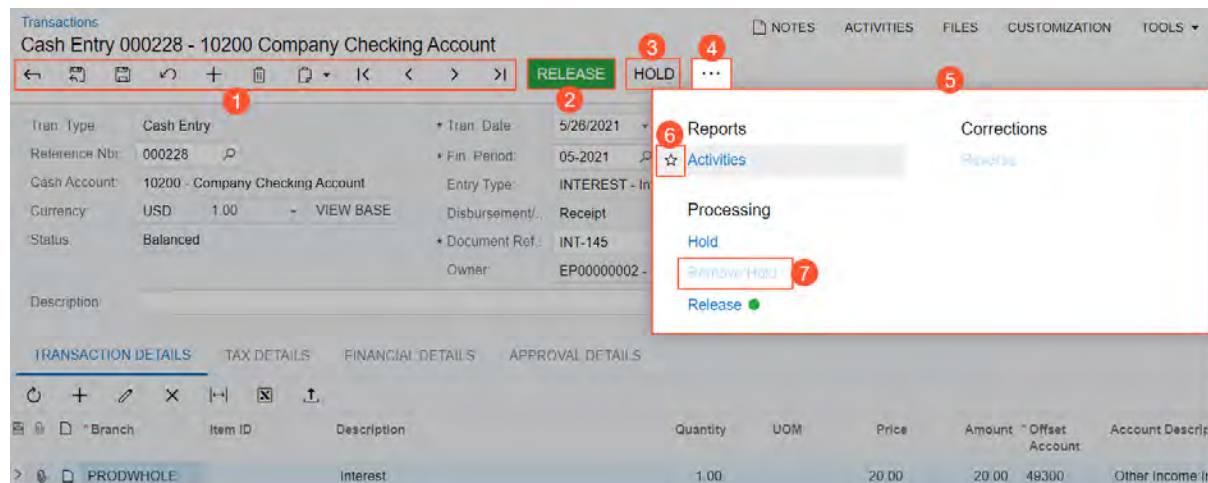
Acumatica ERP 2021 R2 introduces a redesigned form toolbar. The main goal of this change was to reorganize the commands available on a form. Previously, to find the needed menu command, a user had to switch between the **Inquiries**, **Actions**, and **Reports** menus on the form toolbar, which could become frustrating and time-consuming. Also, the list of menu commands on the **Actions** menu was sometimes lengthy, making it hard to find the needed menu command. Now if there are multiple form-specific commands on the form toolbar, they are displayed on a single menu—the More menu—and listed under descriptive categories, which makes it easier to find the needed menu command.



During an update to Acumatica ERP 2021 R2, all custom and customized forms will be updated to display the redesigned toolbar. To cause the toolbar to be displayed correctly on custom and customized forms or to display the old version of the toolbar, before the update, a developer needs to modify these forms, as described in [Upgrade Procedure: Redesigned Form Toolbar on Custom and Customized Forms](#) in the [Release Notes for Developers](#).

## The Redesigned Form Toolbar and the New More Menu

The newly redesigned form toolbar gives users the ability to easily define their favorite menu commands, which eases access to them. On some forms, the system places a button (which is highlighted in green) on the form toolbar for the expected next command, which represents the likely next step to be performed on the selected record. The following screenshot, which shows the *Transactions* (CA304000) form, illustrates an example of the redesigned form toolbar and the new More menu, which contains categories and menu commands.



**Figure: The redesigned form toolbar**

The numbered items in the screenshot indicate the following:

1. The standard form toolbar buttons, all or some of which appear on most of the forms in Acumatica ERP
2. A highlighted button for the expected next command, which represents the next logical step to be performed on the record selected on the form
3. Another button for a command that is commonly performed on the form
4. The More button, which the user clicks to open the More menu
5. The More menu with most form-specific menu commands and descriptive categories on it
6. The star icon, which is used to mark the individual user's favorite menu commands on the form

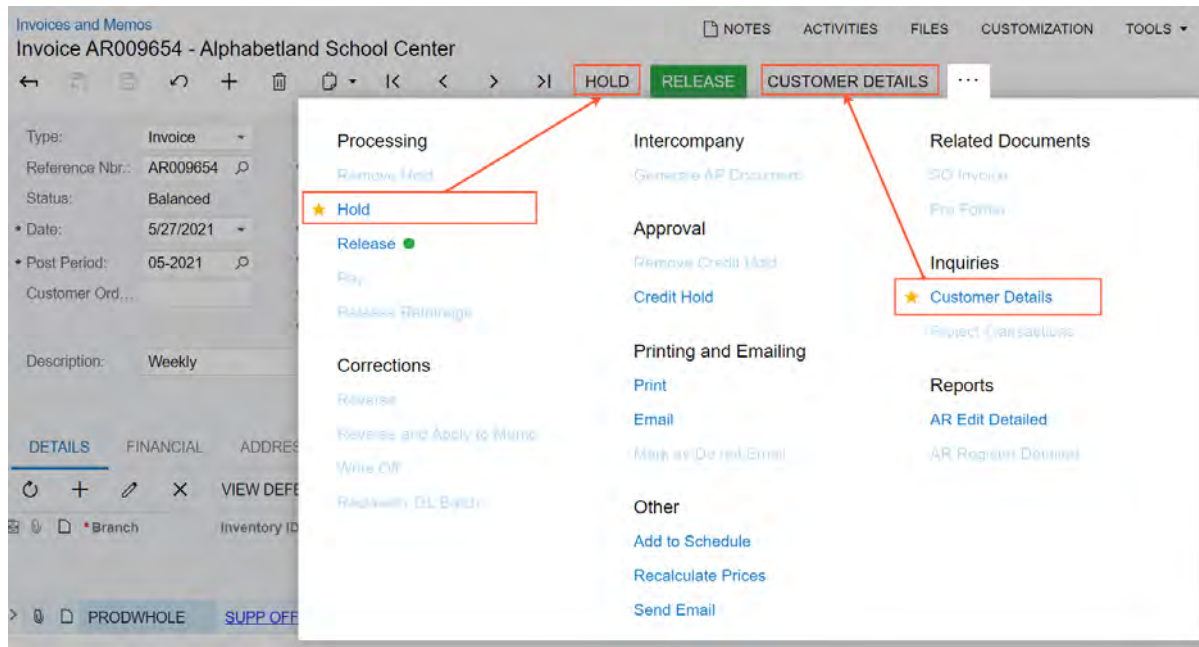


## 7. An unavailable command

### Favorite Commands

Based on a user's specific role in the company and job duties, they may use some commands more often than others. On the redesigned form toolbar, the user can specify these commands as favorites. This will cause the system to duplicate the commands as form toolbar buttons, easing access to them.

To add a command to the form toolbar as a button, the user opens the More menu, hovers over the needed command, and click the star icon when it appears. The yellow color of the star indicates that the command has been added to the user's favorites, and a button for the command appears on the form toolbar immediately. The following example shows two commands that have been added to the user's favorites on the *Invoices and Memos* (AR301000) form and thus added as buttons on the form toolbar.



**Figure:** Favorite commands on the More menu and the corresponding toolbar buttons

Favorites are individual to each user account, specific to a particular form, and preserved across user sessions.

### Highlighted Buttons and Commands

On some forms, the system applies predefined logic to commands for specific records. Based on this logic, the system may place a button on the form toolbar, highlight it using some color, or do both of these things.

If a command is the expected next command (that is, the command that is most likely to be clicked for a record with the current status), it is shown both on the form toolbar and on the More menu. The primary command on the form toolbar is highlighted in green (see Item 1 in the following screenshot), and on the More menu, it is marked with a green dot (Item 2). Below is an example of a cash transaction on the *Transactions* (CA304000) form that has the *On Hold* status (Item 3). Before the user can process it, it needs to be removed from hold. Because **Remove Hold** is the next logical command, it is displayed as a button on the form toolbar and highlighted in green.

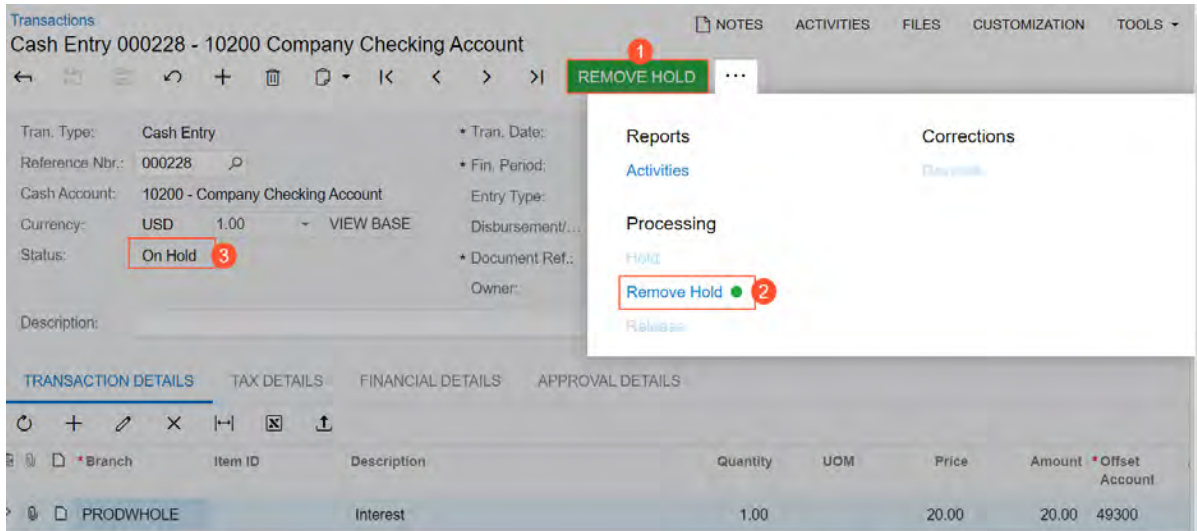


Figure: The highlighted command and the corresponding status

On some of the forms (for instance, [Sync History](#) (BC301000)), commands that should be used with caution or that may be potentially dangerous are marked with a yellow or red dot, respectively. They are clicked are marked with a yellow or red dot, respectively. They are not added to the toolbar automatically, but you can select them as favorites, which will display them on the form toolbar with the appropriate color. The highlighted commands that are displayed as buttons (Items 1 and 2 in the screenshot below) on the form toolbar are also listed on the More menu with dots of the appropriate color next to the command title (Items 3 and 4 in the screenshot below).

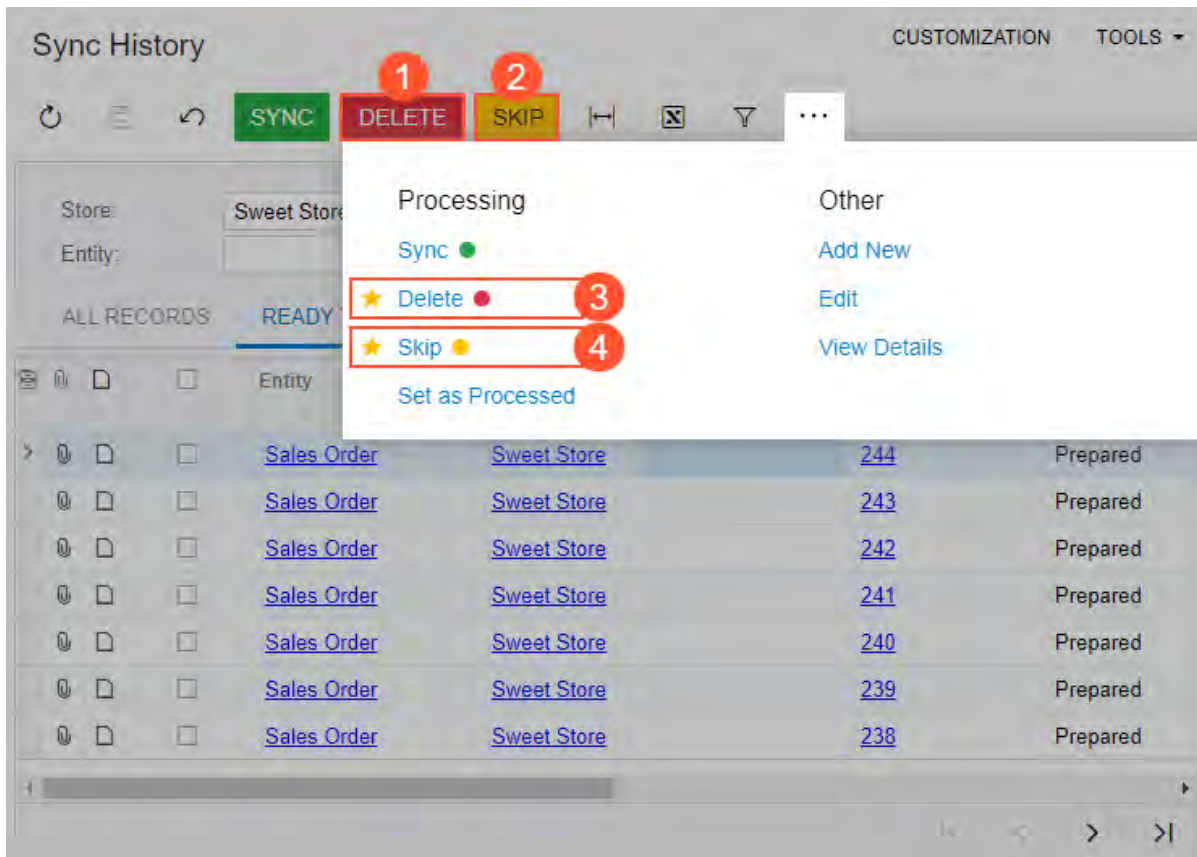


Figure: The highlighted buttons and their duplicate commands on the More menu

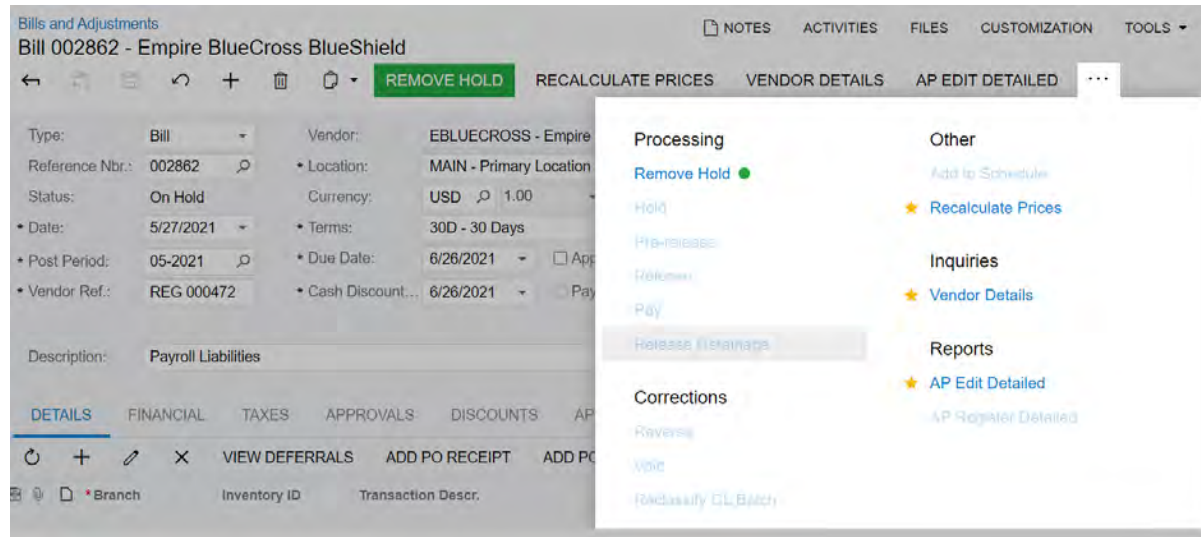
## Unavailable Commands

By default, on the More menu, the system displays all commands that could be available for the form, based on the system configuration. Some of these commands may be unavailable (that is, they are listed but cannot be clicked). These are the commands that are not applicable to the record based on its current status or other factors.

## The Responsive Form Toolbar and More Menu

The redesigned form toolbar and the More menu have a responsive layout, meaning that they dynamically adjust to different screen sizes. When there is enough space, buttons for highlighted and favorite commands are displayed on the form toolbar. When the screen size decreases, the system moves the commands off the form toolbar one by one but keeps them on the More menu.

If there are multiple categories on the More menu, the categories and menu commands can be displayed in multiple columns on the More menu depending on the screen size and the number of categories. When the screen size decreases, the system moves some categories and menu commands to the left to decrease the number of columns, and in the screens of the smallest size, all categories are displayed in one column. Below are two examples of the same menu in different screen sizes for a record on the *Bills and Adjustments* (AP301000) form.



**Figure: The form toolbar and More menu on a wide screen**

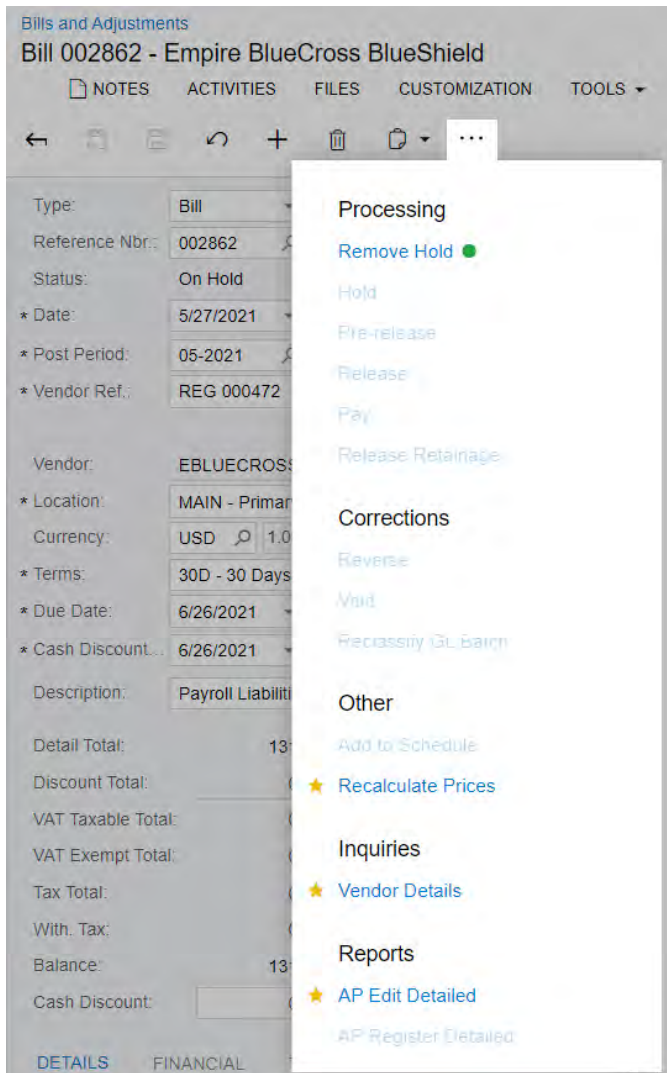


Figure: The form toolbar and More menu on a narrow screen

# Customization: Ability to Include Connected Applications in a Customization Project

In Acumatica ERP 2021 R2, once connected applications have been configured on the [Connected Applications](#) (SM303010) form, a developer can include connected applications in a customization project by using the Customization Project Editor. (See the following screenshot.)

Connected applications can work with Acumatica ERP through OAuth 2.0. Developers can add connected applications to a customization project. When this project is published in Acumatica ERP, the connected applications included in the project can be used along with other project functionality.

The Customization Project Editor now contains **Connected Applications** in the navigation pane, which the developer can click to open the Connected Applications page and manage connected applications in a customization project. The developer can click the following buttons on the page toolbar to invoke relevant actions:

- **Reload From Database:** Loads the settings of the connected applications configured in the current tenant to the customization project.
- **Manage Connected Applications:** Opens the [Connected Applications](#) form.
- **Add New Record:** Opens the **Add Connected Application** dialog box, which displays the connected applications that are present in the current tenant. The developer can select connected applications to add them to the customization project.

*Figure: Customization Project Editor*

The screenshot shows the Customization Project Editor interface. The top navigation bar includes 'File', 'Publish', 'Extension Library', and 'Source Control'. The main area is titled 'Connected Applications' and features a toolbar with icons for refresh, save, undo, delete, and add, along with buttons for 'RELOAD FROM DATABASE' and 'MANAGE CONNECTED APPLICATIONS'. A table below the toolbar lists connected applications with the following data:

Object Name	Description	Last Modified By	Last Modified On
Acumatica Support		admin admin	5/24/2021



## Actions Page

The categories and actions that have been added to the More menu of the Actions page are listed in the following table.

Category	Menu Actions
Actions	Add Existing Action
	Reorder Actions
	Manage Categories
Changes	View Changes
	Revert Changes

On the Actions page, a customizer can now manage the categories that are displayed on the More menu of the Acumatica ERP form, specify connotations for the actions, and change the order of the actions.

Categories and connotations for actions on an Acumatica ERP form can be specified in the Customization Project Editor, through code by using the `PXButton` attribute, or through the workflow code (for details, see [Workflow: Ability to Assign Categories and Connotations to Actions](#)). In any of these cases, a customizer can modify these elements in the Customization Project Editor, as described in the following sections.

## Actions Page: Managing Categories

The Actions page now has the **Category** column in the table and the **Manage Categories** action on the More menu. The following screenshot shows the updated Actions page for the *Opportunities* (CR304000) form.

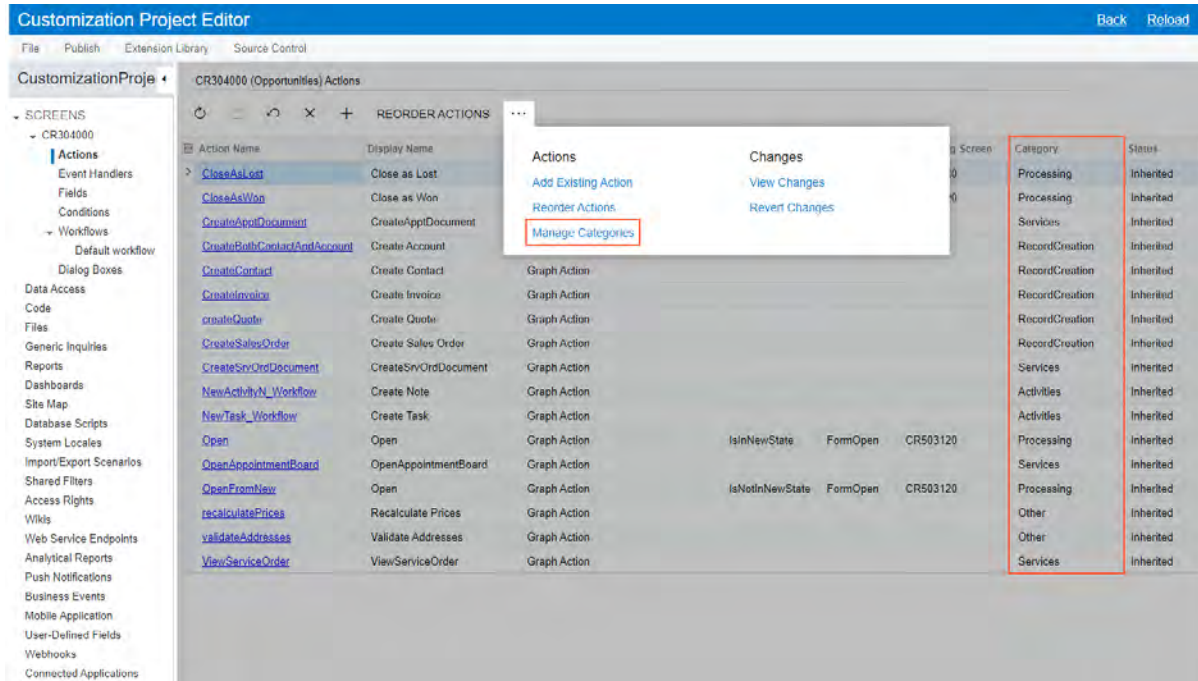


Figure: The updated Actions page

In the **Action Properties** dialog box (which opens when a customizer clicks a link with the name of an action), the **Category** box, the **Add to Toolbar** check box, and the **Lock on Toolbar** check box have been added. The **Category** box contains the list of all categories defined for the form (see the following screenshot).

The screenshot shows the 'Action Properties' dialog box. The 'Action Name' is 'CreateSalesOrder' and the 'Action Type' is 'Graph Action'. The 'Category' dropdown menu is open, showing a list of categories: 'Record Creation', 'Processing', 'Record Creation', 'Activities', 'Other', 'Actions', 'Inquiries', 'Reports', 'Services', and 'Validation'. The 'Record Creation' option is selected. Below the dialog box, there is a table with columns 'Active', 'Field', 'From Schema', 'New Value', and 'Status'. The table is empty, and a message box says 'No records found. Try to modify parameters above to see records here.' There are 'OK' and 'CANCEL' buttons at the bottom right.

**Figure:** The **Category** box in the **Action Properties** dialog box

To change the category of the selected action, the customizer selects the required category in the **Category** box; when the customizer clicks **OK** to close the **Action Properties** dialog box, this change is saved.

The customizer can use the new **Add to Toolbar** and **Lock on Toolbar** check boxes to manage how an action is displayed on a form toolbar and under a category.

If the customizer selects the **Add to Toolbar** check box (shown in the following screenshot) for an action, this action will be displayed on the form toolbar of the Acumatica ERP form and under the **Other** category if the action is available for a record based on its state. (If the action is unavailable for a record based on its state, it will be displayed only under **Other**.) The **Category** box becomes unavailable in this case. If the customizer then clears the **Add to Toolbar** check box, the **Category** box becomes empty and available.



**Action Properties**

Action Name: CreateContact  
 Display Name: Create Contact  
 Disabled:   
 Hidden:   
 Dialog Box:   
 Processing Screen:   
 Batch Mode

Action Type: Graph Action  
 Category: Record Creation  
 Add to Toolbar  
 Rights to Enable Action:   
 Rights to View Action:   
 Expose to Mobile  
 Lock on Toolbar  
 Connotation: None

**FIELD UPDATE**    ACTION PARAMETERS

Active	*Field	From Schema	New Value	Status
No records found. Try to modify parameters above to see records here.				

OK    CANCEL

**Figure: The Add to Toolbar check box**

If the **Add to Toolbar** check box and the **Lock on Toolbar** check box are selected for an action (shown in the following screenshot), this action will be displayed on the form toolbar even if it is unavailable for a record based on its state, and it will not be displayed under any category.

**Action Properties**

Action Name: CloseAsWon  
 Display Name: Close as Won  
 Disabled: BAccountDisNull  
 Hidden:   
 Dialog Box: Details(FormWon)  
 Processing Screen: CR503120 - Update Opportur  
 Batch Mode

Action Type: Graph Action  
 Category: Processing  
 Add to Toolbar  
 Rights to Enable Action:   
 Rights to View Action:   
 Expose to Mobile  
 Lock on Toolbar  
 Connotation: None

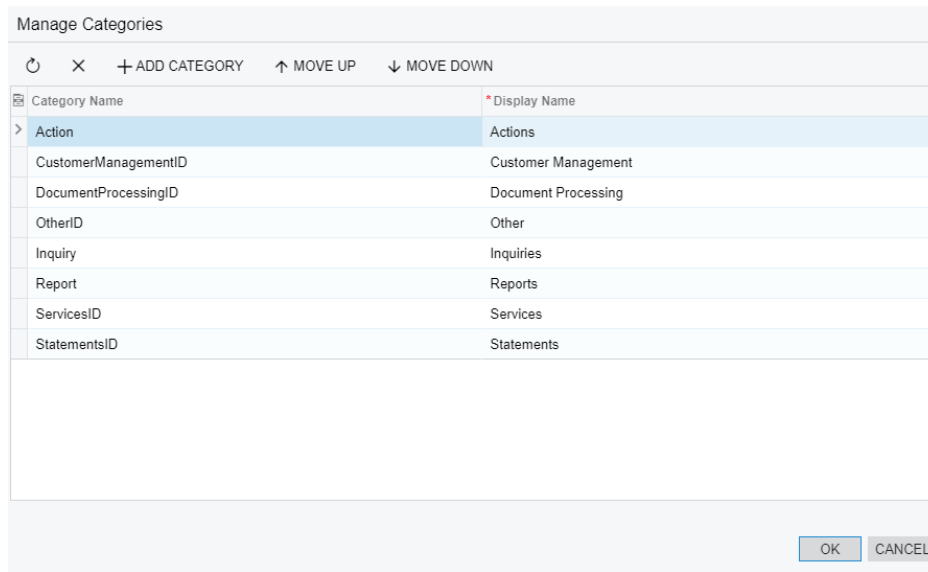
**FIELD UPDATE**    ACTION PARAMETERS

Active	*Field	From Schema	New Value	Status
<input checked="" type="checkbox"/>	Reason	<input type="checkbox"/>	[FormWon.Reason]	Inherited
<input checked="" type="checkbox"/>	Stage	<input type="checkbox"/>	[FormWon.Stage]	Inherited
<input checked="" type="checkbox"/>	Active	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Inherited
<input checked="" type="checkbox"/>	Actual Close Date	<input checked="" type="checkbox"/>	@Today	Inherited
<input checked="" type="checkbox"/>	Override	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Inherited
<input checked="" type="checkbox"/>	Override Shipping Info	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Inherited

OK    CANCEL

**Figure: The Lock on Toolbar check box**

To manage categories on the More menu of the Acumatica ERP form, the customizer clicks the **Manage Categories** action on the More menu of the Actions page. This opens the **Manage Categories** dialog box (as shown in the following screenshot).



**Figure:** The *Manage Categories* dialog box

In the dialog box, the customizer can change the order of the existing categories by selecting a category and then clicking **Move Up** and **Move Down**.

In the dialog box, the customizer can also add a new category by doing the following:

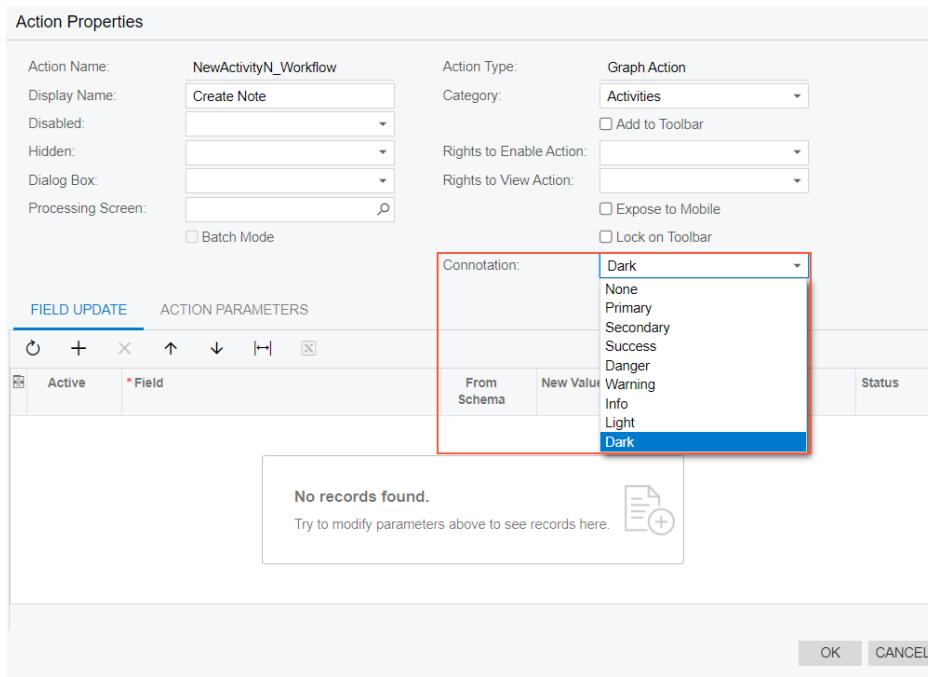
1. On the table toolbar, clicking **Add category**.
2. In the **New Category** dialog box, which opens, specifying the **Category Name** and the **Display Name** for the category.
3. Clicking **OK** to close the **New Category** dialog box.
4. Clicking **OK** to close the **Manage Categories** dialog box and save the changes.

As a result, the new category becomes available in the **Category** box of the **Action Properties** dialog box.

## Actions Page: Specifying Connotations

From the Actions page, a customizer can specify a connotation for an action—that is, highlight an action with a selected color.

For an action on a form without a workflow, the customizer can specify a connotation for an action in the **Action Properties** dialog box, which is invoked on the Actions page. To do so, the customizer selects the required option in the **Connotation** box (see the following screenshot).



**Figure: The Connotation box**

The possible values and their corresponding colors are listed in the following table.

Value	Color
Cleared	No connotation specified
<i>Primary</i>	The primary color of the site theme
<i>Secondary</i>	The secondary color of the site theme
<i>Success</i>	Green
<i>Danger</i>	Red
<i>Warning</i>	Yellow
<i>Info</i>	Blue
<i>Light</i>	Light gray
<i>Dark</i>	Dark gray

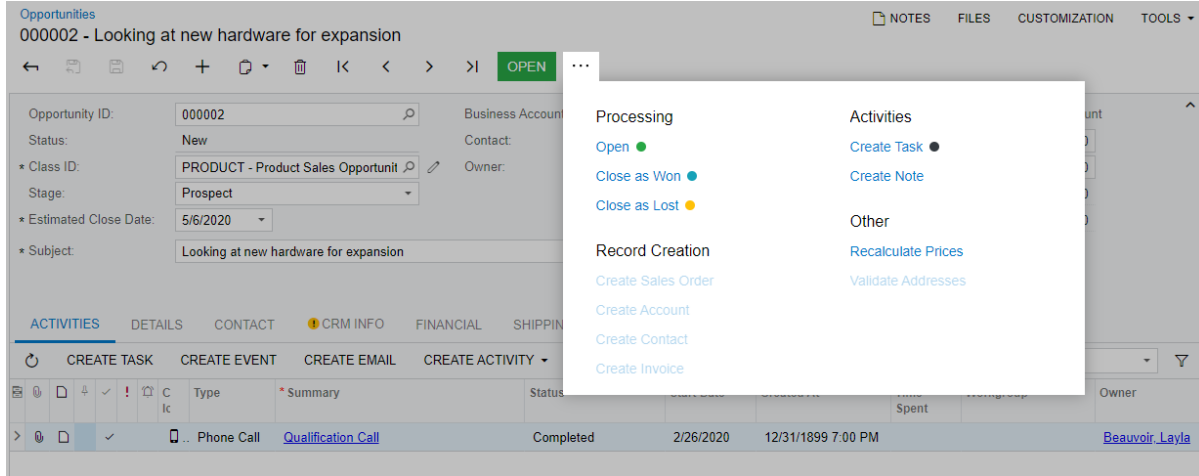
For an action on a form with a workflow, the customizer can also specify a connotation in the **Action Properties** dialog box, as described above. The customizer can instead specify a connotation on one of the Workflow pages. To do so, the customizer performs the following actions:

1. On the Workflows page, creates an inherited workflow for the form.
2. On the **States and Transitions** pane of the Workflow page for the created workflow, selects the required state.
3. In the **Connotation** column of the **Actions** tab for the state, selects the required connotation for an action.

4. Saves the changes.

If a connotation is specified for an action in the **Action Properties** dialog box, this connotation is used for this action in all states of an entity in the workflow. If in a specific state, another connotation is specified for the action, the state-specific connotation takes precedence.

The following screenshot shows the *Opportunities* (CR304000) form with added connotations.



**Figure: The customized Opportunities form**

For details on how to modify connotations through code, see [Workflow: Ability to Assign Categories and Connotations to Actions](#).

## Screens Page

The category and menu actions that have been added to the More menu of the Screens page are listed in the following table.

Category	Menu Actions
Add Screen	Customize Existing Screen
	Create New Screen

## Screen Editor: Form\_ID (Form\_Name) Pages

The categories and actions that have been added to More menu of the Screen Editor: Form\_ID (Form\_Name) pages are listed in the following table. (These pages are displayed when a customizer adds a form to the list of customized screens.)

Category	Menu Actions
Actions	Edit ASPX
	Open Screen
	Customize Business Logic
	Customize Data Class

Category	Menu Actions
<b>Other</b>	<b>Preview Changes</b>

## Event Handlers Page

The category and actions that have been added to the More menu of the Event Handlers page are listed in the following table.

Category	Menu Actions
<b>Changes</b>	<b>View Changes</b>
	<b>Revert Changes</b>

## Fields Page

The categories and actions that have been added to the More menu of the Fields page are listed in the following table.

Category	Menu Actions
<b>Actions</b>	<b>Combo Box Values</b>
<b>Changes</b>	<b>View Changes</b>

## Workflows Page

The categories and actions that have been added to the More menu of the Workflows page are listed in the following table.

Category	Menu Actions
<b>Actions</b>	<b>Add Workflow</b>
	<b>Upgrade Predefined Workflow</b>
	<b>Disinherit</b>
<b>Changes</b>	<b>View Changes</b>

## Workflow Pages

The categories and actions that have been added to the More menu of the Workflow pages for customized or custom workflows and for predefined workflows are listed in the following table.

Category	Menu Actions
<b>Add New</b>	<b>Add State</b>

Category	Menu Actions
	<b>Add Predefined State</b>
	<b>Add Transition</b>
<b>Changes</b>	<b>View Changes</b>
<b>Other</b>	<b>Diagram View</b>
	<b>Tree View</b>

## Dialog Boxes Page

The categories and actions that have been added to the More menu of the Screens page are listed in the following table.

Category	Menu Actions
<b>File</b>	<b>Copy</b>
	<b>Paste</b>
<b>Other</b>	<b>Preview Dialog Box</b>
	<b>View Changes</b>

## Database Scripts Page

The categories and actions that have been added to the More menu of the Database Scripts page are listed in the following table.

Category	Menu Actions
<b>Actions</b>	<b>Add Script</b>
	<b>Add Custom Table Schema</b>
	<b>Add Custom Column to Table</b>
	<b>Increase Column Length</b>
<b>Other</b>	<b>Reload from Database</b>

## Mobile Application Page

The categories and actions that have been added to the More menu of the Mobile Application page are listed in the following table.

Category	Menu Actions
<b>Customize</b>	<b>Update Main Menu</b>
	<b>Update Existing Screen</b>
	<b>Remove Existing Screen</b>
	<b>Add New Screen</b>
<b>Other</b>	<b>Clear Current Tenant</b>
	<b>Clear All Tenants</b>

# Developer Documentation: New and Refactored Content

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In Acumatica ERP 2021 R2, the documentation for developers have been extended and improved as described below.

## Commerce Connector Documentation

For developers of connectors between Acumatica ERP and the e-commerce systems, the documentation now includes the following new parts:

- [The part in the Plug-in Development Guide](#), which covers the development of a commerce connector. It briefly describes the architecture of Acumatica Commerce Framework and provides a step-by-step guide on the creation of a connector.
- The API reference of the `PX.Commerce.Core` and `PX.Commerce.Objects` assemblies.

## Integration Development Guide

The Integration Development Guide has been changed as follows:

- The contents of the guide have been refactored. Now all request examples are gathered in one part of the guide, which is [REST API Examples](#). The part includes the following types of examples:
  - Basic requests, such as sign-in and sign-out requests
  - Use of parameters, such as `$filter` and `$expand`
  - Requests grouped by API entities, such as the creation and retrieval of `Customer` records
  - Scenarios, which includes multiple requests, such as the creation of a pro forma invoice
- A [REST API Example](#) has been added that describes how the validation of an original transaction can be enabled or disabled.



# Platform API: Insertion of a Multicurrency Document

In Acumatica ERP 2021 R2, financial forms have been moved to the latest version of the multicurrency generic graph extension, which is available in the `PX.Objects.CM.Extensions` namespace. The namespace includes `MultyCurrencyGraph` abstract classes and attributes. The main DACs of the graphs that implement the latest version of the multicurrency functionality have their `Cury` fields marked with `PX.Objects.CM.Extensions.PXDBCurrencyAttribute`. The call of `FindImplementation<IPXCurrencyHelper>()` for these graphs returns an object whose type is a successor of `MultyCurrencyGraph`.

However, the previous version of the multicurrency functionality is still available on particular Acumatica ERP forms. The previous version uses the attributes from the `PX.Objects.CM` namespace. The main DACs of the graphs that implement the previous version of the multicurrency functionality have their `Cury` fields marked with `PX.Objects.CM.PXDBCurrencyAttribute`.

If a developer needs to insert a document into an Acumatica ERP form that works with the multicurrency functionality, before implementing the insertion, the developer needs to find out which version of the multicurrency functionality is used in the target graph. This topic briefly describes how to implement the insertion of a document for the latest version of the multicurrency functionality.

## Inserting a Document into a Graph That Supports the Latest Version of the Multicurrency Functionality

To insert a new document with the currency information, the developer does the following:

1. Obtains the `CurrencyInfo` object.



Acumatica ERP now supports two types of `CurrencyInfo` entities: `PX.Objects.CM.CurrencyInfo` (which is used in the previous version of the multicurrency functionality) and `PX.Objects.CM.Extensions.CurrencyInfo` (which is used in the latest version of the multicurrency functionality). These entities are saved in the same table in the database but have different `PXCache`. The developer can convert one entity type to another by using the following methods:

- ```
public static PX.Objects.CM.Extensions.CurrencyInfo
    PX.Objects.CM.Extensions.CurrencyInfo.GetEX (
        PX.Objects.CM.CurrencyInfo Info)
```
- ```
public PX.Objects.CM.CurrencyInfo
    PX.Objects.CM.Extensions.CurrencyInfo.GetCM ()
```

2. Obtains the target graph.
3. Copies and inserts the `CurrencyInfo` object into `PXCache` of the target graph by using one of the methods shown in the following code.

```
//Inserts a copy of CurrencyInfo with the new ID
CurrencyInfo info_copy =
    graph.GetExtension<APIInvoiceEntry.MultiCurrency>().CloneCurrencyInfo(info);
//Inserts a new CurrencyInfo with the same CuryID, BaseCuryID,
//ModuleCode, and RateTypeID, but the rate is defaulted for the specified date
CurrencyInfo info_copy =
    graph.GetExtension<APIInvoiceEntry.MultiCurrency>().
        CloneCurrencyInfo(info, Document.Current.DocDate);
```

4. Composes the `CurrencyInfo` object that should be inserted and sets the `CuryInfoId` from the `info_copy` object.
5. Inserts the `CurrencyInfo` object into `PXCache` by using the `Insert ( . . . )` method.

# Platform API: Implementation of the Multicurrency Support on a Custom Form

In Acumatica ERP 2021 R2, financial forms have been moved to the most recent version of the multicurrency generic graph extension, which is available in the `PX.Objects.CM.Extensions` namespace. The namespace provides `MultyCurrencyGraph` abstract classes and attributes, including the new `FinDocMultiCurrencyGraph`, `ARMultiCurrencyGraph`, and `APMultiCurrencyGraph` abstract classes. A developer may need to reuse this multicurrency functionality in a custom form. This topic briefly describes how to implement this scenario with the latest multicurrency extension.

## Implementing Multicurrency Support on a Custom Form

To add multicurrency functionality to a custom form, a developer does the following:

1. In the file of the graph that corresponds to the custom form, adds the following `using` directives.

```
using PX.Objects.CM.Extensions;
using PX.Objects.Extensions.MultiCurrency;
```

2. Declares the multicurrency extension as a nested class, as shown in the following code example.

```
public partial class APPaymentEntry : APDataEntryGraph<APPaymentEntry, APPayment>
{
    public class MultiCurrency : APMultiCurrencyGraph<APPaymentEntry, APPayment>
    {
    }
}
```



The developer can use one of the following base classes:

- `MultiCurrencyGraph`, which is the base multicurrency extension
- `FinDocMultiCurrencyGraph`, which is used if it is necessary to control the system behavior based on the status of the document
- `ARMultiCurrencyGraph`, which is specific to accounts receivable
- `APMultiCurrencyGraph`, which is specific to accounts payable
- `CRMMultiCurrencyGraph`, which is specific to CRM

3. In the multicurrency extension, overrides the following abstract properties and methods:

- **Module:** This property specifies the two-character code of the Acumatica ERP functional area to be used in the created `CurrencyInfo` entities, as shown in the following code. This value is necessary to obtain rounding accounts and other information that is specific to the functional area. The area-specific extensions override this property.

```
protected override string Module => "AP";
```

- **GetCurySourceMapping():** As shown in the following code, this method returns a valid mapping for the `CurrencyInfo` entity, from which the system takes the default currency ID, rate type, and rules for overriding these values. Usually these values are taken from the vendor, customer, or cash account entity. The area-specific extensions override this method.

```
return new CurySourceMapping(typeof(CashAccount))
{
    CuryID = typeof(CashAccount.curyID),
    CuryRateTypeID = typeof(CashAccount.curyRateTypeID)
}
```

```
};
```

- `CurrentSourceSelect()`: This method adjusts the mapping of the `CurrencyInfo` entity if the mapping of the entity is taken from multiple entities. For example, in the following code, the `AllowOverrideRate` property originates from the vendor entity while other properties come from the cash account entity.

```
protected override CurySource CurrentSourceSelect()
{
    CurySource CurySource = base.CurrentSourceSelect();
    if (CurySource != null) CurySource.AllowOverrideRate =
        Base.vendor?.Current?.AllowOverrideRate;
    return CurySource;
}
```

- `GetDocumentMapping()`: This method returns a valid mapping for the document entity. This mapping must specify the date and business account, as shown in the following code.

```
protected override DocumentMapping GetDocumentMapping()
{
    return new DocumentMapping(typeof(APPayment))
    {
        DocumentDate = typeof(APPayment.adjDate),
        BAccountID = typeof(APPayment.vendorID)
    };
}
```

- `GetChildren()`: The method returns all views that `MultiCurrencyGraph` should process, as shown in the following code example.

```
protected override PXSelectBase[] GetChildren()
{
    return new PXSelectBase[]
    {
        Base.Document,
        Base.Adjustments,
        Base.Adjustments_Balance,
        Base.Adjustments_History,
        Base.Adjustments_Invoices,
        Base.Adjustments_Payments,
        Base.PaymentCharges,
        Base.dummy_CATran
    };
}
```

#### 4. For each DAC of each view that has been specified in the `GetChildren()` method, ensures the following:

- Each `Cury` field has one of the following attributes:
  - For non-database fields with the rounding precision from the currency entity, `PX.Objects.CM.Extensions.PXCurrencyAttribute`
  - For database fields with the rounding precision from the currency entity, `PX.Objects.CM.Extensions.PXDBCurrencyAttribute`
  - For non-database fields with the rounding precision from the price and cost entity, `PX.Objects.CM.Extensions.PXCurrencyPriceCostAttribute`
  - For database fields with the rounding precision from the price and cost entity, `PX.Objects.CM.Extensions.PXDBCurrencyPriceCostAttribute`

- The `PX.Objects.CM.Extensions.PXCurrencyAttribute` and `PX.Objects.CM.Extensions.PXDBCurrencyAttribute` attributes refer to the `CurrencyInfoID` and `Base` fields correctly.
- `PX.Objects.CM.Extensions.CurrencyInfoAttribute` is assigned to each `CurrencyInfoID` field whose value refers to the `CurrencyInfo` entity that can be inserted or updated by the graph.
- Each `Base` field has `PX.Objects.CM.Extensions.PXDBBaseCuryAttribute` or `PX.Objects.CM.Extensions.PXBaseCuryAttribute`.



- To perform any currency-related calculations in the graph, the developer obtains the `CurrencyInfo` entity by using `GetExtension<MultiCurrency>().GetCurrencyInfo(...)` or `GetExtension<MultiCurrency>().GetDefaultCurrencyInfo()`, as well as call calculation methods, on this entity.
- To clone the `CurrencyInfo` entry, the developer can use `GetExtension<MultiCurrency>().CloneCurrencyInfo(...)`.

# Platform API: Refactoring of the Code Related to Credit Card Processing

---

In Acumatica ERP 2021 R2, the code that implements credit card processing has been refactored as follows:

- The base logic of credit card processing for AR payments has been moved from the `ARPaymentEntry.PaymentTransaction` inner class to a separate `ARPaymentEntryPaymentTransaction` class. This logic is implemented in the `PX.Objects\AR\GraphExtensions\ARPaymentEntryPaymentTransaction.cs` file.
- The API-specific logic of credit card processing for AR payments has been moved from the `ARPaymentEntry.PaymentTransaction` inner class to a separate `ARPaymentEntryImportTransaction` class. This logic is implemented in the `PX.Objects\AR\GraphExtensions\ARPaymentEntryImportTransaction.cs` file.
- The base logic of credit card processing for AR cash sales has been moved from the `ARCashSaleEntry.PaymentTransaction` inner class to a separate `ARCashSaleEntryPaymentTransaction` class. This logic is implemented in the `PX.Objects\AR\GraphExtensions\ARCashSaleEntryPaymentTransaction.cs` file.

# Workflow: Ability to Assign Categories and Connotations to Actions

In Acumatica ERP 2021 R2, for actions that are displayed on the More menu of the redesigned form toolbar, a developer can assign categories and connotations. For details on the redesigned toolbar, see [User Interface: Redesigned Form Toolbar](#). An action that is present in the More menu can also be displayed on the form toolbar.



During an update to Acumatica ERP 2021 R2, all custom and customized forms will be updated to display the redesigned toolbar. To cause the toolbar to be displayed correctly on custom and customized forms or to display the old version of the toolbar, before the update, a developer needs to modify these forms, as described in Upgrade Procedure: Redesigned Form Toolbar on Custom and Customized Forms in the [Release Notes for Developers](#).

## Configuring Categories

A developer can create categories and specify the order of the categories in the More menu.

To define a new category, the developer can define it by creating a new object that can later be used to add multiple actions, or create it in an action definition.

To define a category by creating an object, the developer should do the following:

1. Call the `Categories.CreateNew` method, and provide the display name of the category. An example is shown in the following code.

```
var processSalesCategory = context.Categories.CreateNew
    (ActionCategories.ProcessSalesCategoryID,
     category => c.DisplayName(ActionCategories.DisplayNames.ProcessSales));
```

2. Add the category to the screen configurator by using the `WithCategories` method, as the following code shows.

```
.WithCategories(categories =>categories.Add(processSalesCategory))
```

To define a category dynamically not in the workflow code but in the graph code, a developer should specify the display name of the new category in the `PXButton` attribute. For details, see [Configuring Actions in Categories](#).

The developer can define the order of categories by using the `PlaceAfter` and `PlaceBefore` methods in the `WithCategories` method. An example is shown in the following code.

```
.WithCategories(categories =>
    {
        categories.Add(processingCategory);
        categories.Add(intercompanyCategory);
        categories.Add(printingEmailingCategory);
        categories.Add(otherCategory);
        categories.Update(FolderType.ReportsFolder,
category => category.PlaceAfter(otherCategory));
    })
```

By default, the **Actions**, **Inquiries**, and **Reports** categories are the first categories on the menu if there is at least one action in any of these categories.

## Configuring Actions in Categories

A developer can put an action into a category and order actions inside a single category by doing one of the following:

- In the action definition, specifying the display name of the category in the `Category` parameter of the `PXButton` attribute, as shown in the following example..

```
[PXButton(Tooltip = Messages.ViewXmlOfPublishedCustomizationToolTip,
Category = "Publish")]
```

- In the workflow code, specifying the object that defines the category. An example is shown in the following code.



Actions for which a category is not defined are placed in the Other category and on the form toolbar.

To order actions in a category, when adding the action, the developer specifies the action after which the current action should be located in the `WithCategory` method. For example, in the following code, the `putOnHold` action will be placed after the `releaseFromHold` action.

```
actions.Add(g => g.putOnHold, c => c
.WithCategory(processingCategory, g => g.releaseFromHold))
```

## Configuring Actions On the Form Toolbar

A developer can place an action on the form toolbar of a particular form by doing one of the following:

- To duplicate an action on the toolbar for a particular state of a record defined on the form, calling the `IsDuplicateOnToolbar` method when adding an action to the state. Example is shown in the following code.

```
flowState.WithActions(actions => {
actions.Add(g => g.putOnHold, a => a.IsDuplicatedInToolbar());})
```

- To place an action on the toolbar and remove it from the More menu, specifying `IsLockedOnToolbar = true` in the `PXButton` attribute in the action definition. Example is shown in the following code.

```
[PXButton(Tooltip = Messages.ViewXmlOfPublishedCustomizationToolTip,
IsLockedOnToolbar = true)]
```

This property can be changed dynamically by using the `SetIsLockedOnToolbar` method in the action definition in the workflow code.

- To put an action for which a category is not defined on a form toolbar, a developer should do nothing. Actions for which a category is not defined are placed in the Other category and on the form toolbar automatically.



An action will be displayed on the toolbar only if the action is enabled and it fits the toolbar.

## Configuring Connotations

A developer can configure a connotation for an action—that is, highlight an action with a selected color. The connotation can be assigned once in the action declaration and dynamically for a selected workflow state.



To configure a connotation in the action declaration, in the `PXButton` attribute that defines the action, a developer should specify the `Connotation` parameter value. An example is shown in the following code.

```
[PXButton(Tooltip = Messages.ViewXmlOfPublishedCustomizationToolTip,
IsLockedOnToolbar = true, Connotation = ActionConnotation.Success)]
```

To configure a connotation for a single workflow state, in the state definition, the developer should call the `flowState.WithConnotation` method and specify the connotation in the parameter. An example is shown in the following code.

```
flowState.WithActions(actions => {actions.Add(g => g.copyOrderQT, a =>
a.IsDuplicatedInToolbar().WithConnotation(ActionConnotation.Success)});
```

All connotations are defined in the `ActionConnotation` enumeration. The possible values and corresponding colors are listed in the following table.

Value	Color
Primary	Primary color of the site theme
Secondary	Secondary color of the site theme
Success	Green
Danger	Red
Warning	Yellow
Info	Blue
Light	Light gray
Dark	Dark gray

## Workflow: Ability to Assign Field Value Before and After a Workflow Transition

---

In Acumatica ERP 2021 R2, in workflow code, a developer can now specify a list of field assignments that will be performed when a document enters the state and when a document leaves the state.

To provide a list of fields whose values should be assigned when a document enters a state, a developer should use the `flowState.WithOnEnterAssignments` method when defining the state. The field assignments listed in the method are applied to the state for which the method was called.

To provide a list of fields whose values should be assigned to a state when a document leaves a state, a developer should use the `flowState.WithOnLeaveAssignments` method when defining the state. The field assignments listed in the method are applied to the state for which the method was called.

Example of using these methods is shown in the following code.

```
flowStates.Add<State.hold>(flowState =>
{
    return flowState
        .WithOnEnterAssignments(fields => fields.Add<inclCustOpenOrders>(false));
        .WithOnLeaveAssignments(fields => fields.Add<inclCustOpenOrders>(true));
    ...
})
```

# Workflow: Disabling Predefined Workflows

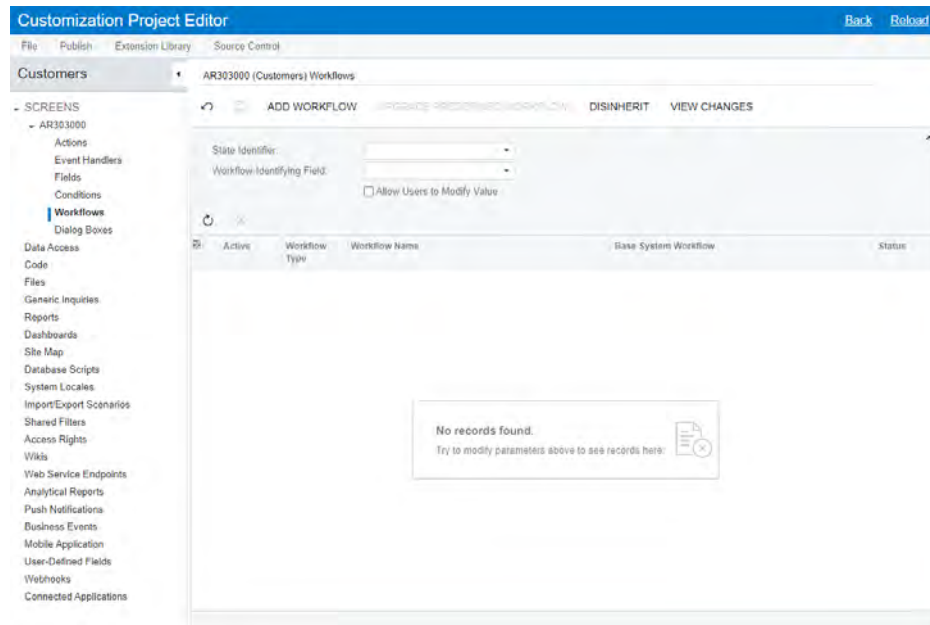
In Acumatica ERP 2021 R2, the predefined system workflows have been removed for the following forms in the CRM functional area:

- [Business Accounts](#) (CR303000)
- [Customers](#) (AR303000)
- [Vendors](#) (AP303000)
- [Contacts](#) (CR302000)
- [Account Locations](#) (CR303010)
- [Customer Locations](#) (AR303020)
- [Vendor Locations](#) (AP303010)

For details, see [CRM: Removal of Workflows for Business Accounts, Customers, Vendors, Locations, and Contacts](#).

## Changes Related to Predefined Workflows

As a result of the removal of the predefined CRM workflows, the Workflows page in the Customization Project Editor for these forms does not contain any workflows by default, as shown in the following screenshot for the [Customers](#) (AR303000) form. On the form title bar of each of these forms, the **Customization** menu does not contain the **Show State Diagram** command.



*Figure: The updated Workflows page for the Customers form*

For the forms listed above, customizers cannot create inherited workflows; they can create only new workflows from scratch.



If any customizations have been made based on the workflows that were introduced in Acumatica ERP 2021 R1, these customizations will not work after the upgrade. Contact the Acumatica ERP support provider for assistance with the customization upgrade.

## Changes Related to Import Scenarios and API Integrations

Because the predefined workflows for the forms listed above have been disabled, the upgrade to Acumatica ERP 2021 R2 will also cause the following changes:

- Import scenarios will not work if they use workflow actions to set the statuses of records created on these forms.
- API integrations will not work if they use workflow actions to set the statuses of records created on these forms.

Customizers will need to replace these workflow actions with updates of the applicable **Status** elements.

## Workflow: Save Changes Before an Action Is Performed

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In Acumatica ERP 2021 R2, in workflow code, a developer can specify that changes should be persisted to the database after an action is invoked but before the actual action is performed. A developer may need this feature to save user input before a dialog box is displayed.

To specify that data should be persisted before an action is performed, a developer should call the `WithPersistOptions` method and provide the `ActionPersistOptions.PersistBeforeAction` parameter in an action definition.

By default, no changes are persisted to the database before an action is performed.

An example of an action definition with the `WithPersistOptions` method is shown in the following code. This action opens the `formClose` dialog box and saves changes to the database before the dialog box is displayed.

```
var actionClose = context.ActionDefinitions.CreateNew(_actionClose, a => a
    .MapEnableToUpdate().WithForm(formClose)
    .WithPersistOptions(ActionPersistOptions.PersistBeforeAction));
```

# Fixes and Enhancements

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You can find fixes and minor enhancements introduced in Acumatica ERP 2021 R2 in the following document:

[\*Acumatica ERP 2021 R2 Release Notes: Fixes and Enhancements.\*](#)