

End-User Course



Project Billing and Change Management 2022 R1

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Contents

Copyright.....	4
How to Use This Course.....	5
Company Story.....	7
Part 1: Advanced Billing.....	9
Lesson 1: Billing Projects for Progress and Time and Material.....	9
Project Billing: General Information.....	9
Project Billing: Progress Billing.....	10
Project Billing: Time and Material Billing.....	11
Project Billing: To Bill a Project with Combined Rule.....	12
Project Billing: Related Reports and Forms.....	15
Lesson 2: Using Prices and Rates in Billing.....	16
Billing Rates: General Information.....	16
Billing Rates: To Bill a Project with Different Billing Rates.....	18
Lesson 3: Making Adjustments to Pro Forma Invoices.....	20
Pro Forma Invoice: General Information.....	20
Pro Forma Invoice: Making Adjustments.....	22
Pro Forma Invoice: To Make Adjustments.....	24
Pro Forma Invoice: Generated Transactions.....	27
Pro Forma Invoice: Related Reports and Forms.....	29
Lesson 4: Grouping Invoices.....	30
Grouping Invoices: General Information.....	30
Grouping Invoices: Process Activity.....	31
Grouping Invoices: Related Reports and Inquiries.....	33
Lesson 5: Modifying Billing Rules.....	34
Billing Rules: General Information.....	34
Billing Rules: To Modify a Billing Rule.....	36
Lesson 6: Correcting Actual Income of Projects.....	39
Project Billing: To Correct the Actual Income of a Project.....	40
Part 2: Transactions and Time Tracking.....	42
Lesson 7: Processing Project Transactions.....	42
Project Transactions: General Information.....	42
Project Transactions: Process Activity.....	44
Project Transactions: Generated Transactions.....	48
Project Transactions: Related Reports and Forms.....	49

Lesson 8: Tracking Employee Work in Projects.....	49
Employee Time Billing: General Information.....	49
Labor Items: Labor Cost Rates in Projects.....	52
Labor Items: To Define Labor Cost Rates.....	53
Employee Time Billing: Process Activity.....	55
Employee Time Billing: Generated Transactions.....	58
Employee Time Billing: Related Report and Inquiry Forms.....	59
Part 3: Single-Tier Change Management.....	61
Single-Tier Change Management: General Information.....	61
Lesson 9: Tracking Changes to the Budget.....	64
Single-Tier Change Management: To Track Changes to the Project Budget.....	64
Lesson 10: Tracking Changes to Commitments.....	67
Change Orders for Commitments: General Information.....	67
Change Orders for Commitments: Purchase Order Workflow.....	69
Change Orders for Commitments: To Create a Change Order Class.....	70
Change Orders for Commitments: Process Activity.....	71

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How to Use This Course

This end-user course provides a set of lessons that illustrate project accounting processes in a midsize company. In the course, you will learn about the project accounting processes in Acumatica ERP. After you complete the course, you will have an understanding of the way the project accounting capabilities of Acumatica ERP are integrated with the general ledger. You will learn about the functionality of the billing rules that are used for project billing and the ways you can manage the billing process. Also, you will learn how to control changes to the project's budgeted values and commitments. You will also learn how to use time activities and time cards to track time spent on projects.

What Is in This Guide

The guide includes the *Company Story* topic and process activities. *Company Story* explains the organizational structure of the company preconfigured in the *U100* dataset, as well as the company's business processes and requirements. Each of the process activities of the course is dedicated to a particular user scenario and consists of processing steps that you complete.



The process activities are independent and can be completed in any order.

Which Training Environment Is Needed

All lessons of the course should be completed on an instance of Acumatica ERP 2022 R1 Update 3 with the *U100* training dataset preloaded; this dataset provides the predefined settings and entities you will need as you complete the activities of this course.

You or your system administrator prepare an instance of Acumatica ERP 2022 R1, as described in the *How to Create a Tenant with the U100 Dataset* section below.

What Is in a Lesson

Each lesson provides a story describing a particular user scenario and an overview of the relevant features that have been enabled in the system; configuration settings that are related to the described scenario are also listed. The lesson provides a brief overview of the process that should be performed to complete the described scenario, and instructions that guide you through the process in Acumatica ERP.



The lessons are independent and can be completed in any order. However, depending on the sequence in which you take the course lessons, the values in the screenshots may differ from the values in the system.

What Are the Documentation Resources

Acumatica ERP provides a wide variety of documentation resources, which you can access from this course, from the system, or from the [Documentation Portal](#) website. Applicable links are provided at relevant places throughout the course. The complete Acumatica ERP documentation is available on <https://help.acumatica.com/> and is included in the Acumatica ERP instance.

While viewing any form used in the course (or any other Acumatica ERP form), you can click the **Open Help** button in the top pane to bring up a form-specific Help menu; you can use the links on this menu to quickly access form-related concepts and procedures and to open a reference topic with detailed descriptions of the form elements.

How to Create a Tenant with the U100 Dataset

Before you complete this course, you need to add a tenant with the *U100* dataset to an existing Acumatica ERP instance. You will then prepare the tenant for completing the activities. To complete this preparation, perform the following instructions:

1. Go to [Amazon Storage](#).
2. Open the folder that corresponds to the version of your Acumatica ERP instance.
3. In this folder, open the `Snapshots` folder, and download the `u100.zip` file.
4. Launch the Acumatica ERP instance, and sign in.
5. Open the [Tenants](#) (SM203520) form, and click **Add New Record** on the form toolbar.
6. In the **Login Name** box, type the name to be used for the tenant.
7. On the form toolbar, click **Save**.
8. On the **Snapshots** tab, click **Import Snapshot**.
9. In the **Upload Snapshot Package** dialog box, select the `u100.zip` file, which you have downloaded, and click **Upload**.

The system uploads the snapshot and lists it on the **Snapshots** tab of the [Tenants](#) form.

10. On the form toolbar, click **Restore Snapshot**.
11. If the **Warning** dialog box appears, click **Yes**.
12. In the **Restore Snapshot** dialog box, make sure that the correct snapshot package is being uploaded, and click **OK**. The system will restore the snapshot and sign you out.

You are now on the Sign-In page, and you can sign in to the tenant you have just created.

Licensing Information

For the educational purposes of this course, you use Acumatica ERP under the trial license, which does not require activation and provides all available features. For the production use of this functionality, you have to activate the license your organization has purchased. Each particular feature may be subject to additional licensing; please consult the Acumatica ERP sales policy for details.

Company Story

This topic explains the organizational structure and operational activity of the company you will work with during this training.

Company Structure

The SweetLife Fruits & Jams company is a midsize company located in New York City. The company consists of the following branches:

- **SweetLife Head Office and Wholesale Center:** This branch of the company consists of a jam factory and a large warehouse where the company stores fruit (purchased from wholesale vendors) and the jam it produces. Warehouse workers perform warehouse operations by using barcode scanners or mobile devices with barcode scanning support.
- **SweetLife Store:** This branch has a retail shop with a small warehouse to which the goods to be sold are distributed from the company's main warehouse. This branch is also planning on selling goods via a website created on an e-commerce platform to accept orders online. The e-commerce integration project is underway.
- **Service and Equipment Sales Center:** This branch is a service center with a small warehouse where juicers are stored. This branch assembles juicers, sells juicers, installs juicers, trains customers' employees to operate juicers, and provides juicer servicing.

The ToadGreen Building Group is a subsidiary of the SweetLife Fruits & Jams company. ToadGreen Building Group—which is located in New York—is a general contractor coordinating construction projects for governmental and commercial customers. The company has only one branch, ToadGreen Building Group, in which the corresponding projects are being managed and all construction-related tasks are recorded.

The Muffins & Cakes company is a subsidiary SweetLife Fruits & Jams company. Muffins & Cakes—which is located in Denver, Colorado—consists of the following branches:

- **Muffins Head Office and Wholesale Center:** This branch owns a bakery and a wholesale warehouse where products are stored.
- **Muffins Retail Shop:** This branch, which sells products to retail customers, has a retail shop with a small warehouse.

Operational Activity

The company has been operating starting in the 01-2021 financial period. In November 2021, the company started using Acumatica ERP as an ERP and CRM system and migrated all data of the main office and retail store to Acumatica ERP. The equipment center has begun its operations in 01-2022 in response to the company's growth.

In October 2021, the company received an investment and opened a subsidiary company for construction (ToadGreen). In February 2022, the company started its first construction project.

The Muffins & Cakes company was established in January 2021 and started using Acumatica ERP at the end of the 01-2022 financial period.

The base currency of the company and its subsidiaries is the U.S. dollar (USD). All amounts in documents and reports are expressed in U.S. dollars unless otherwise indicated.

Company Purchases

The company purchases fruits and spices from large fruit vendors for sale and for jam production. For producing jams and packing jams and fruits, the company purchases jars, labels, and paper bags from various vendors. For the internal needs of the main office and store, the company purchases stationery (printing paper, pens, and pencils), computers, and computer accessories from various vendors. The company also purchases juicers

and juicer parts for sale from a large juicer vendor and either purchases the installation service for the juicers or provides the installation service on its own, depending on the complexity of the installation.

The Muffins & Cakes company also purchases stationery (printing paper, pens, and pencils) and advertising services.

Company Sales and Services

Each company's branch has its own business processes, as follows:

- SweetLife Head Office and Wholesale Center: In this branch, jams and fruit are sold to wholesale customers, such as restaurants and cafes. The company also conducts home canning training at the customer's location and webinars on the company's website.
- SweetLife Store: In the store, retail customers purchase fresh fruit, berries, and jams, or pick up the goods they have ordered on the website. Some of the goods listed in the website catalog are not stored in the retail warehouse, such as tropical fruits (which are purchased on demand) and tea (which is drop-shipped from a third-party vendor).
- Service and Equipment Sales Center: This branch assembles juicers, sells juicers, provides training on equipment use, and offers equipment installation, including site review and maintenance services. The branch performs one-time endeavors as well as complex projects with their own budgets.

The company has local and international customers. The ordered items are delivered by drivers using the company's own vehicle. Customers can pay for orders by using various payment methods (cash, checks, or credit cards).

The Muffins & Cakes branches have the following business processes:

- Muffins Head Office & Wholesale Center: In this branch, baked goods and products for baking are sold to wholesale customers, such as restaurants and cafes. The company also conducts baking classes at customer locations.
- Muffins Store: In the store, small retail customers purchase baked goods, or pick the goods ordered on the website.

Part 1: Advanced Billing

Lesson 1: Billing Projects for Progress and Time and Material

Project Billing: General Information

In Acumatica ERP, you run the procedure of project billing to automatically generate customer invoices based on the accounting data related to the projects.

Learning Objectives

In this chapter, you will learn how to do the following:

- Make sure that the project is pending billing
- Make sure that the project is ready to be billed
- Run project billing for a single project or multiple projects
- Process the documents that have been generated during the project billing
- Review how the project's actual amounts are updated with the billed amounts

Applicable Scenarios

You run project billing at a time that depends on the project billing period defined for the project to prepare an invoice for the customer. You can bill the customer based on the current progress of the project, or for the time and material spent on the project.

Billing Process Preparation

The billing procedure in Acumatica ERP is straightforward and depends on the type of the step of the billing rule that is specified for each project task on the **Tasks** tab of the [Projects](#) (PM301000) form as follows:

- For the *Time and Material* steps of the billing rules, the system selects all the project transactions and generates an invoice for the customer based on these transactions and the billing rule.
- For the *Progress Billing* steps of the billing rules of project tasks, the system generates an invoice with the billable project revenue.

For the billing process for a project to be run successfully, the project must meet the following criteria:

- The project is an external project (that is, a project associated with a customer).
- The project status should be *Active*, *Completed*, or *Suspended*.
- The status of the project tasks should be *Active* or *Completed*, and a billing rule should be specified for these tasks.
- The project should have a provision for billing, such as a billable line of the revenue budget associated with the task for progress billing, or an unbilled project transaction associated with the task within this billing period for time and material billing.
- The steps of the billing rule should be applicable to the billing provisions. For example, the billing rule of a task that is supposed to be billed by a revenue budget line should have a *Progress Billing* step.
- The rate table must be specified for a project task if the related billing rule contains the *@Rate* parameter.
- Sales prices must be configured for non-stock items if the related billing rule contains the *@Price* parameter.

Projects Pending Billing

The billing procedure can be run only for a project that is pending billing—that is, only if at least one of the following exist for the project:

- A revenue budget line billed by amount with a nonzero **Pending Invoice Amount** on the **Revenue Budget** tab of the [Projects](#) form; the amount may be positive or negative.
- A revenue budget line billed by quantity with a nonzero **Pending Invoice Quantity** on the **Revenue Budget** tab of the [Projects](#) form.
- A revenue budget line with a **Pending Invoice Quantity** of 0 on the **Revenue Budget** tab of the [Projects](#) form if the corresponding billing rule has the **Create Lines with Zero Amount** check box selected in the progress billing step on the [Billing Rules](#) (PM207000).
- An amount postponed to the next billing from a pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form for which the corresponding accounts receivable invoice is released.
- A project task for which a recurring billing item is defined on the **Recurring Billing** tab of the [Project Tasks](#) (PM302000) form.
- An unbilled project transaction that is ready to be billed on the invoice date—that is, the date of the transaction is not later than the invoice date. Transactions with a date the same as the invoice date are billed if *Include Trans. created on billing date* is selected in the **Billing Cut-off Date** box on the [Projects Preferences](#) (PM101000) form; if *Exclude Trans. created on billing date* is selected instead, the system skips the transactions with a date on the billing date.

The invoice date for all the projects except those that are billed on demand is the **Next Billing Date** on the [Projects](#) (PM301000) form (in the **Billing and Allocation Settings** section of the **Summary** tab); for the projects that are billed on demand (that is, for which the **Billing Period**, which is specified in the same section of the form, is *On Demand*), the invoice date is the business date.

Billing Procedure

You run the project billing procedure for a project that is pending billing by opening the project on the [Projects](#) (PM301000) form and clicking **Run Project Billing** on the form toolbar. Depending on the workflow specified for the project, which is based on the state of the **Create Pro Forma Invoice on Billing** check box (in the **Billing and Allocation Settings** section of the **Summary** tab), the system creates a pro forma invoice or an accounts receivable invoice with a date that is the same as the **Next Billing Date** specified for the project in the same section. For projects with the *On Demand* billing period, the date of the prepared invoice is the business date.

Project Billing: Progress Billing

For a billing rule defined on the [Billing Rules](#) (PM207000) form, you specify the sequence of steps in the left pane and the settings of each step in the right pane, including the billing type, which can be *Time and Material* or *Progress Billing*. You specify *Progress Billing* rules for project tasks, which are then billed by their progress.

The Progress Billing Process

Progress billing is a simple billing workflow for the projects that are gradually billed at a fixed contract amount. Progress billing does not involve project transactions. To bill a project task by its progress, you need to create a billing rule on the [Billing Rules](#) (PM207000) form and configure a step of the *Progress Billing* type in this rule. Then you assign the configured billing rule to project tasks on the **Tasks** tab of the [Projects](#) form.

The progress billing procedure could be initiated for a project that has at least one revenue budget line with billable project revenue, or for a project with pending values of zero if the progress billing step of the billing rule assigned to any project task has the **Create Lines with Zero Amount** check box selected on the [Billing Rules](#) form.

Each revenue budget line is billed based on amount or quantity, depending on the option selected in the **Progress Billing Base** column on the **Revenue Budget** tab of the [Projects](#) (PM301000) form as follows:

- For a line billed by amount, you need to specify a nonzero amount, which may be a negative amount, in the **Pending Invoice Amount** column. For these lines, the **Pending Invoice Quantity**, **Draft Invoice Quantity**, and **Actual Quantity** values are always 0.
- For a line billed by quantity, you need to specify a nonzero quantity in the **Pending Invoice Quantity** column. In this case, the system will calculate the **Pending Invoice Amount** of the line as the pending invoice quantity multiplied by the unit rate specified in the line. The system will calculate the percentage of line completion (**Completed (%)**) based on the specified values.

You can also specify the **Completed (%)** value on the **Revenue Budget** tab for the needed revenue budget lines to indicate that the project tasks are being performed. The system will calculate the pending invoice values by using the following formulas:

$$\text{Pending Invoice Amount} = \text{Revised Budgeted Amount} * (\text{Completed (\%)} / 100) - \text{Draft Invoice Amount} - \text{Actual Amount}$$

$$\text{Pending Invoice Quantity} = \text{Revised Budgeted Quantity} * (\text{Completed (\%)} / 100) - \text{Draft Invoice Quantity} - \text{Actual Quantity}$$

When you run the project billing by clicking the **Run Project Billing** button on the form toolbar of the [Projects](#) form, the system prepares a pro forma invoice or an accounts receivable invoice depending on the project workflow, which is defined by the state of the **Create Pro Forma Invoice on Billing** check box on the **Summary** tab of the [Projects](#) form.

The system creates an invoice with the amounts and quantities copied from the **Pending Invoice Amount** and **Pending Invoice Quantity** columns of the **Revenue Budget** tab of the [Projects](#) form for the corresponding revenue budget lines. Once an invoice is prepared, the **Draft Invoice Amount** and **Draft Invoice Quantity** of the revenue budget lines are updated with the amount and quantity for which the invoice has been prepared. The **Pending Invoice Amount** and **Pending Invoice Quantity** values become 0.

During the billing process, the system groups the billable amounts into invoices based on the following:

- The invoice group of the steps of the billing rules to which the project tasks refer
- The customer
- The customer location
- The **Bill Separately** setting of each project task defined on the [Project Tasks](#) (PM302000) form

If the project billing is performed by using the pro forma invoice workflow, the invoice lines that are produced by the progress billing steps are shown in the prepared pro forma invoice on the **Progress Billing** tab of the [Pro Forma Invoices](#) (PM307000) form. If you manually adjust the **Amount to Invoice** of a pro forma invoice line, the system automatically recalculates the **Total Completed (%)**. This is the percentage of the revised budgeted amount of the revenue budget line of the project that has been invoiced by all the pro forma invoices of the project, including the current one. However, the system does not update the **Completed (%)** of the corresponding revenue budget line on the **Revenue Budget** tab of the [Projects](#) form accordingly. Also, the system does not update the **Completed (%)** of the revenue budget line if the related pro forma invoice with the corresponding progress billing line is deleted.

Project Billing: Time and Material Billing

For a billing rule defined on the [Billing Rules](#) (PM207000) form, you specify the sequence of steps in the left pane and the settings of each step in the right pane, including the billing type, which can be *Time and Material* or *Progress Billing*. You specify *Time and Material* rules for project tasks, which are then billed for time and material.

The Time and Material Billing Process

The time and material billing workflow is provided for project tasks that need to be billed based on project transactions. Time and material billing can be performed only for project tasks of a project that is pending billing

—that is, if the project has at least one unbilled transaction that is ready to be billed on the invoice date. The *Time and Material* billing steps can be run once the project transactions that match the selection criteria have been processed. Optionally, the allocation process can be executed for these transactions before billing.

To bill a project task for time and material, you need to create a billing rule on the [Billing Rules](#) (PM207000) form and configure a step or multiple steps of the *Time and Material* type in this rule. Multiple *Time and Material* steps are used in a billing rule for different account groups of transactions that should be used to determine the invoiced amounts by using different formulas. You assign the configured billing rule to project tasks on the **Tasks** tab of the [Projects](#) (PM301000) form.

When you run the project billing by clicking the **Run Project Billing** button on the form toolbar of the [Projects](#) form, the system prepares a pro forma invoice or an accounts receivable invoice, depending on the project workflow, which is defined by the state of the **Create Pro Forma Invoice on Billing** check box on the **Summary** tab of the [Projects](#) form.

The system creates an invoice based on the unbilled project transactions with amounts calculated by using the billing rules of the project tasks. In the billing, the system includes the transactions with a date that is earlier than the billing date and does not include the transactions with a date that is later than the billing date. If a project task is billed with a billing rule that includes only *Time and Material* billing steps, during the billing process, the system ignores any pending invoice amount of the revenue budget lines.

The transactions with the same date as the invoice date are billed if *Include Trans. created on billing date* is selected as the **Billing Cut-off Date** on the [Projects Preferences](#) (PM101000) form; if *Exclude Trans. created on billing date* is selected, the system skips the transactions with the same date as the invoice date.

During the billing process, the system groups the billable amounts into separate invoices based on the following:

- The invoice group of the steps of the billing rules to which the project tasks refer
- The customer
- The customer location
- The **Bill Separately** setting of each project task defined on the [Project Tasks](#) (PM302000) form

If the project billing is performed by using the pro forma invoice workflow, the invoice lines that are produced by the *Time and Material* billing steps are displayed on the **Time and Material** tab of the [Pro Forma Invoices](#) (PM307000) form.

Project Billing: To Bill a Project with Combined Rule

This activity will walk you through the process of billing a project by using a combined billing rule that depends on the progress stage being billed.

Story

Suppose that the Thai Food Restaurant customer has ordered a juicer from the SweetLife Fruits & Jams company, along with installation of the juicer and training of the company's employees on operating the juicer. The SweetLife project accountant has created a project to handle the tracking and billing of the juicer and the provided services. Both companies have agreed that the customer will be billed in two stages. At the end of the first stage, the customer will pay for 40 percent of the services, which have a fixed price, and for the juicer (which is installed during the first stage). At the end of the second stage (after the project is completed), the customer will pay for the remainder of the project.

Then suppose that on 1/30/2022, the juicer has been delivered and installed. Acting as the project accountant, you need to update the progress of the project, process the issue of the juicer, and bill the customer for the first stage of the project.

Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the following features have been enabled:
 - *Project Accounting*, which provides support for the project accounting functionality
 - *Inventory and Order Management* feature, which provides the ability to maintain stock items and create and process sales orders and purchase orders
- On the [Customers](#) (AR303000) form, the *TOMYUM* customer has been defined.
- On the [Projects](#) (PM301000) form, the *TOMYUM2* project has been created for this customer, and two project tasks (*PHASE1* and *PHASE2*) have been added. Also, on the **Summary** tab, the **Create Pro Forma Invoice on Billing** check box is selected, indicating that a pro forma invoice is created when the project is billed.
- On the [Billing Rules](#) (PM207000) form, the *COMBINED* billing rule has been created; it has been assigned to both project tasks of the *TOMYUM2* project on the [Projects](#) form. For an example of configuring a combined billing rule, see [Billing Rules: To Configure a Combined Billing Rule](#).

Process Overview

You will issue the stock item for the project on the [Issues](#) (IN302000) form to record the sale of a juicer. You will update the progress of the project on the [Projects](#) (PM301000) form and run the project billing. You will review the created pro forma invoice and release it on the [Pro Forma Invoices](#) (PM307000) form to create the corresponding accounts receivable invoice. On the [Invoices and Memos](#) (AR301000) form, you will review the prepared accounts receivable invoice, and release the invoice. Finally, you will review the project to make sure that the release of the AR invoice has caused the system to correctly update the actual amounts of the project.

System Preparation

To sign in to the system and prepare to perform the instructions of the activity, do the following:

1. Launch the Acumatica ERP website, and sign in to a company with the *U100* dataset preloaded; you should sign in as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2022*. If a different date is displayed, click the Business Date menu button, and select *1/30/2022* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
3. Open the [Enable/Disable Features](#) (CS100000) form.
4. On the form toolbar, click **Modify**, and clear the **Project-Specific Inventory** check box under.
5. On the form toolbar, click **Enable**.

Step 1: Issuing a Stock Item for the Project

To directly issue a stock item for the project (to record that the juicer that has been delivered to the customer) and capture the issued cost on the project, do the following:

1. Open the [Issues](#) (IN302000) form.



To open the form for creating a new record, type the form ID in the Search box, and on the Search form, point at the form title and click **New** right of the title.

2. On the form toolbar, click **Add New Record**, and in the Summary area, type *A juicer for Thai Food Restaurant* in the **Description** box.

3. On the table toolbar of the **Details** tab, click **Add Row**, and specify the following settings in the row:

- **Tran. Type:** *Issue*
- **Inventory ID:** *JUICER15*
- **Warehouse:** *EQUIPHOUSE*
- **Quantity:** 1
- **Unit Price:** 2,500
- **Reason Code:** *INISSUEPROJ*
- **Project:** *TOMYUM2*
- **Project Task:** *PHASE1*
- **Cost Code:** *00-000*

Notice that **Unit Cost** in the line is \$2,000.

4. Save the inventory issue, and release it.

5. Open the [Project Transaction Details](#) (PM401000) form.

6. In the Summary area, specify *TOMYUM2* as the **Project** and review the only line in the table; this is the project transaction that has been generated on release of the inventory issue. The **Amount** of the transaction is \$2,000, and the **Billed** check box is cleared.

7. On the [Projects](#) (PM301000) form, open the *TOMYUM2* project.

8. On the **Cost Budget** tab, make sure that the line with the *PHASE1* project task and the *JUICER15* inventory item was created based on the inventory issue you have released. The **Actual Amount** of the line is \$2,000, which is the amount of the related project transaction (that is, the cost of the juicer).

Step 2: Billing the Project

To update the progress of project completion and bill the project, do the following:

1. While you are still viewing the *TOMYUM2* project on the [Projects](#) (PM301000) form, on the **Revenue Budget** tab, specify 40 as the **Completed (%)** of each revenue budget line. Notice that the system calculates the **Pending Invoice Amount** for each line (\$112 for the *PHASE1* project task, and \$160 for the *PHASE2* project task).
2. Save your changes to the project, and on the form toolbar, click **Run Project Billing**. The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form. Review the invoice details and notice the following:
 - On the **Progress Billing** tab, the **Amount to Invoice** in each line is equal to the **Pending Invoice Amount** of the corresponding revenue budget line of the *TOMYUM2* project on the **Revenue Budget** tab of the [Projects](#) form.
 - On the **Time and Material** tab, the system has generated a line with the *JUICER15* item. The **Amount to Invoice** in the line is the price of the juicer (\$2,500).
3. On the form toolbar, click **Remove Hold** to assign the pro forma invoice the *Open* status, and then click **Release** to release the pro forma invoice. The system creates the accounts receivable invoice based on the pro forma invoice and assigns the *Closed* status to the pro forma invoice.
4. On the **Financial** tab, right of the **AR Ref. Nbr.** box, click the Edit button to open the accounts receivable invoice that was created on the [Invoices and Memos](#) (AR301000) form. The AR invoice has three lines: two lines that have been generated with the progress billing step of the billing rule (in the amounts of \$112 and \$160), and a line generated by the time and material step in the amount of \$2,500.
5. On the form toolbar of the [Invoices and Memos](#) form, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.
6. On the [Projects](#) form, open the *TOMYUM2* project, and on the **Balances** tab, review the amounts in the budget lines that have been updated as the result of the billing (see the following screenshot). **Actual Amount** for the *REVENUE* group is \$2,772, which is the sum of the price of the juicer (\$2,500) and 40 percent

of the price of the services (\$112 + \$160); **Actual Amount** for the *MATERIAL* group is \$2,000, which is the cost of the juicer.

Projects
TOMYUM2 - A juicer with the installation and training for employees

NOTES FILES TOOLS

← → + - K < > >| COMPLETE PROJECT RUN PROJECT BILLING

* Project ID: TOMYUM2 - A juicer with the installatir Status: Active Actual Income: 2,772.00
 Customer: TOMYUM - Thai Food Restaurant Actual Expenses: 2,000.00
 Template: Margin: 772.00
 * Description: A juicer with the installation and training for employees
 Currency Rate for Budget: USD 1.00 VIEW BASE %: 27.85

SUMMARY TASKS REVENUE BUDGET COST BUDGET **BALANCES** INVOICES CHANGE ORDERS UNION LOCALS ACTIVITIES

VIEW TRANSACTIONS

Account Group	Description	Original Budgeted Amount	Revised Budgeted Amount	Actual Amount	Performance (%)
Income					
REVENUE	Project Revenue	680.00	680.00	2,772.00	407.65
	Income Totals	680.00	680.00	2,772.00	407.65
Expense					
MATERIAL	Project Material	0.00	0.00	2,000.00	0.00
	Expense Totals	0.00	0.00	2,000.00	0.00

Figure: The project balances

You have finished billing the project with a complex billing rule.

Project Billing: Related Reports and Forms

This topic describes reports and forms you can review to gather information related to project billing. The topic also explains how you can print documents related to project billing.



If you do not see a particular report or form that is described, you may have signed in to the system with a user account that does not have access rights to the report or form. Contact your system administrator to obtain access to any needed reports or forms.

Finding the Related Pro Forma Invoice

While you are working with a particular accounts receivable invoice on the *Invoices and Memos* (AR301000) form, you can review the pro forma invoice that was used for creating this accounts receivable invoice. To do this, you click **Pro Forma** on the More menu (under **Related Documents**) of the *Invoices and Memos* form.

Reviewing the Actual Amounts of the Project

You can review the list of project transactions corresponding to a project budget line with a nonzero **Actual Amount** on the **Revenue Budget** or **Cost Budget** tab of the *Projects* (PM301000) form. To review the corresponding project transactions of a line on either tab, you click the line; on the table toolbar, you click **View Transactions**, and the system opens the *Project Transaction Details* (PM401000) form in a pop-up window with the project transactions displayed.

Reviewing Project Balances

You can review the project balance broken down by account group on the **Balances** tab of the *Projects* (PM301000) form. To review the corresponding project transactions of an account group, you click the line; then on the table

toolbar, you click **View Transactions**. The system opens the [Project Transaction Details](#) (PM401000) form in a pop-up window.

Reviewing Project Transactions

You can review the list of all the transactions that correspond to a project on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project to review all its project transactions. The transactions for which the **Billed** check box is cleared have not been billed yet. You can narrow the range of listed transactions by specifying any of the following in the Selection area: project task, account group, and inventory item.

Printing a Pro Forma Invoice

While you are viewing a pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form, you can print it by clicking **Print** on the More menu. The system opens the [Pro Forma Invoice](#) (PM642000) report with the printable version of the document; then you can review the document details and print it by clicking **Print** on the report toolbar.

Printing the Project Balance

You can prepare a printable document detailing the project balance by clicking **Print Project Balance** on the More menu (under **Reports**) of the [Projects](#) (PM301000) form while you are viewing the project. The system opens the printable document with the project balance on the [Project Balance](#) (PM621000) report. Then you can review the project balance and print the document by clicking **Print** on the report toolbar.

Lesson 2: Using Prices and Rates in Billing

Billing Rates: General Information

You must establish an adequate pricing model in the project you are managing to ensure that business outcomes are met, the project budget is used effectively, and project revenues and costs are properly balanced. In Acumatica ERP, you can implement virtually any pricing model by using rate tables, and use billing rates for configuring complex billing rules.

Learning Objectives

In this chapter, you will learn how to do the following:

- Create a rate table and rate type
- Define a rate sequence
- Define a rate table with particular rates
- Use billing rates for billing projects

Applicable Scenarios

You configure and use billing rates if you need to bill the project to take into account various combinations of factors, such as the following:

- The particular project tasks, account groups, and inventory items involved
- The employees participating
- The dates when the work has been performed

Rate Configuration

To support an enhanced pricing policy for projects, you configure billing rates and use them in billing or allocation rules. To refer to a particular billing rate in the formulas of billing or allocation rules, you use the `@Rate` parameter. You can specify this parameter as a multiplier, addend, or constant in the **Invoice Description Formula**, **Line Quantity Formula**, **Line Amount Formula**, or **Line Description Formula** on the [Billing Rules](#) (PM207000) form; you can also specify the parameter in the **Quantity Formula**, **Billable Qty. Formula**, **Amount Formula**, or **Description Formula** on the [Allocation Rules](#) (PM207500) form.

The process of defining a rate includes the configuration of rate tables, rate types, rate codes, and rate sequences. A rate table is a set of billing rates that the system uses in the formulas of the billing rules during the billing of a project or the allocation rules during transaction allocation. A billing rate is an exact value used for calculating the amount and quantity of the invoice lines that are created by the billing rule steps of the *Time and Material* type.

Each rate table includes the definition of rates of all the rate types defined in the system. You can create a single rate table to be used for all projects, or define multiple rate tables to easily maintain different rates for the projects based on the customer for which the project is provided (for example, you can create different rate tables if you use different pricing models for local customers and remote customers).

In a rate table, for each rate type, you can define any number of rate sequences that include multiple factors that may affect the rates. These factors can include projects, project tasks, employees, account groups, or inventory items. You narrow the applicability of the rate based on the combination of factors you select. For example, you can configure a separate billing rate for particular tasks of specific projects if particular employees work on these project tasks. A billing rate could also be defined for a particular date range; a rate table may include multiple rates with different effective dates.

Also, in each rate table, you can add rate codes, which represent an additional dimension in a rate table that you use to simplify the configuration of the rate table. By using rate codes, you can reduce the number of sequences that need to be configured for each pair of rate table and rate type. For example, instead of creating multiple sequences, each including the applicable rates for a particular employee, you can create only one rate sequence with the **Employee** check box selected on the [Rate Lookup Rules](#) (PM205000) form and create separate rate codes for each employee.

Workflow of Rate Table Configuration

You configure a rate table with rates by performing the following general steps:

1. You create an empty entity that will contain the new rate table on the [Rate Tables](#) (PM204200) form. Later, during project creation, a user will assign a particular rate table to each of the project tasks.
2. You create an empty entity that will contain a new rate type on the [Rate Types](#) (PM204100) form. Before creating the rate type, you need to plan how many and which rate types you will need in billing and allocation rules. (Typically, different rates are used for billing of labor costs, revenues, and expenses.) When you configure billing or allocation rules, you will assign different rate types to different steps of these rules.
3. On the [Rate Lookup Rules](#) (PM205000) form, you create rate sequences for each combination of rate table and rate type. Each sequence defines a group of options based on which the system will select the billing rate. You can select any combination of the *Project*, *Project task*, *Account group*, *Inventory item*, and *Employee* options. The sequence number specified in the **Sequence** column in the table defines the order in which the system will search for the rate in that row (starting from the sequence with the lowest number in the table).
4. On the [Rate Tables](#) (PM206000) form, for each combination of rate table, rate type, and rate code, you select a rate sequence in the **Sequence** box. You select an existing rate code, or you create a new rate code by entering new identifier in the **Rate Code** box; using rate codes helps to reduce the number of entries that need to be configured.

For the selected rate sequence, in the table on the **Rate** tab, you enter rates with the date range during which the rates are effective. Also, on the tabs for the different types of factors that appear if they were defined in the rate sequence, you specify the factors that will define the applicability of the rates that you

enter for the current rate sequence. Also, you specify the exact values of the billing rates with their date ranges in the **Rate** column on the **Rate** tab; the system will use these values as the *@Rate* parameter in the formulas of the billing and allocation rules.

Billing Rates: To Bill a Project with Different Billing Rates

In this activity, you will bill a project with different billing rates to be used for the billing of different services provided in the project.

Story

Suppose that the Thai Food Restaurant customer has bought a juicer from the SweetLife Fruits & Jams company and ordered employee training from the company on how to use the juicer. SweetLife's project accountant, Pam Brawner, has created a project to account for the provided services. The training has taken place.

Acting as the project accountant, you need to bill the customer.

Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to provide the project accounting functionality.
- On the [Rate Tables](#) (PM206000) form, the *STANDARD* rate table, with rates for labor and materials, has been configured.
- On the [Billing Rules](#) (PM207000) form, the *TIMEMATERIAL* billing rule has been created. The billing rule consists of three steps for billing project transactions related to different account groups. (For an example of billing rule configuration, see [Billing Rates: To Create a Billing Rule with Rates.](#))
- On the [Customers](#) (AR303000) form, the *TOMYUM* customer has been defined.
- On the [Non-Stock Items](#) (IN202000) form, the *INSTALL*, *JUICER15*, *SITEREVIEW* and *TRAINING* non-stock items have been created.
- On the [Projects](#) (PM301000) form, the *TOMYUM3* project for the *TOMYUM* customer has been created. On the **Tasks** tab of this form, the *PHASE1* and *PHASE2* project tasks has been configured and the *TIMEMATERIAL* billing rule and the *STANDARD* rate table are assigned to these project tasks. In the project, the **Create Pro Forma Invoice on Billing** check box is selected to indicate that when project billing is run, pro forma invoices are generated to be sent to the customer for acceptance before the accounts receivable invoices are prepared.
- On the [Project Transactions](#) (PM304000) form, the *PM00000002* batch of project transactions related to the project has been created and released in preparation for billing.

Process Overview

You will bill the project on the [Projects](#) (PM301000) form and review the pro forma invoice amounts on the [Pro Forma Invoices](#) (PM307000) form.

Step 1: Billing the Project and Processing the Related Documents

To bill the project by using the time and material billing rule, do the following:

1. In the Selection area on the [Project Transaction Details](#) (PM401000) form, select *TOMYUM3* as the **Project**. The table lists the related project transactions:
 - The line with the *INSTALL* item in the amount of \$320

- The line with the *JUICER15* item in the amount of \$2000
- The line with the *SITEREVIEW* item in the amount of \$80
- The line with the *TRAINING* item in the amount of \$320

Notice that in all lines, the **Billed** check box is cleared, indicating that the project is pending billing.

2. On the [Projects](#) (PM301000) form, open the *TOMYUM3* project. Notice that the **Actual Expenses** box in the Summary area shows \$2,720 (which is the total of the processed project transactions), while **Actual Income** box contains \$0 because the project has not been billed yet.
3. On the form toolbar, click **Run Project Billing**. The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form. On the **Time and Material** tab of this form, review the four lines of the pro forma invoice (which have been created based on unbilled transactions).

In each line, the system calculates **Billed Quantity** and **Billed Amount** by using the formula specified in the corresponding step of the billing rule. The following lines have been added to the pro forma invoice:

- The *INSTALL* and *TRAINING* lines have been billed by the 20 – *Labor from non-stock price* step, which has been configured for the *LABOR* account group; the billed amount for each line has been calculated based on the *@Rate* parameter defined in the *STANDARD* rate table for the *LABOR* rate type (which is 1.25). The calculated billing amount is \$400 (320×1.25) for both lines.
- The *JUICER15* line has been billed by the 10 – *Material cost plus markup* step, which has been configured for the *MATERIAL* account group; the billed amount has been calculated based on the billable quantity (1) and the *@Price* parameter (which is the sales price of the *JUICER15* item, \$2500). The calculated billing amount is \$2500.
- The *SITEREVIEW* line has been billed by the 30 – *Re-invoice subcontractors* step, which has been configured for the *SUBCON* account group; the billed amount has been calculated by multiplying the transaction amount by the fixed coefficient (1.25). The calculated billing amount is \$100 ($1.25 \times \80).



The unit price in each pro forma invoice line is calculated as the billed amount divided by the billed quantity.

4. On the form toolbar, click **Remove Hold** to assign the pro forma invoice the *Open* status, and then click **Release** to release the pro forma invoice. The system closes the pro forma invoice (which is now assigned the *Closed* status) and creates a corresponding accounts receivable invoice based on the pro forma invoice.
5. On the **Financial** tab, right of the **AR Ref. Nbr.** box, click the Edit button to open the accounts receivable invoice that was created on the [Invoices and Memos](#) (AR301000) form.
6. On the form toolbar of the [Invoices and Memos](#) form, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.

Step 2: Reviewing the Project Transactions and the Updated Project Balance

To review the project transactions and project balance, do the following:

1. On the [Project Transaction Details](#) (PM401000) form, in the Summary area, select *TOMYUM3* as the **Project**. In the table, review the project transactions that have been created based on the released accounts receivable invoice (these are the lines that have *AR* specified in the **Module** column and that have negative amounts). In the **GL Batch Nbr.** column, the reference number of the corresponding GL batch is shown. Also notice that the project transactions based on which you have performed billing now have the check box in the **Billed** column selected, indicating that these transactions have been billed.
2. On the [Projects](#) (PM301000) form, open the *TOMYUM3* project. Notice that in the Summary area, the **Actual Income** box now shows \$3,400, which is the total amount of the invoice that you have processed. On the **Revenue Budget** tab, notice that the system has automatically created two revenue budget lines (one for each project task) and filled in the **Actual Amount** for the rows (3,000 and 400).
3. On the **Balances** tab (see the following screenshot), review the project income and expenses aggregated by account groups.

Projects

TOMYUM3 - A juicer with the installation and training for employees

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COMPLETE PROJECT

RUN PROJECT BILLING

...

* Project ID:

TOMYUM3 - A juicer with the installati

🔍

Status:

Active

Actual Income:

3,400.00

Customer:

TOMYUM - Thai Food Restaurant

🔍

✎

Actual Expenses:

2,720.00

Template:

🔍

✎

Margin:

680.00

%

20.00

* Description:

A juicer with the installation and training for employees

SUMMARY

TASKS

REVENUE BUDGET

COST BUDGET

BALANCES

INVOICES

CHANGE ORDERS

UNION LOCALS

ACTIVITIES

EMPLOYEES

EQUIP

🔄

VIEW TRANSACTIONS

🔍

🗑️

Account Group	Description	Original Budgeted Amount	Revised Budgeted Amount	Actual Amount	Performance (%)
> Income					
REVENUE	Project Revenue	0.00	0.00	3,400.00	0.00
	Income Totals	0.00	0.00	3,400.00	0.00
Expense					
LABOR	Project Labor	400.00	400.00	400.00	100.00
MATERIAL	Project Material	2,000.00	2,000.00	2,000.00	100.00
SUBCON	Project Subcontract	320.00	320.00	320.00	100.00
	Expense Totals	2,720.00	2,720.00	2,720.00	100.00

Figure: The project balances after project billing

You have billed the project based on the different billing rates specified for different types of expenses.

Lesson 3: Making Adjustments to Pro Forma Invoices

Pro Forma Invoice: General Information

Acumatica ERP provides pro forma (draft) invoice capabilities for project billing. A pro forma invoice, which you can view on the [Pro Forma Invoices](#) (PM307000) form, is a draft document that you can edit and correct without affecting the accounts receivable subledger. A pro forma invoice can be printed and sent to a customer as many times as is necessary until an agreement is reached. With this process, you minimize corrections that directly affect the accounts receivable subledger.

Learning Objectives

In this chapter, you will learn how to do the following:

- Configure the pro forma invoice workflow for a project
- Create a pro forma invoice
- Print the pro forma invoice
- Send the pro forma invoice as an email
- Add to the pro forma invoice an extra adjustment line that does not originate from project transactions
- Postpone the billing of a pro forma invoice line
- Write off a pro forma invoice line partially or fully
- Create an accounts receivable invoice based on a pro forma invoice

Applicable Scenarios

You create a pro forma invoice for a project if you need to reach agreement with the customer about the invoice. You modify the pro forma invoice as many times as it is necessary until an agreement is reached, and then you prepare the accounts receivable invoice based on this pro forma invoice.

Creation of Pro Forma Invoices

A pro forma invoice can be created only through the process of billing a particular project, and it can be assigned a reference number only automatically. You cannot manually enter new pro forma invoices on the [Pro Forma Invoices](#) (PM307000) form. The system creates pro forma invoices during billing for the projects for which the pro forma invoice workflow is turned on—that is, the projects that have the **Create Pro Forma Invoice on Billing** check box selected on the **Summary** tab of the form. By selecting or clearing this check box, you can turn on or turn off the pro forma invoice workflow for a project at any stage of the project execution.

The system creates a pro forma invoice when you open a project and click **Run Project Billing** on the form toolbar of the [Projects](#) (PM301000) form. For a pro forma invoice created for a project, the system creates billable lines on the following tabs of the [Pro Forma Invoices](#) form:

- **Progress Billing:** The system creates these lines by using the *Progress Billing* steps of billing rules. The lines originate from the revenue budget lines of the project with a nonzero pending invoice amount or quantity.
- **Time and Material:** The system creates these lines by using the *Time and Material* steps of billing rules; the lines originate from the project transactions.

The *Time and Material* steps of billing rules support the aggregation of project transactions by date, employee, vendor, and inventory item. On the **Time and Material** tab of the [Pro Forma Invoices](#) form, you can select a line and then click **View Transaction Details** on the table toolbar to drill down to the list of project transactions based on which the **Billed Quantity** and **Billed Amount** of the line have been calculated by using the formula of the billing rule.

As a result of the creation of the pro forma invoice, the system updates the revenue budget of the project on **Revenue Budget** tab of the [Projects](#) form as follows:

- In the lines billed by amount, the system clears the amounts in the **Pending Invoice Amount** column, which the system has used to create progress billing lines of the pro forma invoice.
- In the lines billed by quantity, the system clears the quantities in the **Pending Invoice Quantity** column and the amounts in the **Pending Invoice Amount** column, which the system has used to create progress billing lines of the pro forma invoice.
- The amounts in the **Draft Invoice Amount** column are increased with the amount to invoice of the corresponding progress billing lines and time and material lines of the pro forma invoice.
- The quantities in the **Draft Invoice Quantity** column are increased with the quantity to invoice of the corresponding progress billing lines of the pro forma invoice that have been billed based on quantity.

A pro forma invoice with any status can be printed and emailed to the customer. To print the pro forma invoice, you click **Print** on the More menu of the [Pro Forma Invoices](#) form. To email the pro forma invoice, you click **Email** on the More menu of the form.

Release of Pro Forma Invoices

The release of a pro forma invoice does not produce project transactions or general ledger transactions directly. When you release the pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form, the system creates a corresponding accounts receivable invoice with all information copied from the pro forma invoice.

The pro forma invoices of a project can be released according to the following rules:

- The pro forma invoices can be released only one by one, starting from the earliest one, on the **Invoices** tab of the [Projects](#) (PM301000) form. The only exception is when multiple pro forma invoices segregated by invoice group have been generated during a single iteration of the billing process; in this case, these pro forma invoices can be released in any order.
- A pro forma invoice can be released only after the accounts receivable invoice of the preceding pro forma invoice has been released.

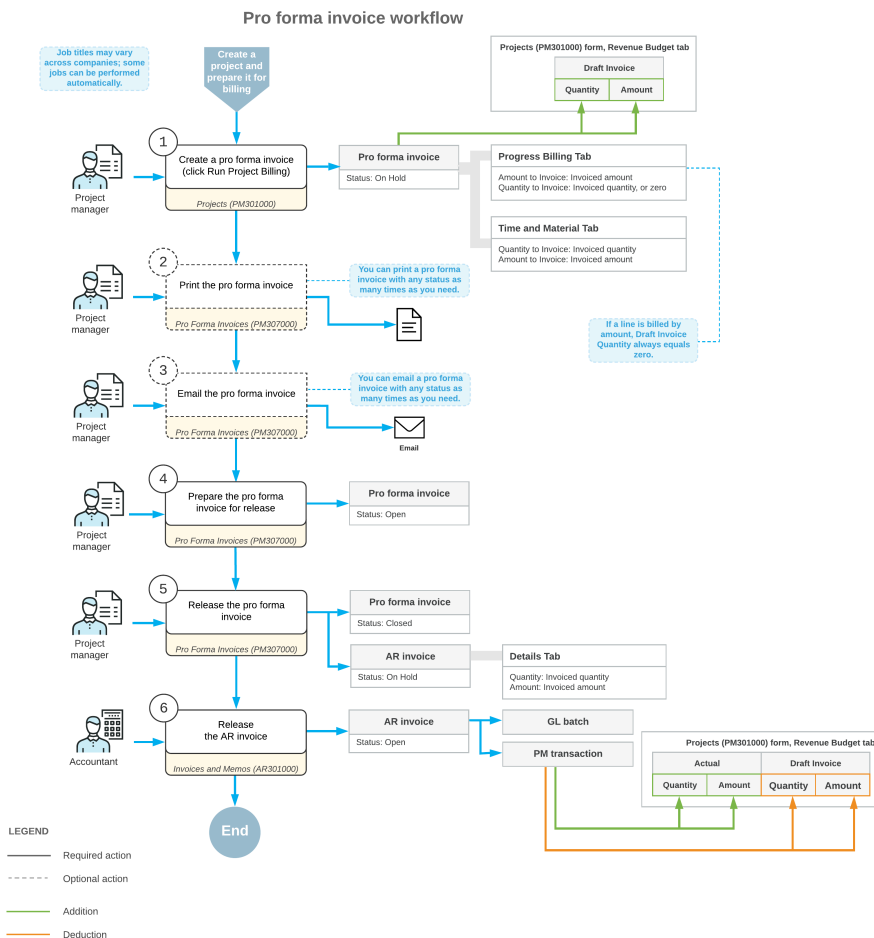
The document lines of an unreleased accounts receivable document that originates from a pro forma invoice are displayed in read-only mode on the **Details** tab of the [Invoices and Memos](#) (AR301000) form. You can edit only a salesperson in the **Salesperson ID** column. After you have reviewed the invoice details, you click **Release** on

the form toolbar to release the accounts receivable invoice. On release of the accounts receivable invoice, the system generates a general ledger transaction and the corresponding project transaction. On release of the project transaction, the system updates the revenue budget of the corresponding project on the **Revenue Budget** tab of the *Projects* form as follows:

- The **Actual Quantity** and **Actual Amount** of the corresponding revenue budget line are increased by the line quantity and line amount of the released accounts receivable invoice.
- The **Draft Invoice Amount** and **Draft Invoice Quantity** of the corresponding revenue budget line is decreased by the line amount and line quantity of the released accounts receivable invoice, respectively.

Workflow of Pro Forma Invoices

The following diagram illustrates the workflow of processing a pro forma invoice.



Pro Forma Invoice: Making Adjustments

You may need to modify a pro forma invoice if you send this invoice to the customer for approval and if the customer requests some adjustments.

On the *Pro Forma Invoices* (PM307000) form, you can edit a pro forma invoice with the *On Hold* status. You can review and modify the billable transactions and the amounts of the pro forma invoice before you prepare the accounts receivable invoice that is based on this pro forma invoice. If you have already created the accounts

receivable document for the pro forma invoice but have not released it yet, you can delete the AR document to be able to edit the pro forma invoice.

The sections below describe how you can adjust the pro forma invoice.

Adjusting of Progress Billing Information

On the **Progress Billing** tab of the *Pro Forma Invoices* (PM307000) form, you can make the following adjustments to a pro forma invoice:

- Deleting a line of the pro forma invoice to bill it later in the full amount.
- Modifying the **Amount to Invoice** of any invoice line to a greater or smaller amount. The **Amount to Invoice** is added to the accounts receivable invoice when the pro forma invoice is released.
- Rearranging lines within the table by dragging them to the appropriate positions.

Adjusting of Time and Material Information

On the **Time and Material** tab of the *Pro Forma Invoices* (PM307000) form, you can make the following adjustments to a pro forma invoice:

- Deleting a line of the pro forma invoice to bill it later in the full amount.
- Modifying the **Amount to Invoice** of any invoice line to bill the pro forma invoice in a greater or smaller amount. The **Amount to Invoice** is added to the accounts receivable invoice when the pro forma invoice is released.

If a manually edited **Amount to Invoice** is less than the **Billed Amount**, you can direct the system about what to do with the difference between the calculated **Billed Amount** and the adjusted **Amount to Invoice** by selecting the needed option in the **Status** column of the invoice line. The difference can be postponed until the next billing (*Hold Remainder*), which in this case is called the *unbilled remainder*, or written off by this invoice (*Write Off Remainder*). The whole amount of the pro forma invoice line can also be written off (*Write Off*); the amount will no longer show up in future invoices.



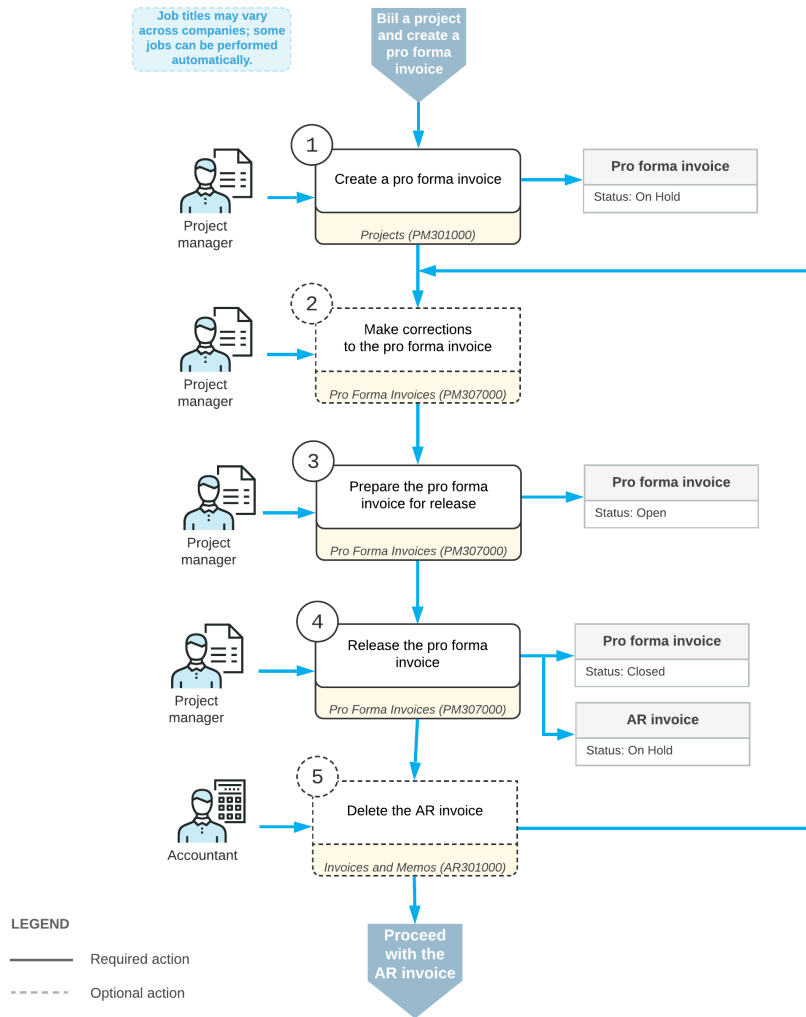
For an unbilled remainder to be billed, the corresponding AR invoice that contains the line from which this reminder originates must be released.

- Removing project transactions related to the pro forma invoice line. If you select a line and click **View Transaction Details** on the table toolbar, the system shows the list of corresponding project transactions; **Billed Quantity** and **Billed Amount** for these lines was calculated by using the formula of the billing rule. These values are totaled to obtain the **Billed Quantity** and **Billed Amount**, respectively, of the line of the pro forma invoice. You can remove particular transactions from this list, which reduces the billed quantity and amount of the corresponding invoice line. (The removed project transaction will appear in the next pro forma invoice prepared for the project.)
- Clicking **Upload Unbilled Transactions** on the table toolbar to add to the invoice an unbilled transaction that has not been billed yet, which creates a new invoice line. You can also add to a pro forma invoice an adjustment line that does not originate from the project transactions.
- Rearranging lines within the table by dragging them to the appropriate positions.

Workflow of Adjusting Pro Forma Invoices

The following diagram illustrates the workflow of making adjustments to a pro forma invoice.

Making corrections to a pro forma invoice



Pro Forma Invoice: To Make Adjustments

This activity will walk you through the process of correcting a pro forma invoice.

Story

Suppose that the Thai Food Restaurant customer has ordered a juicer, along with the services of installation and employee training on operating the juicer from the SweetLife Fruits & Jams company. SweetLife's project accountant has created a project. The juicer has been delivered and installed, and a consultant has provided the training. The project accountant has billed the customer and sent the created pro forma invoice for approval.

SweetLife and the customer have agreed on the following adjustments to the pro forma invoice:

- The customer will pay \$2,000 of the cost of the juicer with the first invoice (the accounts receivable invoice corresponding to this pro forma invoice) and the rest of the juicer's cost with the second invoice next month.

- The cost of the site review should be written off of the invoice, because the project manager agreed to provide the customer a free site review.
- A 50% discount will be applied to the cost of the training.
- The customer will pay \$100 for an additional training session in Phase 1 of the project.

Acting as the project accountant, you will make the needed corrections to the pro forma invoice and bill the customer. You will then bill the customer for the second time with the amount postponed in the first invoice.

Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to provide support for the project accounting functionality.
- On the [Projects](#) (PM301000) form, the *TOMYUM4* project has been created and the *PHASE1* and *PHASE2* project tasks have been created for the project.
- On the [Project Transactions](#) (PM304000) form, the *PM00000001* batch of project transactions related to the project has been created and released.
- On the [Pro Forma Invoices](#) (PM307000) form, the *000003* pro forma invoice has been created for the *TOMYUM4* project and saved with the *On Hold* status.
- On the [Stock Items](#) (IN202500) form, the *JUICER15* stock item has been configured.
- On the [Non-Stock Items](#) (IN202000) form, the *SITEREVIEW*, *INSTALL*, and *TRAINING* non-stock items have been configured.

Process Overview

In this activity, you will make corrections to the pro forma invoice and release the invoice on the [Pro Forma Invoices](#) (PM307000) form. On the [Invoices and Memos](#) (AR301000) form, you will review the accounts receivable invoice that was created based on the pro forma invoice; you will then release the accounts receivable invoice. You will then create one more pro forma invoice for the customer with the amount postponed in the first pro forma invoice.

Step 1: Adjusting the Pro Forma Invoice

To adjust the pro forma invoice according to the agreements that have been reached with the customer, do the following:

1. On the [Projects](#) (PM301000) form, open the *TOMYUM4* project.
2. On the **Invoices** tab, click the link in the **Pro Forma Reference Nbr.** column of the only row to open the pro forma invoice that you need to adjust.
3. On the **Time and Material** tab of the [Pro Forma Invoices](#) (PM307000) form, which the system has opened in a pop-up window, adjust the invoice lines as follows (see the adjustments in the screenshot below):
 - a. In the line with the *PHASE1* project task and the *JUICER15* inventory item, do the following:
 - a. Change **Amount to Invoice** to 2000.
When you enter an **Amount to Invoice** that is less than the **Billed Amount**, the system clears the status of the line in the **Status** column.
 - b. Select *Hold Remainder* as the **Status** in this line to bill the difference between the **Billed Amount** and the **Amount to Invoice** later.
 - b. In the line with the *PHASE1* project task and the *SITEREVIEW* inventory item, select *Write Off* as the **Status** to write off the full amount of the line and exclude it from billing.
 - c. In the line with the *PHASE2* project task and the *TRAINING* inventory item, do the following:
 - a. Change **Amount to Invoice** to 200.00.

- b. Select *Write Off Remainder* as the **Status** to write off the difference between the **Billed Amount** and the **Amount to Invoice** and exclude this difference from billing.
4. Add a new line with the following settings (also shown in the following screenshot):
- **Project Task:** *PHASE1*
 - **Inventory ID:** *TRAINING*
 - **Cost Code:** 00-000
 - **Description:** An additional training session within phase 1
 - **Amount to Invoice:** 100.00

After all the adjustments you have made, the invoice total in the Summary area should be \$2,700.

Pro Forma Invoices
000003 - A juicer with the installation and training for employees

Reference Nbr.: 000003 Project: TOMYUM4 - A juicer with the installation i Customer: TOMYUM - Thai Food Restaurant Progress Billing Total: 0.00
Status: On Hold Invoice Date: 1/17/2022 Location: MAIN - Primary Location Time and Material Total: 2,700.00
Post Period: 01-2022 Project Currency: USD Tax Total: 0.00
Application Nbr.: Invoice for TOMYUM4 Invoice Total: 2,700.00
Description: Retainage Total: 0.00
Amount Due: 2,700.00

PROGRESS BILLING TIME AND MATERIAL TAXES FINANCIAL ADDRESSES

UPLOAD UNBILLED TRANSACTIONS VIEW TRANSACTION DETAILS

Status	Branch	Project Task	Inventory ID	Cost Code	Description	Employee	Vendor	Date	Billed Quantity	Billed Amount	Quantity to Invoice	UOM	Unit Price	Amount to Invoice
Hold Remainder		PHASE1	JUICER15	00-000	Commercial juicer with a production rate of ...			1/17/2022	1.00	2,500.00	1.00	PIECE	2,500.0000	2,500.00
Write Off		PHASE1	SITEREVIEW	00-000	Site review			1/17/2022	2.00	100.00	0.00	HOUR	50.0000	0.00
Bill		PHASE1	INSTALL	00-000	Installation of equipment at the customers' ...			1/17/2022	4.00	400.00	4.00	HOUR	100.0000	400.00
Write Off Remainder		PHASE2	TRAINING	00-000	Training on juicer usage (at customer's place)			1/17/2022	8.00	400.00	8.00	HOUR	50.0000	200.00
Bill		PHASE1	TRAINING	00-000	An additional training session within phase 1			1/30/2022	0.00	0.00	0.00	HOUR	0.0000	100.00

Figure: The adjustments to the pro forma invoice

5. Save your changes to the pro forma invoice.
6. On the form toolbar, click **Remove Hold** to assign the pro forma invoice the *Open* status, and then click **Release** to release the pro forma invoice.
- The system creates the accounts receivable invoice based on the pro forma invoice and assigns the *Closed* status to the pro forma invoice.
7. On the **Financial** tab, right of the **AR Ref. Nbr.** box, click the Edit button to open the accounts receivable invoice that has been created.
8. On the form toolbar of the *Invoices and Memos* (AR301000) form, which the system opens in a pop-up window, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.

Step 2: Billing the Project for the Remainder

In Step 1, you have postponed the billing of \$500 of the juicer cost. To bill the customer the postponed amount, do the following:

- On the *Projects* (PM301000) form, open the *TOMYUM4* project, and on the **Cost Budget** tab, review the updated cost budget of the project. Click the cost budget line with the *PHASE1* project task and the *JUICER15* inventory item, and on the table toolbar, click **View Transactions**.
- On the *Project Transaction Details* (PM401000) form, which the system opens in a pop-up window, review the list of project transactions that correspond to the selected line (see the screenshot below).

The transaction with an original document type of *Unbilled Remainder* (see the second line in the screenshot) has been created on release of the AR invoice that corresponds to the pro forma invoice from which the unbilled remainder originates. The identifier of the AR invoice is shown in the **Orig. Doc. Nbr.** column of the line. The transaction has the **Billable** check box selected and the **Billed** check box cleared, which means the transaction can be billed.

Project Transaction Details TOOLS ▾

Project: TOMYUM4
Account Group: MATERIAL - Project Material
Project Task: PHASE1 - Installation of the juicer
Cost Code:
Inventory ID:
Account:
AR Doc. Type:
AR Doc. Nbr.:
Tran. ID:

From:
To:
Employee:
☐ Show only Allocation Transactions
☐ Include Unreleased Transactions

Project Task	Billable	Billed	Released	Allocated	Orig. Doc. Type	Orig. Doc. Nbr.	Inventory ID	Pro Forma Ref. Nbr.	Invoice Ref. Nbr.
PHASE1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>			JUICER15	000003	000113
PHASE1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unbilled Remainder	000113	JUICER15		

Figure: The transaction with the unbilled remainder

- Close the pop-up window to return to the [Projects](#) form with the *TOMYUM4* project selected, and on the form toolbar, click **Run Project Billing** to bill the project for remainder.

The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form.

- On the **Time and Material** tab, review the pro forma invoice line that the system has created based on the unbilled remainder transaction. Only one line (with the *PHASE1* project task and *JUICER15* inventory item) has been added to the pro forma invoice. The line with the *PHASE1* project task and the *SITEREVIEW* inventory item has not been added because you have written it off in the full amount. The line with the *PHASE2* project task and the *TRAINING* inventory item has been written off partially, and thus also has not been added to the pro forma invoice.

You have corrected the pro forma invoice and billed the project for the unbilled remainder.

Pro Forma Invoice: Generated Transactions

The release of a pro forma invoice does not generate general ledger transactions or project transactions directly. When you release the pro forma invoice, the system creates a corresponding accounts receivable invoice with all the information copied from the pro forma invoice. On release of the accounts receivable invoice, the system generates the general ledger transactions and project transactions described in the following sections.

GL Transactions Generated on Release of an AR Invoice

When an accounts receivable invoice that has been created based on a pro forma invoice is released, the system generates a batch of the general ledger transactions shown in the table below.

The system uses the following accounts as the source accounts in the GL batch it creates:

- The asset account, which is specified in the **AR Account** box on the **Financial** tab (**Link to GL** section) of the [Invoices and Memos](#) (AR301000) form.
- The income account, which is specified for each line in the **Account** column on the **Details** tab of the [Invoices and Memos](#) form. The system populates the income account from the corresponding pro forma invoice; the income account was determined by billing rules during the creation of the pro forma invoice.

Account	Source of Account	Debit	Credit
Accounts receivable account	The asset account	Amount	0.00
Sales account	The income account	0.00	Amount

You can view the details of the batch associated with the release of an invoice by clicking the link in the **Batch Nbr.** box on the **Financial** tab (**Link to GL** section) of the *Invoices and Memos* form. The system opens the batch on the *Journal Transactions* (GL301000) form.

Project Transactions Generated on Release of the GL Batch

On release of the batch of general ledger transactions, the system generates a corresponding batch of the project transactions shown in the following table.

Project and Project Task	Debit Account	Account Group	Amount
Project and project task in the GL batch line	Sales account in the GL batch line	Account group mapped to Sales account	–(Amount)

You can review the created transactions on the *Project Transaction Details* (PM401000) form. In the Selection area of this form, you select the project in the **Project** box. In the table, you can find the project transactions created on release of the accounts receivable invoice by the reference number of the AR invoice in the **Orig. Doc. Nbr.** column.

Project Transactions Generated for an Unbilled Remainder

If an amount has been postponed in a pro forma invoice and the corresponding accounts receivable invoice (which contains the line from which this postponed amount originates) is released, the system generates the project transaction shown in the following table.

Billable	Amount	Orig. Doc. Type	Orig. Doc. Nbr.
Selected	Postponed amount	<i>Unbilled Remainder</i>	The AR invoice

The main attributes of the created transaction—such as the project, project task, inventory item, and account group—are the same as those of the original project transaction from which this unbilled remainder originates.

The system uses the following accounts as the debit and credit accounts in the project transaction it creates:

- The accounts that are specified in the **GL Settings for Unbilled Remainders** section on the **General** tab of the *Projects Preferences* (PM101000) form
- The accounts of the corresponding project transaction from which the unbilled remainder originates if no accounts are specified in the **GL Settings for Unbilled Remainders** section on the **General** tab of the *Projects Preferences* form



When the debit account and the credit account are defined in the **GL Settings for Unbilled Remainders** section of the *Projects Preferences* form, and if the project transaction from which the unbilled remainder originates has only the debit account specified, in the *Unbilled Remainder* transaction created for the unbilled remainder, the system overrides only the original debit account with the debit account from the project preferences and does not populate the credit account.

When the accounts receivable invoice that contains the unbilled remainder is released, the system generates the reversing project transaction for the unbilled remainder that is shown in the following table.

Billable	Amount	Orig. Doc. Type	Orig. Doc. Nbr.
Cleared	–(Postponed amount)	Unbilled Remainder Reversal	The AR invoice

The main attributes of the created transaction—such as the project, project task, inventory item, account group, debit account, and credit account—are the same as those of the original project transaction of the unbilled remainder.



If both the debit account and the credit account are specified for the project transactions generated for the unbilled remainder, the system also generates a batch of general ledger transaction on release of the project transactions. For details, see [Project Transactions: Generated Transactions](#).

You can review the created transactions on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project in the **Project** box. In the table, you can find the project transactions by the original document type in the **Orig. Doc. Type** column.

Pro Forma Invoice: Related Reports and Forms

In the following sections, you can find details about the reports and forms you may want to review to gather information about pro forma invoices.



If you do not see a particular report or form that is described, you may have signed in to the system with a user account that does not have access rights to the report or form. Contact your system administrator to obtain access to any needed reports or forms.

Reviewing Project Transactions

You can review the list of project transactions that correspond to a pro forma invoice line on the **Time and Material** tab of the [Pro Forma Invoices](#) (PM307000) form. To review these project transactions, you click the line; then on the table toolbar, you click **View Transaction Details**, and the system opens the **Transaction Details** dialog box.

Printing Pro Forma Invoices

You can print a pro forma invoice that you are viewing on the [Pro Forma Invoices](#) (PM307000) form by clicking **Print** on the More menu. The system opens the printable form of the invoice, which is project-specific and specified for the *PROFORMA* mailing of the project on the **Mailing & Printing** tab of the [Projects](#) (PM301000) form. By default, this is the [Pro Forma Invoice](#) (PM642000) report. You can review the invoice and print it.

The contact information of the customer to whom the pro forma invoices should be sent is specified in the **Bill-To Contact** and **Bill-To Address** sections of the **Addresses** tab of the [Pro Forma Invoices](#) form. This information is copied to each pro forma invoice related to the project from the **Bill-To** and **Bill-To Address** sections of the **Summary** tab of the [Projects](#) form and can be modified at the invoice or project level.

Reviewing the Project Transactions Related to an AR Invoice

You can review the project transactions that were created on release of an accounts receivable invoice. To do this, while you are viewing the accounts receivable invoice on the [Invoices and Memos](#) (AR301000) form, you click **Project Transactions** on the More menu (under **Inquiries**). The system opens the [Project Transaction Details](#)

(PM401000) form in a pop-up window with reference number and type of the accounts receivable invoice specified in the Selection area.

Lesson 4: Grouping Invoices

In this lesson, you will learn how you can configure project billing to create a single invoice for the project or to create multiple separate invoices. You will also learn how to bill the project with different billing rules assigned to the project tasks, how to bill a project task separately from the other tasks of the project, and how to bill project transactions that are processed by particular steps of billing rules with a separate invoice.

Grouping Invoices: General Information

In Acumatica ERP, the billing procedure provides opportunities for grouping invoices and creating separate invoices depending on the project settings and the settings of billing rules.

Learning Objectives

You will learn how to do the following:

- Configure project billing to create a single invoice for the project or to create multiple separate invoices
- Bill the project with different billing rules assigned to the project tasks
- Bill a project task separately from the other tasks of the project
- Bill project transactions that are associated with particular account groups separately from the other

Applicable Scenarios

You bill a project with separate invoices if, for example, the customer has asked you to provide a separate invoice for a particular project task, or if you need to create a separate invoice for a particular type of expenses.

Grouping of Invoices

When you run project billing for a particular project, the system creates a single invoice for all project tasks that have the same customer location selected in the **Location** box on the [Project Tasks](#) (PM302000) form.

The system also groups the billable amounts into multiple invoices based the originating branch of the invoice prepared during project billing that the system specifies by using the following priority:

1. If a billing is performed with a pro forma invoice, the system first searches for a project branch, which is specified in the **Branch** box on the **Summary** tab (**Billing and Allocation Settings** section) of the [Projects](#) (PM301000) form. If project is billed with direct accounts receivable invoice, the system ignores the project branch.
2. The system searches for the shipping branch of the customer location selected in the project task, which is specified in the **Default Branch** box on the **General** tab of the [Customer Locations](#) (AR303020) form, if any. (Therefore, multiple pro forma invoices with different originating branches can be created for the same project if the project branch is not defined.)
3. The system searches for the shipping branch of the default location of the customer specified for the project task.
4. The system specifies the current branch selected in the Company and Branch Selection menu for the user that ran the project billing.

The system groups invoices to a single invoice for all the billing steps of billing rules for which the same **Invoice Group** is specified on the [Billing Rules](#) (PM207000) form. That is, if some project tasks are assigned a billing rule or multiple billing rules with billing steps that have the same invoice group, during the project billing, the system groups the lines created with these billing steps into a separate invoice.

To create a separate invoice for a particular project task, you need to select the **Bill Separately** check box selected in the **Billing and Allocation Settings** section on the **Summary** tab of the [Project Tasks](#) form.

Grouping Invoices: Process Activity

This activity will walk you through the process of configuring project billing to create a single invoice for the project or to create multiple separate invoices. You will learn how to bill the project with different billing rules assigned to the project tasks, how to bill a project task separately from the other tasks of the project, and how to bill project transactions that are processed by particular steps of billing rules with a separate invoice.

Story

Suppose that the Thai Food Restaurant customer has ordered two juicers from the SweetLife Fruits & Jams company, along with the following services: site review, installation, and employee training on operating the juicers. The project accountant of SweetLife has created the project to handle the tracking and billing of the provided materials and services. The project has three tasks that represent three phases of the project execution:

- Phase 1: Installation of the first juicer
- Phase 2: Installation of the second juicer
- Phase 3: Training on operating the juicers

The juicers have been delivered and installed, and SweetLife's consultant has provided the training. Before each invoice is sent to the customer for payment, the customer has requested that a pro forma invoice be submitted for acceptance.

Acting as the project accountant, you will bill the customer with a single invoice. After the first the billing, you will group the invoices in different ways based on the following customer's requests:

- Create a separate invoice for the third phase
- Create a separate invoice for the juicers

Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the [Projects](#) (PM301000) form, the *TOMYUM9* project has been created and three project tasks have been configured.
- On the [Project Transactions](#) (PM304000) form, the *PM00000005* batch of project transactions related to the project has been created and released.

Process Overview

To bill a time and material project, you first will review and configure project invoices with the billing rule on the [Billing Rules](#) (PM207000) form and with the project tasks on the [Projects](#) (PM301000) form. Then you will bill the project on the [Projects](#) form. Finally, you will review the created pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form.

Step 1: Billing a Project with Multiple Billing Rules

To bill the project with different billing rules assigned to the project tasks, do the following:

1. On the [Projects](#) (PM301000) form, open the *TOMYUM9* project.
2. On the **Cost Budget** tab, review the cost budget of the project. Make sure it includes three lines with the *PHASE1* project task, three lines with the *PHASE2* project task, and one line with the *PHASE3* project task.
3. On the **Tasks** tab, in the line with the *PHASE2* task, change the billing rule in the **Billing Rule** box to *TM*. When you bill the project, the system will use this billing rule to process unbilled transactions associated with this project task.
4. Save your changes to the project.
5. On the form toolbar, click **Run Project Billing**.
The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form.
6. On the **Time and Material** tab, review the invoice lines and notice that lines related to all the project tasks are in the same invoice, even though the project tasks have different billing rules assigned. You need to reconfigure the billing to prepare a separate pro forma invoice for each project task.
7. Delete the pro forma invoice, so you can bill this project again when you change the configuration of project billing.

Step 2: Billing Project Tasks Separately

To bill the *PHASE3* project task separately from the other project tasks, do the following:

1. On the [Projects](#) (PM301000) form, open the *TOMYUM9* project.
2. On the **Tasks** tab, do the following to add a needed table column to those displayed on the tab:
 - a. In the table, click the Column Configuration button, the leftmost icon among the column headers. The system opens the **Column Configuration** dialog box.
 - b. In the **Available Columns** list of the dialog box, click the **Bill Separately** column.
 - c. Click the Add Column button (the right arrow icon between the lists) to add the column to the **Selected Columns** list.
 - d. Click **OK** to apply your changes to the list of columns and close the dialog box.
3. In the row with the *PHASE3* task, select the check box in the **Bill Separately** column to bill the task with a separate invoice.
4. Save your changes to the project.
5. On the form toolbar, click **Run Project Billing**, and review the generated invoices on the **Invoices** tab.
The system created two pro forma invoices. One invoice includes the transactions related to the *PHASE3* project task, and the other invoice includes the transactions related to the other project tasks.
6. Open and review each created pro forma invoice as follows:
 - a. On the **Invoices** tab, click the link in the **Pro Forma Reference Nbr.** column to open the pro forma invoice.
 - b. On the **Time and Material** tab of the [Pro Forma Invoices](#) (PM307000) form, which the system opens in a pop-up window, review the lines of the invoice.
Notice that the invoice with the total amount of \$4,750 has lines related to the *PHASE1* and *PHASE2* tasks, whereas the invoice with the total amount of \$400 has a line related to only the *PHASE3* task.
 - c. Delete the pro forma invoices, and return to the [Projects](#) form with the *TOMYUM9* project selected.

You have deleted the pro forma invoices you created, so you are able to bill the project again when you change the configuration of project invoices again.

Step 3: Grouping Invoices by Steps of Billing Rules

To create a separate invoice for the juicers whose costs are tracked within the *MATERIAL* account group, do the following:

1. On the [Billing Rules](#) (PM207000) form, open the *TM* billing rule.
2. In the left pane, enter *MATERIAL* in the **Invoice Group** column of the *10 - Material cost plus markup* step.
This step of the billing rule is used for time and material billing of transactions associated with the *MATERIAL* account group.
3. Save your changes to the billing rule.
4. Open the *COMBINED* billing rule.
5. In the left pane, enter *MATERIAL* in the **Invoice Group** column of the *20 - Material cost plus markup* step.
This step of the billing rule is used for time and material billing of transactions associated with the *MATERIAL* account group.
6. Save your changes to the billing rule.
When you bill the project by using these billing rules, the system will group invoice lines created with the steps of the billing rules with the *MATERIAL* account group in a separate invoice.
7. On the [Projects](#) (PM301000) form, open the *TOMYUM9* project.
8. On the form toolbar, click **Run Project Billing**.
The system creates three pro forma invoices. The system has created one more separate invoice based on unbilled transactions with the *MATERIAL* account group using the steps of the billing rules with the *MATERIAL* invoice group.
9. Open and review each created pro forma invoice as follows:
 - a. On the **Invoices** tab, click the link in the **Pro Forma Reference Nbr.** column to open the pro forma invoice.
 - b. On the **Time and Material** tab of the [Pro Forma Invoices](#) (PM307000) form, which the system opens in a pop-up window, review the lines of the invoice.
Notice that the invoice with the total amount of \$4,000 includes two lines with juicers related to the *MATERIAL* account group, the invoice with the total amount of \$750 includes four lines related to the *PHASE1* and *PHASE2* tasks except the lines with juicers, and the invoice with the total amount of \$400 includes one line related to the *PHASE3* task.
 - c. Close the pop-up window with the form, and return to the [Projects](#) form with the *TOMYUM9* project selected.

You have configured the grouping of pro forma invoices for the project and performed project billing with the new billing settings.

Grouping Invoices: Related Reports and Inquiries

This topic describes reports, inquiries, forms and dialog boxes you may review to gather information related to project billing. The topic also explains how you can print documents related to project billing.



If you do not see a report or inquiry, this could mean that you have signed in to the system with a user that do not have access rights to a form. Sign in as admin, or contact your system administrator.

Reviewing Project Transactions

You can review the list of corresponding project transactions of a pro forma invoice line on the **Time and Material** tab of the [Pro Forma Invoices](#) (PM307000) form. To review the corresponding project transactions of a line, you click the line, on the table toolbar, click **View Transaction Details**, the system opens the [Project Transaction Details](#) (PM401000) form in a pop-up window.

Printing Invoices

You can print a pro forma invoice by clicking **Print** on the More menu of the [Pro Forma Invoices](#) (PM307000) form. The system opens the printable form of the invoice that is project-specific and specified for the *PROFORMA* mailing of the project on the **Mailing & Printing** tab of the [Projects](#) (PM301000) form. By default, this is the [Pro Forma Invoice](#) (PM642000) form. You can review the invoice, and print it.

Lesson 5: Modifying Billing Rules

Billing Rules: General Information

In Acumatica ERP, billing rules are used to automate the calculation of amounts being billed to customers for a particular project. You assign a particular billing rule to each project task, and the rule defines which transactions should be used for billing and which accounts should be used to record the transactions that are generated in the billing process.

Learning Objectives

In this chapter, you will learn how to do the following:

- Configure billing rules for progress billing
- Configure billing rules for time and material billing
- Configure combined billing rules with multiple steps of different types
- Use billing rates and item prices in billing rules

Applicable Scenarios

You configure a billing rule to specify how the customers should be billed based on the project conditions:

- You configure a progress billing rule if you need to prepare an invoice for the customer that includes the services provided as a part of a fixed-price project.
- You configure a time and material billing rule if you need to prepare an invoice for the customer based on the project transactions that record the time and material spent on the project.
- You configure a combined billing rule that includes both progress billing and time and material billing steps if you need to calculate invoice amounts differently based on different project stages.

Configuration of Billing Rules

The billing process is defined by the billing rule of each project task. A billing rule is assigned to each project on the **Summary** tab (**Billing and Allocation Settings** section) of the [Projects](#) (PM301000) form. When a task is added to the project on the **Tasks** tab of this form, by default, it is assigned the billing rule assigned to the corresponding project, but a different billing rule can be specified for the task.

Billing rules are defined on the [Billing Rules](#) (PM207000) form. In the left pane, you specify the sequence of steps for the selected billing rule. Then in the right pane, you define the calculation rules and invoice settings for each step. You can add either of the following to each billing rule:

- A single *Progress Billing* step to bill pending invoice amounts or quantities based on the progress of the performed work
- A single *Time and Material* step (or multiple steps of this type) to bill transactions by different account groups

A simple billing rule includes only one billing step. More complex billing rules consist of multiple steps with different conditions. Each step of a billing rule has a variety of settings, including the following, that depend on the step type:

- The account group that is used as a filter to select the transactions for billing if this is a *Time and Material* billing step.
When the billing procedure is run, the system selects all the transactions that are due for billing. Normally, you use the same account group (or groups) for billing that you use for accumulating the unrecognized revenue. By running billing for these account groups, you recognize the revenue.
- The formulas to define the description of the invoice and the description of each invoice line, to make the system compose each type of description dynamically during the billing process.
- The formulas to calculate the amount and the quantity of the invoice lines if this is a *Time and Material* billing step. In these formulas, you can use fields and attributes from such system entities as the project, project budget, project task, project transaction, customer, vendor, employee, inventory item, and account group. You can also use different sources of the project rates: those from the rate tables can be configured on the [Rate Tables](#) (PM206000) form, and those from sales price lists, which are defined on the [Sales Prices](#) (AR202000) form.
- The sources of the sales account and the destination branch for each invoice line.
The billing process uses the originating branch from the project settings on the [Projects](#) form and the destination branches from the sources according to the billing rules. When an accounts receivable invoice is released, the accounts receivable account is updated under the originating branch of the invoice, while the revenue amounts are recorded to the destination branches of the invoice lines.
- The invoice group, if you want to make the system create separate invoices (either pro forma invoices or accounts receivable invoices, depending on the billing workflow of the project) for particular steps with the same invoice group during the project billing.
- Non-billable transactions that do not contribute to the amount billed to the customer and that you may decide to include in the invoice if this is a *Time and Material* billing step.
- Grouping criteria by date, employee, vendor, and inventory item for the invoice lines if this is a *Time and Material* billing step.

Formulas and Parameters in Billing Rules



The parameters and objects listed in this section could be specified in allocation rules as well.

In formulas that are used in the settings of billing rules, you can use the `@Rate` parameter to refer to billing rates defined in the rate tables on the [Rate Tables](#) (PM206000) form. For more information, see [Billing Rates: General Information](#).

For project transactions with associated stock or non-stock items, you can retrieve the effective sales price of an inventory item by using the `@Price` parameter. For instance, to implement a price model that estimates the project billable amount as the billable quantity of the provided services multiplied by the price, you can use the following formula: `= [PMTran.BillableQty] * @Price`.

Also, in formulas that are used in the settings of a billing rule, you can use the following data access classes to retrieve the data:

- PMAccountGroup
- PMBudget

When you bill a project using a billing rule with a formula that uses the `PMBudget` data access class, for each budget line of the project, the system retrieves the `PMBudget` records that are associated with the same project budget key. The project budget key includes the project, project task, account group, and inventory item, as well as the cost code if the *Cost Code* feature is enabled on the [Enable/Disable Features](#) (CS100000) form.

- PMProject
- PMTask
- PMTran
- Customer (the customer of the project transaction that is being billed)
- EPEmployee
- InventoryItem
- Vendor

Billing Rules: To Modify a Billing Rule

In this activity, you will learn how to update the settings of an existing billing rule, and review how this affects the documents generated by the project billing process.

Story

Suppose that as part of a contract to provide juicers to multiple restaurants, the Thai Food Restaurant customer has ordered a juicer from the SweetLife Fruits & Jams company, along with the following services: site review, installation, and training of employees on operating the juicer. The SweetLife project accountant has created a project to account for the provided work and has generated a pro forma invoice for the project. Then suppose that the project accountant has reviewed the prepared pro forma invoice, and has decided that the following changes should be made:

- The invoice's description should be corrected to be more clear. The updated description will say *Invoice for* followed by the identifier of the project.
- The processing of the travel expenses related to the project needs to be added to the billing rule. Per the agreement with the customer, these will be billed with a fixed margin coefficient of 1.4.
- The invoice lines should be grouped by inventory item.

Acting as the project accountant, you need to update the billing rule and verify that invoices are generated in the appropriate format.

Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to provide support for the project accounting functionality.
- On the [Billing Rules](#) (PM207000) form, the *TIMEMATERIAL* billing rule has been configured.
- On the [Projects](#) (PM301000) form, the *TOMYUM10* project has been created. On the **Tasks** tab, the *TIMEMATERIAL* billing rule is specified for each project task. Also, the **Create Pro Forma Invoice on Billing** check box is selected on the **Summary** tab, indicating that a pro forma invoice is created when the project is billed.
- On the [Project Transactions](#) (PM304000) form, the *PM00000006* batch of project transactions related to the project has been created and released.

Process Overview

You will bill the project on the [Projects](#) (PM301000) form; you will also review how the current billing rules work, and how the prepared pro forma invoice looks on the [Pro Forma Invoices](#) (PM307000) form. Then you will delete the pro forma invoice, to cancel billing, and modify the billing rule on the [Billing Rules](#) (PM207000) form. You will change the description of the invoices to be created, add a new step to a billing rule for processing the travel expenses, and configure the grouping of project transactions for employee labor to a single line.

After you make these changes to the billing rule, you will bill the project again on the [Projects](#) form. Finally, you will review the pro forma invoice created with the modified billing rule on the [Pro Forma Invoices](#) form.

Step 1: Billing the Project

To bill the project for the Thai Food Restaurant customer, do the following:

1. On the [Projects](#) (PM301000) form, open the *TOMYUM10* project, and on the **Cost Budget** tab, review the cost budget of the project. In the lines with the *PHASE3* task, notice that travel expenses are associated with the *TRAVEL* account group, while the employee's labor on conducting training is associated with the *LABOR* account group.
2. On the form toolbar, click **Run Project Billing** to review the pro forma invoice the system creates for this project with the existing *TIMEMATERIAL* billing rule.

The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form. Review the details of the pro forma invoice, which should be improved on in the following regards:

- The pro forma invoice description is *Invoice for TOMYUM10*. While the description is correctly noting the project identifier in the system, you would like the invoice description to also include the description of the project.
 - On the **Time and Material** tab, there is no line with the *TRAVEL* inventory item because the line has not been processed by the billing rule, which does not include a step configured for the billing of the expenses related to the *TRAVEL* account group.
 - On the **Time and Material** tab, there are three lines with the *PHASE3* task and the *TRAINING* inventory item. For a more typical and easier-to-grasp way of presenting invoice lines, multiple lines with the same inventory item should be grouped into one line.
3. On the form toolbar, click **Delete** to delete the pro forma invoice.

Now you need to modify the billing rule, and perform the billing process for the project again.

Step 2: Modifying the Billing Rule

To change the *TIMEMATERIAL* billing rule, do the following:

1. On the [Billing Rules](#) (PM207000) form, open the *TIMEMATERIAL* billing rule.
2. To modify the description of invoices created with the billing rule, do the following:
 - a. In the left pane, click the *10 - Material cost plus markup* step so that you can modify the settings of this step.
 - b. In the right pane, enter the following formula in the **Invoice Description Formula** box:


```
= 'Invoice for ' + [PMProject.ContractCD] + ' ( ' + [PMProject.Description] + ' ) '
```
 - c. Save your changes.
 - d. In the left pane, click the *20 - Labor from non-stock price* step and in the right pane, enter the following formula in the **Invoice Description Formula** box:


```
= 'Invoice for ' + [PMProject.ContractCD] + ' ( ' + [PMProject.Description] + ' ) '
```
 - e. Save your changes.

- f. In the left pane, click the *30 - Re-invoice subcontractors* step and in the right pane, enter the following formula in the **Invoice Description Formula** box:
- ```
= 'Invoice for ' + [PMProject.ContractCD] + ' (' + [PMProject.Description] + ') '
```
- g. Save your changes.
3. To add a billing step to bill travel expenses with a fixed margin coefficient of 1.4, do the following:
- In the left pane, add a new row, and specify the following settings in the row:
    - Active:** Selected
    - Step ID:** 40
    - Description:** Travel cost plus markup
  - In the right pane, specify the following settings for the step selected in the left pane (see the screenshot below):
    - Billing Type:** *Time and Material*
    - Account Group:** *TRAVEL*  
With this step of the billing rule, the system processes the project transaction that debits accounts mapped to the *TRAVEL* account group.
    - If @Rate is Not Defined:** *Set @Rate to 0*
    - Invoice Description Formula:** `= 'Invoice for ' + [PMProject.ContractCD] + ' ( ' + [PMProject.Description] + ' ) '`
    - Line Quantity Formula:** `= [PMTran.BillableQty]`  
The system uses the quantity of the project transaction as the quantity of an invoice line.
    - Line Amount Formula:** `= [PMTran.Amount] * 1.4`  
The system uses the amount of the project transaction multiplied by 1.4 as the amount of the invoice line.
    - Line Description Formula:** `= [PMTran.Description]`  
The system uses the description of the project transaction as the description of the invoice line.
    - Use Sales Account From:** *Inventory Item*

## Billing Rules

TIMEMATERIAL - Time and material with @Rate and @Price

\* Billing Rule ID: **TIMEMATERIAL** ☒ Active  
Description: Time and material with @Rate and @Price

| Active                              | Step ID | Description            |
|-------------------------------------|---------|------------------------|
| <input checked="" type="checkbox"/> | 10      | Material cost plus mar |
| <input checked="" type="checkbox"/> | 20      | Labor from non-stock   |
| <input checked="" type="checkbox"/> | 30      | Re-invoice subcontract |
| <input checked="" type="checkbox"/> | 40      | Travel cost plus marku |

**Billing Type:** Time and Material

**TRANSACTION SELECTION CRITERIA**

Account Group: TRAVEL - Project Tr

Rate Type: If @Rate is not defined: Set @Rate to 0

**INVOICE SETTINGS**

Invoice Description Formula: = 'Invoice for ' + [PMProject.ContractCD] + ' ( ' + [PMProject.Description] + ' ) '

Line Quantity Formula: = [PMTran.BillableQty]

Line Amount Formula: = [PMTran.Amount] \* 1.4

Line Description Formula: = [PMTran.Description]

\* Use Sales Account from: Inventory Item Sales Account:

**BILLING OPTIONS**

☐ Copy Notes and Files ☒ Create Lines with Zero Amount and Quantity

☐ Include Non-Billable Transactions

**AGGREGATE TRANSACTIONS BY**

☐ Date ☐ Employee ☐ Vendor ☐ Inventory ID

**Figure: The new step of the billing rule**

4. To group project transactions with the *LABOR* account group into a single invoice line if they also have the same inventory item, do the following:
- In the left pane, click the *20 - Labor from non-stock price* step.



## Applicable Scenarios

You create a credit memo for a project if you need to correct the actual amounts of the revenue budget that have been exceeded.

## Project Billing: To Correct the Actual Income of a Project

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In this activity, you will correct the actual amounts of a project that has been overcharged during the billing. To do this, you will create a credit memo for the project.

### Story

Suppose that the Thai Food Restaurant customer recently ordered eight hours of training on how to use a juicer it had previously bought from the SweetLife Fruits & Jams company. SweetLife's project accountant created a project for this training, a consultant of SweetLife provided the training, and the project accountant billed the customer.

Further suppose that the project accountant has realized that the consultant provided six hours of training instead of eight, so the company overcharged the customer by \$100. Acting as the project accountant, you need to correct the actual amount of the project and create a credit memo for the project.

### Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to provide support for the project accounting functionality.
- On the [Projects](#) (PM301000) form, the *TOMYUM11* project has been created and the *TRAINING* project task has been created for the project. On the **Summary** tab (**Billing and Allocation Settings** section), the **Create Pro Forma Invoice on Billing** check box has been selected for the project.
- For the project, the *000004* pro forma invoice and the corresponding *000075* accounts receivable invoice have been created and released on the [Pro Forma Invoices](#) (PM307000) and [Invoices and Memos](#) (AR301000) forms, respectively.

### Process Overview

In this activity, on the [Projects](#) (PM301000) form, you will update the pending invoice amount of the project with a negative amount and run project billing to prepare a pro forma invoice. On the [Pro Forma Invoices](#) (PM307000) form, you will review the pro forma invoice and release it. You will then review the credit memo that was created based on the pro forma invoice and release the credit memo on the [Invoices and Memos](#) (AR301000) form.

### Step: Creating a Credit Memo for the Project

To create a credit memo for the extra \$100 that was billed for the project, do the following:

1. On the [Projects](#) (PM301000) form, open the *TOMYUM11* project. In the Summary area, notice that the actual income of the project is \$400.
2. On the **Revenue Budget** tab, enter *-100* as the **Pending Invoice Amount** of the revenue budget line that you need to correct.
3. Save your changes to the project.
4. On the form toolbar, click **Run Project Billing**.



The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form. In the Summary area, notice that the **Invoice Total** is negative and equals the amount you have specified for the revenue budget line of the project (-100.00).



If the **Invoice Total** of a pro forma invoice on the [Pro Forma Invoices](#) form becomes negative (for example, if you have added a negative adjustment line in an amount greater than the total amount of billable lines), the system creates an accounts receivable credit memo when the pro forma invoice is released.

- On the form toolbar, click **Remove Hold** to assign the pro forma invoice the *Open* status, and then click **Release** to release the pro forma invoice.

The system creates the credit memo based on the pro forma invoice and assigns the *Closed* status to the pro forma invoice.

- On the **Financial** tab, right of the **AR Ref. Nbr.** box, click the Edit button to open the credit memo that has been created for the pro forma invoice.
- On the form toolbar of the [Invoices and Memos](#) (AR301000) form, which the system has opened in a pop-up window, click **Remove Hold** to assign the credit memo the *Balanced* status, and then click **Release** to release the credit memo.
- On the [Projects](#) form, open the *TOMYUM11* project. In the Summary area, notice that the actual income of the project, which has been updated as a result of the billing, is \$300.

On the **Invoices** tab, notice that the credit memo with the corresponding pro forma invoice has appeared in the table, as shown in the following screenshot.

Projects  
TOMYUM11 - A training for employees

Project ID: TOMYUM11 - A training for employees Status: Active Actual Income: 300.00  
Customer: TOMYUM - Thai Food Restaurant Actual Expenses: 0.00  
Template: Margin: 300.00 % 100.00  
Description: A training for employees

SUMMARY TASKS REVENUE BUDGET COST BUDGET BALANCES **INVOICES** CHANGE ORDERS UNION LOCALS ACTIVITY HISTORY EMPLOYEES EQUIPMENT SETTINGS ATTRIBUTES

AIA REPORT RELEASE RETAINAGE

| Pro<br>Forma<br>Date | Pro Forma<br>Reference<br>Nbr. | Application Nbr. | Description          | Status | Invoice<br>Total | Curre<br>ncy | AR Doc.<br>Type | AR<br>Reference<br>Nbr. | AR<br>Doc.<br>Date | AR Doc. Description  | AR<br>Doc.<br>Orig.<br>Amount | Original<br>Retainage | AR Doc.<br>Total Amount | Open<br>AR<br>Balanc | Curre<br>ncy | AR Doc.<br>Status |
|----------------------|--------------------------------|------------------|----------------------|--------|------------------|--------------|-----------------|-------------------------|--------------------|----------------------|-------------------------------|-----------------------|-------------------------|----------------------|--------------|-------------------|
| > 1/28/2021          | 000004                         |                  | Invoice for TOMYUM11 | Closed | 400.00           | USD          | Invoice         | 000075                  | 1/28/2021          | Invoice for TOMYUM11 | 400.00                        | 0.00                  | 400.00                  | 400.00               | USD          | Open              |
| 1/30/2021            | 000014                         | 0001             | Invoice for TOMYUM11 | Closed | -100.00          | USD          | Credit Memo     | 000102                  | 1/30/2021          | Invoice for TOMYUM11 | 100.00                        | 0.00                  | 100.00                  | 100.00               | USD          | Open              |

**Figure: The credit memo created for the project**

You have adjusted the overcharged actual income in the project. In the next step of the process in a production environment (which is beyond the scope of this activity), an accounts receivable clerk would apply the created credit memo to the original invoice that has been corrected.

## Part 2: Transactions and Time Tracking

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### Lesson 7: Processing Project Transactions

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#### Project Transactions: General Information

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Project accounting is integrated with other functional areas of Acumatica ERP. Project-related information from other functional areas flows to projects by means of project transactions that are used for tracking budget costs and revenue. You can also create project transactions directly without involving other documents.

#### Learning Objectives

In this chapter, you will learn how to do the following:

- Capture project costs using project transactions
- Make the system create a project transaction based on a GL transaction
- Create a project transaction without posting to the general ledger

#### Applicable Scenarios

You manually create project transactions if you need to directly capture project costs without updating the general ledger. The transactions created for a project update the actual values of the project budget with the incurred expenses that you may need in one of the following cases:

- To control the amount of money spent on the project against the budgeted values
- To bill the customer for the incurred expenses
- To control the project profitability

You manually create general ledger transactions for a project if you need to directly capture project costs without creating original documents (such as bills, purchase orders, or time activities).

#### Creation of Project Transactions

You can create a project transaction directly on the [Project Transactions](#) (PM304000) form. When you specify the **Debit Account** and **Credit Account** for the project transaction and release the transaction, the system creates the following general ledger transactions on the [Journal Transactions](#) (GL301010) form, based on whether the amount of the project transaction is positive or negative:

- For a positive amount, the GL transaction debits the debit account of the project transaction and credits the credit account.
- For a negative amount, the GL transaction debits the credit account of the project transaction and credits the debit account.

If you specify no debit and credit accounts for a project transaction on the [Project Transactions](#) form or specify only the debit account, on the release of the transaction, the system does not generate the corresponding GL transaction.

## Project Budget Update

The system uses the combination of the project, project task, account group, and inventory item to match the transaction with a project budget line. If a budget line with the same combination exists, the system updates the **Actual Quantity** and **Actual Amount** of the corresponding budget line. For a new combination that does not exist in the project budget, the system creates a new budget line.

For the revenue budget, the system creates a revenue budget line with the same inventory item as the inventory item of the transaction if the *Detailed* option is selected in the **Revenue Budget Update** box on the **General** tab (**General Settings** section) of the *Projects Preferences* (PM101000) form. With the *Summary* option selected, the system creates a revenue budget line with the empty item code (N/A) instead of the inventory item of the transaction. Similarly, the system creates cost budget lines based on the option selected in the **Cost Budget Update** box on the **General** tab (**General Settings** section) of the *Projects Preferences* form.

If the project does not have such a line, the system automatically creates a new one. The system updates the actual values of the project budget line using the following rules:

- If the debit account of the project transaction is an asset or expense account and the amount is positive, the system updates the corresponding cost budget line with positive actual values. If the amount is negative, the system updates the cost budget line with negative actual values.
- If the debit account of the project transaction is an income or liability account and the amount is positive, the system updates the corresponding revenue budget line with negative actual values. If the amount is negative, the system updates the revenue budget line with positive actual values.

If an income or liability account is selected as the credit account of the project transaction and the amount is positive, the system updates the corresponding revenue budget line with positive actual values.

## Creation of GL Transactions Related to Projects

On the *Journal Transactions* (GL301000) form, you can directly create a general ledger transaction related to a specific project and project task. To associate the transaction line with a project, you specify this project in the **Project/Contract** column and the applicable project task in the **Project Task** column.

If a general ledger transaction has a project and project task specified, in the **Account** column on the *Journal Transactions* form, you can select only an account that is mapped to an account group on the *Account Groups* (PM201000) form.

When a batch of GL transactions is released, for each transaction line in the batch with a project and project task specified, the system creates the corresponding project transaction with the following settings specified in a row of the table on the *Project Transactions* (PM304000) form:

- **Project:** The project associated with the GL transaction
- **Project Task:** The project task associated with the GL transaction
- **Inventory ID:** The inventory item associated with the GL transaction  
If no item is associated with the GL transaction, the system uses the empty item code, which is <N/A> by default and specified on the *Projects Preferences* (PM101000) form.
- **Debit Account:** The account of the GL transaction
- **Account Group:** The account group to which the account of the GL transaction is mapped on the *Account Groups* form
- **Credit Account:** Empty
- **Amount:** The debit amount of the GL transaction, if the account of the GL transaction is debited, or the credit amount of the GL transaction with the negative sign, if the account of the GL transaction is credited
- **GL Batch Nbr.:** The batch number of the GL transaction



When a transaction is generated in another functional area of Acumatica ERP—such as accounts receivable, accounts payable, order management, or time and expenses—and posted to the general ledger, the system generates the corresponding project transaction in the same way as on the release of GL transactions.

## Project Transactions: Process Activity

This activity will walk you through the process of creating project transactions from general ledger transactions and from scratch.

### Story

Suppose that the Thai Food Restaurant customer has ordered training from the SweetLife Fruits & Jams company on how to use a juicer the company previously bought. Based on the agreement with the customer, SweetLife's project accountant has created a project and has created the following tasks corresponding to the phases of training:

- *PHASE1*: Training is going to be provided within this task and is subject to billing. Any additional expenses incurred during the completion of this task will not be billed.
- *PHASE2*: If additional training is required after the initial training in the first task, it will be provided within this task and will not be billed.

In the first phase, a consultant has provided eight hours of training and spent \$50 on a taxi. Then the customer requested additional training, and the consultant has provided four extra hours of training in the second phase.

Acting as the project accountant, you need to enter the general ledger transactions to directly capture the costs involved with delivering the first phase of training. The Thai Food Restaurant company covers travel expenses, so they should not affect the project budget. Then you need to enter the project transaction to capture the costs involved with delivering the second phase of training, but the costs should not affect the general ledger.

### Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- The *Project Accounting* feature has been enabled on the [Enable/Disable Features](#) (CS100000) form to provide support for the project accounting functionality.
- On the [Projects](#) (PM301000) form, the *TOMYUM1* project for the *TOMYUM (Thai Food Restaurant)* customer has been created, and the *PHASE1* and *PHASE2* project tasks have been created for the project.
- On the [Account Groups](#) (PM201000) form, the *LABOR* account group has been created. The *54100 - Project Labor Expense* account has been mapped to the account group.
- On the [Non-Stock Items](#) (IN202000) form, the *TRAINING* non-stock item has been configured. The *54100 - Project Labor Expense* account has been specified as the expense account of the item.

### Process Overview

On the [Journal Transactions](#) (GL301000) form, you will create a batch of general ledger transactions with the project and project task specified to record the work related to the first phase of the training. You will release the batch, which will generate the corresponding project transaction. Then you will review this transaction on the [Project Transaction Details](#) (PM401000) form. Finally, on the [Project Transactions](#) (PM304000) form, you will create and release a batch of project transactions that represents the second phase of the training and does not affect the general ledger.

## Step 1: Creating a Project

To create a new project and specify basic settings for it, do the following:

1. Open the [Projects](#) (PM301000) form.



To open the form for creating a new record, type the form ID in the Search box, and on the Search form, point at the form title and click **New** right of the title.

2. On the form toolbar, click **Add New Record** to create a project, and specify the following settings in the Summary area:

- **Project ID:** INSTLAKE01
- **Customer:** LAKECAFE - Lake Cafe
- **Description:** Installation project for Lake Cafe

3. On the **Summary** tab, specify the following settings:

- **Revenue Budget Level:** *Task and Item*

You select this option to include more detail in the revenue budget structure. With this setting, you will be able to select an inventory item in a revenue budget line.

- **Cost Budget Level:** *Task and Item*

You select this option to include more detail in the cost budget structure. With this setting, you will be able to select an inventory item in a cost budget line.

- **Start Date:** 1/1/2022

- **End Date:** 1/30/2022

- **Project Manager:** Pam Brawner

- **Change Order Workflow:** Cleared

You clear this check box because for this simple fixed-price project, no changes will be required.

- **Billing Currency:** USD (selected automatically)

- **Billing Period:** *On Demand*

You select the *On Demand* billing period to indicate that the billing can be performed at any time.

- **Billing Rule:** PROGRESS

This predefined rule will be specified by default in all project tasks added to the project.



For details on configuring billing rules for billing by progress, see [Billing Rules: Progress Billing](#) and [Billing Rules: To Configure a Progress Billing Rule](#).

- **Create Pro Forma Invoice on Billing:** Cleared

You are clearing this check box because you want to create accounts receivable invoices when you bill the project without preliminary creation of pro forma invoices.

4. Save your changes to the project (which currently has the *In Planning* status shown in the **Status** box in the Summary area).

## Step 2: Creating General Ledger Transactions

To create a batch of general ledger transactions to represent the first phase of the training (the *PHASE1* task), do the following:

1. Open the [Journal Transactions](#) (GL301000) form.



To open the form for creating a new record, type the form ID in the Search box, and on the Search form, point at the form title and click **New** right of the title.

2. On the form toolbar, click **Add New Record** to create a new batch of general ledger transactions, and in the Summary area, make sure *GL* is selected as the **Module**.
3. In the **Description** box, type *A training session for the TOMYUM1 project*.
4. On the table toolbar, click **Add Row** to add the first row, which represents your training expenses within the first phase of the project, and specify the following settings in the row:
  - **Account:** *54100 - Project Labor Expense*
  - **Project/Contract:** *TOMYUM1*
  - **Project Task:** *PHASE1*
  - **Cost Code:** *00-000* (inserted automatically)
  - **Debit Amount:** *320*
  - **Transaction Description:** *8 hours of training for the customer's employee*
5. Add the second row, which represents the non-project (travel) expenses, and specify the following settings in the row:
  - **Account:** *81000 - Other Expenses*
  - **Project:** *X* (inserted automatically)  
This transaction will not affect the project budget of the *TOMYUM1* project.
  - **Cost Code:** *00-000* (inserted automatically)
  - **Debit Amount:** *50*
  - **Credit Amount:** *0*
  - **Transaction Description:** *Travel expenses*
6. Add the third row, which balances the batch of transactions, and specify the following settings in the row:
  - **Account:** *23015 - Accrued Expenses*
  - **Project:** *X* (inserted automatically)
  - **Cost Code:** *00-000*
  - **Credit Amount:** *370* (inserted automatically)
  - **Transaction Description:** *Project and travel expenses*
7. On the form toolbar, click **Remove Hold** to assign the general ledger transaction the *Balanced* status, and then click **Release** to release the transaction.  
  
When you release the general ledger transaction, for the line with the specified project and project task, the system creates the corresponding project transaction. In the created project transaction, the system specifies the account group to which the account in the transaction line is mapped.
8. On the [Project Transaction Details](#) (PM401000) form, in the Selection area, select *TOMYUM1* as the **Project**. Make sure that the **Account Group** and **Project Task** boxes are cleared. In the table, review the project transaction that has been created based on the GL transaction that you have processed earlier. Notice the following:
  - The system has created only one project transaction because only one line of the general ledger transaction has the specified project and project task. The reference number of the corresponding batch of general ledger transactions is shown in the **GL Batch Nbr.** column.
  - The **Debit Account** is *54100 (Project Labor Expense)*.
  - The **Debit Account Group** of the project transaction is *LABOR*.  
The system selected the *LABOR* account group as the debit account group of the transaction because the *54100 - Project Labor Expense* account is mapped to this account group.

9. On the [Projects](#) (PM301000) form, open the *TOMYUM1* project, and on the **Cost Budget** tab, review the cost budget line, which was created based on the batch of general ledger transactions you have just released. Notice that the **Account Group** of the budget line is *LABOR*.
10. Click the cost budget line, and on the table toolbar, click **View Transactions** to review the project transaction that corresponds to the selected line. On the [Project Transaction Details](#) form, which the system opens in a pop-up window, notice that the project transaction is the transaction that has been generated on release of the general ledger transaction that you have processed earlier.
11. Close the pop-up window.

### Step 3: Creating a Project Transaction Without Posting to the General Ledger

To create a project transaction that does not affect the general ledger and represents the training expenses within the second phase of the training (the *PHASE2* task), do the following:

1. Open the [Project Transactions](#) (PM304000) form.



To open the form for creating a new record, type the form ID in the Search box, and on the Search form, point at the form title and click **New** right of the title.

2. On the form toolbar, click **Add New Record** to create a new project transaction, and in the Summary area, make sure *PM* is selected as the **Module**.
3. Enter *A 4-hour training session* as the **Description**.
4. In the table on the **Details** tab, add a new row and specify the following settings:

- **Project:** *TOMYUM1*
- **Project Task:** *PHASE2*
- **Cost Code:** *00-000*
- **Account Group:** *LABOR*
- **Inventory ID:** *TRAINING*
- **Quantity:** 4
- **Billable:** Cleared
- **Amount:** 160

You leave the **Debit Account** and **Credit Account** columns empty, so that the corresponding general ledger transaction will not be created. The system also will not use this transaction for billing because you cleared the **Billable** check box in the line.

5. On the form toolbar, click **Save** and then **Release** to save your changes to the project transaction and release it.

Notice that the **GL Batch Nbr.** column is empty, as shown in the following screenshot, indicating that no corresponding general ledger transaction has been created.

The screenshot shows the 'Project Transactions' form for 'PM PM00000043 - A 4-hour training session'. The form includes a summary section with fields for Module (PM), Ref. Number (PM00000043), Status (Released), and Description (A 4-hour training session). Below this is a table with columns for various transaction details. The table has one row with the following values: Branch (SWEETEQUIP), Project (TOMYUM1), Project Task (PHASE2), Cost Code (00-000), Account Group (LABOR), Inventory ID (TRAINING), Description (Training on juicer usage), UOM (HOUR), Quantity (4.00), Billable (unchecked), Billable Quantity (0.00), Unit Rate (0.0000), Amount (160.00), Debit Account, Credit Account, and GL Batch Nbr. (empty). The GL Batch Nbr. column is highlighted with a red box.

| Branch     | Project | Project Task | Cost Code | Account Group | Employ | Customer | Location | Inventory ID | Description              | UOM  | Quantity | Billable                 | Billable Quantity | Unit Rate | Amount | Debit Account | Credit Account | GL Batch Nbr. |
|------------|---------|--------------|-----------|---------------|--------|----------|----------|--------------|--------------------------|------|----------|--------------------------|-------------------|-----------|--------|---------------|----------------|---------------|
| SWEETEQUIP | TOMYUM1 | PHASE2       | 00-000    | LABOR         |        |          |          | TRAINING     | Training on juicer usage | HOUR | 4.00     | <input type="checkbox"/> | 0.00              | 0.0000    | 160.00 |               |                |               |

**Figure: The project transaction that produces no GL transaction**

- On the [Projects](#) (PM301000) form, open the *TOMYUM1* project, and on the **Cost Budget** tab, notice that a new cost budget line with the *PHASE2* project task has been added to the budget based on the project transaction that you created and released. The actual values in the line have been updated based on the project transaction that you have processed.

You have captured the costs for the project.

## Project Transactions: Generated Transactions

The release of project transactions can generate the corresponding general ledger transactions; the release of general ledger transactions can also generate the corresponding project transactions. The generated general ledger transactions and project transactions are described in the following sections.

### General Ledger Transactions Generated on Project Transaction Release

When a project transaction with the **Debit Account** and **Credit Account** specified on the [Project Transactions](#) (PM304000) form is released, if the **Amount** of the transaction is positive, the system generates a batch of the general ledger transactions shown in the following table.

| Account        | Source of Account       | Debit  | Credit |
|----------------|-------------------------|--------|--------|
| Debit account  | The project transaction | Amount | 0.00   |
| Credit account | The project transaction | 0.00   | Amount |

If the **Amount** of the project transaction is negative on the [Project Transactions](#) form, on the release of this transaction, the system generates a batch of the general ledger transactions shown in the following table.

| Account        | Source of Account       | Debit  | Credit |
|----------------|-------------------------|--------|--------|
| Credit account | The project transaction | Amount | 0.00   |
| Debit account  | The project transaction | 0.00   | Amount |

You can view the details of the batch associated with the release of a project transaction by clicking the link in the **GL Batch Nbr.** column on the [Project Transactions](#) form. The system displays the batch on the [Journal Transactions](#) (GL301000) form.

### Project Transactions Generated on Release of the General Ledger Batch

When a batch of general ledger transactions is released, the system generates the project transactions shown in the following table. The sign of the amount of the created project transaction depends on whether the account of the general ledger transaction is debited or credited.

| Debit Account | Credit Account | Source of Account | Amount                 |
|---------------|----------------|-------------------|------------------------|
| Account       | Empty          | GL batch          | Debit amount           |
| Account       | Empty          | GL batch          | Negative credit amount |



You can review the created transactions on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project in the **Project** box. In the table, you can find the project transactions created on the release of the batch of GL transactions by the reference number of the batch in the **GL Batch Nbr.** column.

## Project Transactions: Related Reports and Forms

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In the following sections, you can find details about the reports and forms you may want to review to gather information related to project transactions.



If you do not see a particular report or form that is described, you may have signed in to the system with a user account that does not have access rights to the report or form. Contact your system administrator to obtain access to any needed reports or forms.

### Reviewing Project Transactions and Corresponding GL Batches

You can review the list of all the corresponding transactions of a project on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project, as well as the project task, account group, and inventory item to narrow the listed project transactions.

You can also find the batch of general ledger transactions that correspond to any listed project transaction on this form. In the table, for a particular transaction, you can find the reference number of the corresponding batch of GL transactions in the **GL Batch Nbr.** column. You click the link in this column to view the details of the batch on the [Journal Transactions](#) (GL301000) form.

### Printing Project Transactions

You can prepare the printable list of project transactions related to a particular project using the [Project Transaction Register](#) (PM633000) report.

### Reviewing Project Actual Amounts

You can review the list of corresponding project transactions of a project budget line with a nonzero **Actual Amount** on the **Revenue Budget** and **Cost Budget** tabs of the [Projects](#) (PM301000) form. To review these project transactions, you click the project budget line; then on the table toolbar, you click **View Transactions**, and the system opens the [Project Transaction Details](#) (PM401000) form.

### Reviewing Project Balances

You can review the project budget broken down by account groups on the **Balances** tab of the [Projects](#) (PM301000) form. To review the corresponding project transactions of an account group, you click the line with this account group; then on the table toolbar, you click **View Transactions**, and the system opens the [Project Transaction Details](#) (PM401000) form.

## Lesson 8: Tracking Employee Work in Projects

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### Employee Time Billing: General Information

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In Acumatica ERP, you can use the time reporting functionality to give employees the ability to report the time that they spend for the project. During project billing, you can bill customers for this time.

## Learning Objectives

In this chapter, you will learn how to do the following:

- Enter a billable time activity related to a project, and log the time spent for the project
- Enter a billable time card related to a project, and log the time spent for the project
- Bill a project for employees' time spent working on it

## Applicable Scenarios

You may want to learn more about employee time billing if you are an employee who needs to log work time spent on particular project.

This information is also useful if you are a project accountant, and you need to bill the customer for employee time that was spent for a particular project and logged by using time cards.

## Entry of Time Tracking Documents

In Acumatica ERP, employees can report their work time by creating time cards that include separate detail records associated with different projects or project tasks.

A time card, which an employee enters on the [Employee Time Card](#) (EP305000) form, is a weekly report on the time an employee has spent on each activity. In each line of a time card, the following information is specified:

- The earning type, which defines whether the reported work should be billed
- The project and project task related to the reported hours
- The labor item assigned to the employee who performed the work
- The time spent on each day of the week for which the time card is prepared

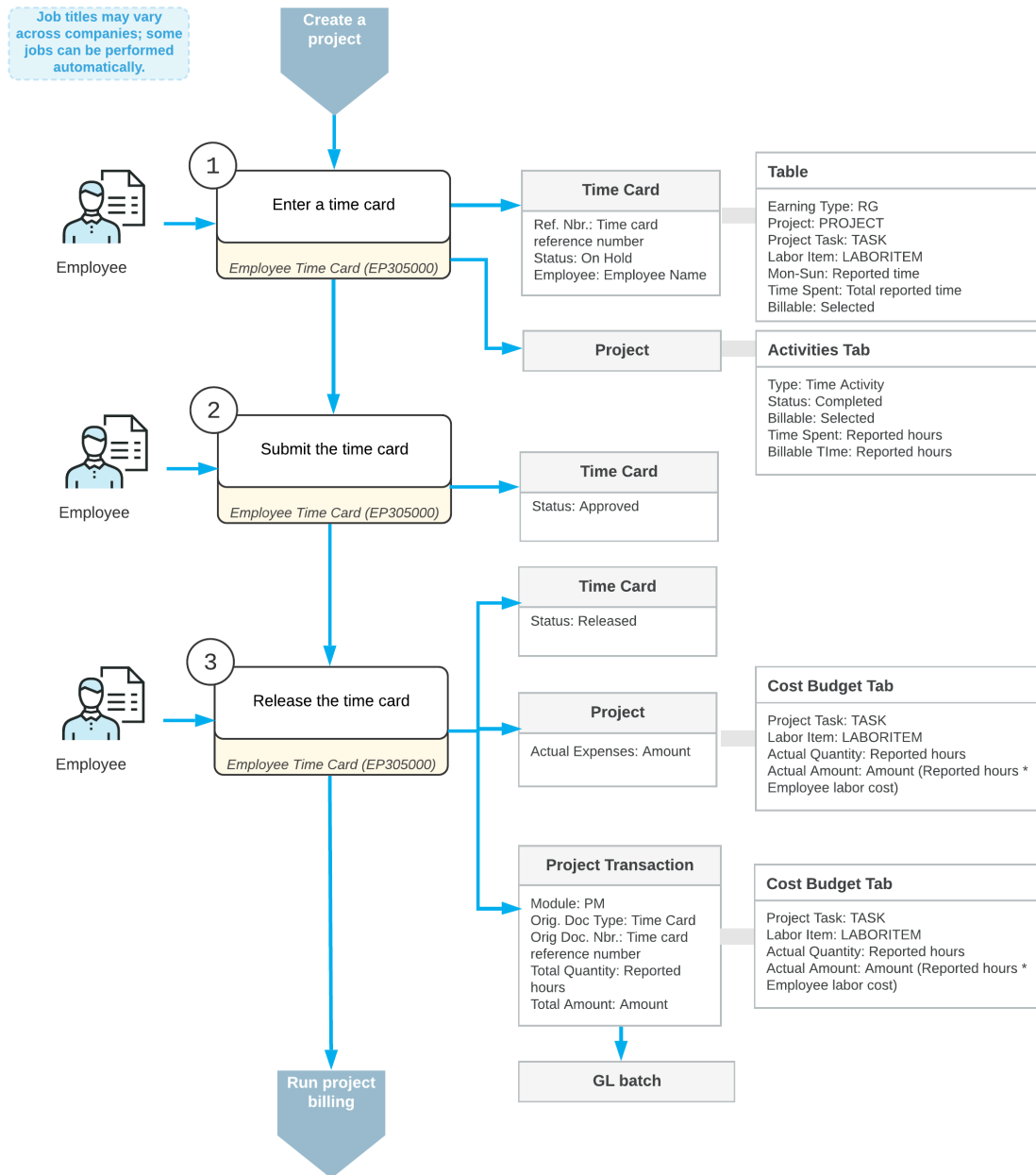
When the time card is released, the related project transaction is created, so that the logged employee time is tracked in the related project and can then be billed. Also, on release of the time card, for each day of the week with reported time, a separate time activity is created and released.

You can review the list of time activities related to a project on the **Activities** tab of the [Projects](#) (PM301000) form. In addition, if time tracking with time activities is configured, on this tab, you can add an individual project-related activity to the selected project by clicking **Create Activity** on the table toolbar and selecting the type of activity to be created. Then you enter the details of the time activity on the [Activity](#) (CR306010) form, which opens, and complete the activity to submit it. The reported data from the time activity becomes available in the employee time card; the time activity can be released within this time card or individually.

## Workflow of the Submission of a Time Card

For a project-related time card, the processing involves the actions and generated documents shown in the following diagram.

## Reporting billable time for a project



## Billing Employee Time in Projects

Once time tracking is configured for projects and the system is configured to generate transactions from time activities, the working time reported by employees is tracked in the related projects and can be billed automatically during the project billing procedure.

Each line of a time card is a time activity. On release of a time card with project-related lines, the system generates project transactions for each time activity within a time card (except for the time card lines that are not associated with any project; a general ledger transaction is instead generated for these lines). This extra step between the release of the time-tracking document and the updating of balances of general ledger accounts makes it possible to define labor costs and bill customers based on these costs and the quantity of working hours reported by employees for the project. The system further processes the project transactions originating from a time card

based on the allocation or billing rules assigned to the project tasks of the project to which this transactions relates.

## Labor Items: Labor Cost Rates in Projects

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In Acumatica ERP, you can define labor rates, which are used to determine the cost of employee time spent on a particular project, and bill customers based on this cost. The following sections explain how the project-specific labor cost rates are specified and retrieved in projects.

### Creation of Labor Cost Rates

On the [Labor Rates](#) (PM209900) form, you can define labor cost rates that are specific to particular entities, such as the employee, labor item, project, and project task.

When you define a labor cost rate, you specify its type, the rate, and an optional description and external reference number of the rate. Based on the type you select, particular columns become available so that you can specify the particular entity the rate applies to and other relevant details. In the **Type** column of the [Labor Rates](#) form, you select one of the following options:

- *Labor Item*: If you select this type in the row, you must also select the labor item and the rate.
- *Employee*: If you select this type in the row, you must select the employee and the rate; optionally, you can also select a particular labor item to which the rate applies.
- *Project*: If you select this type in the row, you must select the project and the rate. Optionally, you can select any of the following to which the rate applies: the project task, the employee, and the labor item.

For each labor cost rate, regardless of its type, you specify the effective date. If there are multiple labor cost rates with the same settings, the system uses the rate with the most recent effective date that precedes the current date. You can also create a labor cost rate with the same settings as an existing labor cost rate but with an effective date that is later than the latest effective date of the existing labor cost rate.

### Units of Measure in Labor Cost Rates

When you specify the rate for a row with a labor item selected on the [Labor Rates](#) (PM209900) form, you specify the rate for the base unit of measure (UOM) of the labor item. The base UOM of the labor item should be convertible into minutes so that the system can convert the base UOM to a minute. That is, there should be conversion rules from a minute to the base UOM and from the base UOM to a minute on the [Units of Measure](#) (CS203100) form.

When you create a labor cost rate for a labor item with a base UOM that is not an hour, make sure that you enter the rate for the base UOM of the labor item on the [Labor Rates](#) form so that the system calculates the correct amount when a time activity with this labor item is released.

For example, suppose that you have the *TRAINING* labor item, whose base UOM is *UNIT*. According to the conversion rules specified on the [Units of Measure](#) (CS203100) form, one unit equals four hours. On the [Labor Rates](#) form, when you add a labor cost rate with an employee and the *TRAINING* labor item, you should specify the rate in the base UOM, which is *UNIT*. When the employee enters a time card on the [Employee Time Card](#) (EP305000) form and selects the *TRAINING* labor item in a time activity on the [Activity](#) (CR306010) form, the time is reported in hours even though the base UOM of the selected item is not an hour. When the time card with the corresponding time activities is released, the system generates a project transaction with the *TRAINING* labor item in the base UOM of the item. If the employee has reported eight hours, the project transaction will contain two *TRAINING* units.

### Retrieval of Labor Cost Rates

When you create a time card on the [Employee Time Card](#) (EP305000) form, for each line, you select the employee, project, project task, labor item, and date. For each time card line, the system retrieves the most appropriate labor cost rate from the [Labor Rates](#) (PM209900) form. The system selects the most specific existing labor cost rate

among the defined labor cost rates that matches all the settings specified in the time card line. The system looks for the following sets of settings and uses the first set it finds that match the time card settings:

- The *Project* rate type, project, project task, employee, labor item, and effective date
- The *Project* rate type, project, project task, employee, and effective date
- The *Project* rate type, project, project task, labor item, and effective date
- The *Project* rate type, project, project task, and effective date
- The *Project* rate type, project, employee, labor item, and effective date
- The *Project* rate type, project, employee, and effective date
- The *Project* rate type, project, labor item, and effective date
- The *Project* rate type, project, and effective date
- The *Employee* rate type, employee, labor item, and effective date
- The *Employee* rate type, employee, and effective date
- The *Labor Item* rate type, labor item, and effective date

If there are multiple labor cost rates with the same settings, the system uses the rate with the actual effective date corresponding to the date of the time card line in the time zone in which the time card line was reported.

## Labor Items: To Define Labor Cost Rates

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In the following implementation activity, you will learn how to define labor cost rates.

### Story

Suppose that in the SweetLife Fruits & Jams company, the price of the consulting services depends on the qualifications of the consultant who provides the service. Acting as SweetLife's project manager, you need to define the labor cost rates for three of your company's consultants:

- Pam Brawner, a project manager, whose work rate is \$48 per hour
- Jon Waite, a senior consultant, whose work rate is \$44 per hour
- Alberto Jimenez, a junior consultant, whose work rate is \$40 per hour

### Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled.
- On the [Non-Stock Items](#) (IN202000) form, the *CONSULTJR*, *CONSULTSR*, and *CONSULTPM* labor items have been created; on the [Employees](#) (EP203000) form, these items have been assigned to the *EP00000004 - Alberto Jimenez*, *EP00000003 - Jon Waite*, and *EP00000001 - Pam Brawner* employees, respectively. The base unit of all items is *HOURL*. For an example of configuring a labor item and assigning it to an employee, see [Labor Items: To Configure a Labor Item](#).

### Process Overview

You will define labor cost rates that are based on the employee who performed the work on the [Labor Rates](#) (PM209900) form.

## System Preparation

To prepare to perform the instructions of the activity, in the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to 1/1/2022. If a different date is displayed, click the Business Date menu button, and select 1/1/2022 on the calendar.

## Step: Defining Labor Cost Rates

To define the needed labor cost rates, do the following:

- On the [Labor Rates](#) (PM209900) form, to add a new labor cost rate for Alberto Jimenez, click **Add Row** on the table toolbar, and specify the following settings in the row:
  - Labor Rate Type:** *Employee*
  - Employee:** *EP00000004 – Alberto Jimenez*
  - Labor Item:** *CONSULTJR* (inserted automatically as the labor item associated with the employee)
  - Rate:** 40
  - Effective Date:** *1/1/2022*
- To add a labor cost rate for Jon Waite, click **Add Row** on the table toolbar, and specify the following settings in the row:
  - Labor Rate Type:** *Employee*
  - Employee:** *EP00000003 – Jon Waite*
  - Labor Item:** *CONSULTSR* (inserted automatically as the labor item associated with the employee)
  - Rate:** 44
  - Effective Date:** *1/1/2022*
- To add a labor cost rate for Pam Brawner, again click **Add Row** on the table toolbar, and specify the following settings in the row:
  - Labor Rate Type:** *Employee*
  - Employee:** *EP00000001 – Pam Brawner*
  - Labor Item:** *CONSULTPM* (inserted automatically as the labor item associated with the employee)
  - Rate:** 48
  - Effective Date:** *1/1/2022*
- Save your changes to the labor cost rates. The labor cost rates you have defined should look like those shown in the following screenshot.

Labor Rates TOOLS ▾

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|                  |       |              |  |
|------------------|-------|--------------|--|
| Labor Rate Type: | All ▾ | Employee:    |  |
| Project:         |       | Labor Item:  |  |
| Project Task:    |       | Union Local: |  |
| Effective Date:  |       |              |  |

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|   | Labor Rate Type | Union Local | Project | Project Task | Employee   | Employee Name   | Labor Item | Description                   | Type of Employment | Regular Hours per week | Annual Rate | Rate    | Burden Rate | Curren | External Ref. Nbr | * Effective Date |
|---|-----------------|-------------|---------|--------------|------------|-----------------|------------|-------------------------------|--------------------|------------------------|-------------|---------|-------------|--------|-------------------|------------------|
| > | Employee        |             |         |              | EP00000001 | Pam Brawner     | CONSULTPM  | Project Manager               | Hourly             | 40.0                   | 45.0000     | 45.0000 | USD         |        |                   | 12/1/2021        |
|   | Employee        |             |         |              | EP00000035 | Jeffrey Vega    | TECHNICIAN | Service and repair technician | Hourly             | 40.0                   | 45.0000     | 45.0000 | USD         |        |                   | 12/1/2021        |
|   | Employee        |             |         |              | EP00000004 | Alberto Jimenez | CONSULTJR  | Junior Consultant             | Hourly             | 40.0                   | 40.0000     | 40.0000 | USD         |        |                   | 1/1/2022         |
|   | Employee        |             |         |              | EP00000003 | Jon Waite       | CONSULTSR  | Senior Consultant             | Hourly             | 40.0                   | 44.0000     | 44.0000 | USD         |        |                   | 1/1/2022         |
|   | Employee        |             |         |              | EP00000001 | Pam Brawner     | CONSULTPM  | Project Manager               | Hourly             | 40.0                   | 48.0000     | 48.0000 | USD         |        |                   | 1/1/2022         |

**Figure: The added labor cost rates**

You have completed configuring labor cost rates. Now you can complete the [Employee Time Billing: Process Activity](#) to review how the labor cost rates are used in projects.

## Employee Time Billing: Process Activity

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This activity will walk you through the process of billing employee time spent on a particular project.

### Story

Suppose that Lake Cafe has requested 40 hours of training on operating juicers that were previously purchased from and installed by the SweetLife Fruits & Jams company. Jon Waite, SweetLife's senior consultant, has provided 16 hours of training (three hours on Monday, January 31, 2022; five hours on Tuesday, February 1; and eight hours on February 3).

Acting as SweetLife's project accountant, Pam Brawner, you need to create a project to account for the provided services. Then acting as Jon Waite, you need to enter a time card to log the work related to the project. Finally, again acting as Pam Brawner, you need to bill the project and review the invoice prepared for the customer.

### Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- The *Project Accounting* feature has been enabled on the [Enable/Disable Features](#) (CS100000) form.
- The *54100 - Project Labor Expense* account is mapped to the *LABOR* expense account group, which has been defined on the [Account Groups](#) (PM201000) form.
- On the [Billing Rules](#) (PM207000) form, the *TM* billing rule has been created, and a step for billing project transactions associated with the *LABOR* account group has been added to the rule.
- On the [Customers](#) (AR303000) form, the *LAKECAFE - Lake Cafe* customer has been created.

### Process Overview

You will create a project on the [Projects](#) (PM301000) form and add a project task to it. Then you will create and release a time card on the [Employee Time Cards](#) (EP406000) form. You will review the project transaction generated based on the time card on the [Project Transactions](#) (PM304000). Next, you will bill the project on the [Projects](#) form, and release both the prepared pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form and the AR invoice on the [Invoices and Memos](#) (AR301000) form. Finally, on the [Projects](#) form, you will make sure that the project cost and revenue budget have been updated with the billed employee time.

### System Preparation

To prepare to perform the instructions of the activity, in the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2022*. If a different date is displayed, click the Business Date menu button, and select *1/30/2022* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

### Step 1: Creating a Project

To create a project, do the following:

1. On the [Projects](#) (PM301000) form, create a project, and specify the following settings in the Summary area:
  - **Project ID:** TRAINLAKE
  - **Customer:** LAKECAFE - Lake Cafe

- **Description:** *Training project for Lake Cafe*
2. On the **Summary** tab, specify the following settings:
    - **Cost Budget Level:** *Task and Item*
    - **Change Order Workflow:** *Cleared*
    - **Billing Period:** *On Demand*
  3. On the **Tasks** tab, click **Add Row**, and specify the following settings in the row:
    - **Task ID:** *TRAINING*
    - **Type:** *Cost and Revenue Task*
    - **Description:** *Employee training on juicer usage*
    - **Billing Rule:** *TM*
    - **Status:** *Active*
    - **Default:** *Selected*
  4. On the **Cost Budget** tab, click **Add Row**, and specify the following settings in the row:
    - **Project Task:** *TRAINING*
    - **Inventory ID:** *CONSULSR*
    - **Original Budgeted Quantity:** *40*
  5. Save the project.
  6. On the form toolbar, click **Activate Project**. The system assigns the project the *Active* status.

You have created the project and the *TRAINING* task, and have added a cost budget line.

## Step 2: Entering an Employee Time Card

In this step, you will enter Jon Waite's working hours for the project by creating an employee time card as follows:

1. Sign out of Acumatica ERP, and then sign in as Jon Waite by using the *waite* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2022*. If a different date is displayed, click the Business Date menu button, and select *1/30/2022* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
3. On the form toolbar of the [Employee Time Cards](#) (EP406000) form, click **Add New Timecard** to create a new time card. The system opens the [Employee Time Card](#) (EP305000) form with the new time card created for the employee who is currently signed in.
4. In the Summary area, make sure that *2022-05 (01/30 - 02/05)* is specified in the **Week** box. This is the work week during which the work for the project has been performed.
5. On the **Summary** tab, add a row, and specify the following settings:
  - **Earning Type:** *RG* (inserted automatically)
  - **Project:** *TRAINLAKE*
  - **Project Task:** *TRAINING* (inserted automatically)
  - **Cost Code:** *00-000*
  - **Labor Item:** *CONSULSR* (inserted automatically)
  - **Mon:** *03:00*
  - **Tue:** *05:00*
  - **Thu:** *08:00*
  - **Time Spent:** *16:00* (calculated and inserted automatically)



When you enter hours in the columns representing the days of the week for any row, the system calculates the **Time Spent** in the Summary area as the sum of all these columns.

- **Billable:** Selected (selected automatically based on the settings of the selected earning type)
  - **Description:** Training provided by junior consultant
  - **Approval Status:** *Not Required* (inserted automatically)
6. Save the time card.
  7. On the form toolbar, click **Submit** to submit the time card. The status of the time card is changed to *Approved*.
  8. On the form toolbar, click **Release** to release the time card; its status is changed to *Released*.
  9. On the form toolbar, click **View Transactions**. On the [Project Transactions](#) (PM304000) form, the system opens the project transaction that has been generated based on the released time card. Notice that the system has created a separate project transaction line for each time activity within the time card. The total billable quantity of the transaction is 16, which is the quantity of reported hours, and the total amount is calculated based on the billable quantity and employee labor cost as follows:

$$16.00 * 44.00 = 704.00$$

### Step 3: Billing the Project

To review the cost budget of the project and bill the project on behalf of the project accountant, do the following:

1. Again sign in to Acumatica ERP as Pam Brawner (with the *brawner* username and the 123 password).
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to 2/5/2022. If a different date is displayed, click the Business Date menu button, and select 2/5/2022 on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
3. On the [Projects](#) (PM301000) form, open the *TRAINLAKE* project.

On the **Cost Budget** tab, notice that the system has updated the actual quantity and amount with the data of the project transaction that was generated on release of the time card, as shown in the screenshot below.

The screenshot shows the 'Cost Budget' tab for the 'TRAINLAKE - Training project for Lake Cafe' project. The 'Actual Quantity' and 'Actual Amount' fields are highlighted in red, indicating they have been updated based on the released time card.

| Project Task | Inventory ID | Account Group | Description       | Original Budgeted Quantity | UOM  | Unit Rate | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Actual Quantity | Actual Amount |
|--------------|--------------|---------------|-------------------|----------------------------|------|-----------|--------------------------|---------------------------|-------------------------|-----------------|---------------|
| TRAINING     | CONSULTSR    | LABOR         | Senior Consultant | 40.00                      | HOUR | 0.0000    | 0.00                     | 40.00                     | 0.00                    | 16.00           | 704.00        |

**Figure: The cost budget updated based on the released time card**

4. On the form toolbar, click **Run Project Billing**. The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form.

On the **Time and Material** tab of this form, notice that based on the settings of the step of the *TM* billing rule that processes the project transactions associated with the *LABOR* account group, the invoiced amount for each line has been calculated as the amount of the related project transaction line (that is, the cost of the provided employee labor) multiplied by 1.25. The total invoiced amount is \$880 (\$704.00 \* 1.25).

5. On the form toolbar, click **Remove Hold** to assign the pro forma invoice the *Open* status, and then click **Release** to release the pro forma invoice.

6. On the **Financial** tab, right of the **AR Ref. Nbr.** box, click the Edit button to open the accounts receivable invoice that has been created.
7. On the form toolbar of the [Invoices and Memos](#) (AR301000) form, which opens in a pop-up window, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.
8. On the [Projects](#) form, open the *TRAINLAKE* project, and in the line with the *REVENUE* item on the **Revenue Budget** tab, make sure that the **Actual Amount** is now \$880.

You have billed the project for the employee labor.

## Employee Time Billing: Generated Transactions

To be able to bill customers for employee time spent on particular projects, you configure time tracking in projects. When project-related time cards are released, the system generates the transactions described in the following sections.

### Project Transaction Generated for a Time Card

When you release a project-related time card, the system generates the following project transaction for each time activity in the time card line.

| Project and Project Task                       | Account Group                           | Inventory ID                     | Billable Quantity                             | Unit Rate                                                                  | Amount                        |
|------------------------------------------------|-----------------------------------------|----------------------------------|-----------------------------------------------|----------------------------------------------------------------------------|-------------------------------|
| Project and project task in the time card line | Account group mapped to Expense account | Labor item in the time card line | Reported billable hours in the time card line | Labor cost rate defined on the <a href="#">Labor Rates</a> (PM209900) form | Billable quantity * unit rate |

You can review the project transaction that was generated on release of a particular time card by opening a time card on the [Employee Time Card](#) (EP305000) form and clicking **View Transactions** on the form toolbar.

### GL Transaction Generated from a Project Transaction

When a project transaction related to time card is released, the system creates a batch of the following accounting transactions.

| Account                                                                                                                          | Project                         | Project Task                    | Debit                         | Credit |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------------|-------------------------------|--------|
| Expense account defined by the <b>Expense Account Source</b> setting on the <a href="#">Projects Preferences</a> (PM101000) form | The value in the time card line | The value in the time card line | Billable quantity * unit rate | 0.00   |

| Account                                                                                                                               | Project          | Project Task | Debit | Credit                        |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|-------|-------------------------------|
| Expense Accrual account defined by the <b>Expense Accrual Account Source</b> setting on the <a href="#">Projects Preferences</a> form | Non-project code | Empty        | 0.00  | Billable quantity * unit rate |

You can view the reference number of the GL batch in the **GL Batch Nbr.** box in the project transaction line on the [Project Transactions](#) (PM304000) form. You can click the link in this box to view the details of the batch on the [Journal Transactions](#) (GL301000) form.

## GL Transaction Generated from an AR Invoice

When an AR invoice generated by the project billing procedure is released, the system creates a batch of the following accounting transactions.

| Account                                     | Project                         | Project Task                    | Debit           | Credit          |
|---------------------------------------------|---------------------------------|---------------------------------|-----------------|-----------------|
| Accounts Receivable account of the customer | Non-project code                | Empty                           | Invoiced amount | 0.00            |
| Sales account of the labor item             | The value in the time card line | The value in the time card line | 0.00            | Invoiced amount |

You can view the reference number of the GL batch in the **GL Batch Nbr.** box in the project transaction line on the [Project Transactions](#) (PM304000) form. You can click the link in this box to view the details of the batch on the [Journal Transactions](#) (GL301000) form.

## Project Transactions Generated from GL Transaction

When the batch of GL transactions generated on release of an AR invoice generated by the project billing procedure is released, the system generates the following project transaction for each invoice line.

| Project and Project Task         | Account Group                             | Inventory ID                        | Amount                            | Debit Account                   |
|----------------------------------|-------------------------------------------|-------------------------------------|-----------------------------------|---------------------------------|
| The values in the time card line | Account group mapped to the Sales account | Labor item assigned to the employee | Amount calculated by billing rule | Sales account of the labor item |

You can review the project transaction that was generated on release of a particular time card by opening a time card on the [Employee Time Card](#) (EP305000) form and clicking **View Transactions** on the form toolbar.

## Employee Time Billing: Related Report and Inquiry Forms

In the following sections, you can find details about the reports and inquiry forms you may want to review to gather information about employee time spent on a project.

## Reviewing Time-Tracking Documents for a Project

You can review the list of all time cards and time activities (if applicable) that relate to a particular project on the **Activities** tab of the [Projects](#) (PM301000) form.

## Reviewing Time Cards for an Employee

You can review the list of time cards submitted by a particular employee on the [Employee Time Cards](#) (EP406000) inquiry form. You select the employee in the **Employee** box of the Selection area, and the system groups this employee's time cards by their status.

## Reviewing Time Activities for an Employee

You can review the list of time activities on the [Employee Time Activities](#) (EP307000) form. In the Summary area of this form, you select an employee and the time range (in weeks) for which you want to review the time activities submitted by the employee. You can also select a particular project (and, optionally, a project task) to review only the time activities that have been performed by the employee for the project.

You can review all existing time activities in the system on the [Activities](#) (EP404300) form.

## Finding Project Transaction Generated for Time Card

You can review the project transaction that was generated on release of a particular time card by opening a time card on the [Employee Time Card](#) (EP305000) form and clicking **View Transactions** on the form toolbar. The system opens the project transaction on the [Project Transactions](#) (PM304000) form.

# Part 3: Single-Tier Change Management

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## Single-Tier Change Management: General Information

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Acumatica ERP provides change order functionality, which you can use to track changes to project's budgeted and committed values and to control the profitability of every change initiated by a customer. A change order is a document for profitability analysis and an audit of changes to the project revenue budget, commitments, and budgeted costs. Change orders do not alter the original figures of a project directly. They are tracked in separate project budget columns.

### Learning Objectives

In this chapter, you will learn how to do the following:

- Configure a change order class
- Create a change order for a project
- Update the project budget with the change order
- Update cost commitments with the change order
- Review the changes made with change orders in the project budget
- Prevent direct purchases for the project

### Applicable Scenarios

You turn on the change order workflow for a project if you want to control changes made to the budgeted and committed values of the project budget and to track these changes at the budget level. To make changes to the project budget, you create change orders that do not alter the original budgeted and committed values.

You prevent the direct creation of purchase orders for the project if you want to create new purchase orders only by means of change orders to track these purchases as changes to the project budget.

### Change Order Classes

A change order class defines which project data—the revenue budget, the cost budget, or commitments—can be adjusted with a change order of this class. You must specify a change order class for each change order you create, so you first need to configure change order classes on the [Change Order Classes](#) (PM203000) form.

To allow users to make changes to the project budget by using a change order of a particular class, on the **Details** tab of the [Change Order Classes](#) form, you select any combination of the following check boxes for the change order class:

- **Revenue Budget:** To allow changes to the revenue budget
- **Cost Budget:** To allow changes to the cost budget
- **Commitments:** To allow changes to committed values. For more information, see [Change Orders for Commitments: General Information](#).

Change order classes also make it possible to group change orders by their impact on projects. For example, you can segregate changes by class in reports to analyze which types of changes have the greatest impact on project profitability.

## Change Order Workflow

To make it possible for users to track changes for a project by using change orders, you select the **Change Order Workflow** check box on the **Summary** tab of the [Projects](#) (PM301000) form for the project. You need to select this check box for each project for which you want to turn on the change order workflow.

Once you have selected this check box for a project, you can create a change order for the project on the [Projects](#) form by clicking **Create Change Order** on the More menu or clicking **Create Change Order** on the table toolbar of the **Change Orders** tab. The system creates a change order of the default class with the *On Hold* status and the project selected and opens it on the [Change Orders](#) (PM308000) form. If no default change order class is specified on the [Projects Preferences](#) (PM101000) form, you must select the change order class manually. You can override the default change order class, if needed.

In a change order with the *On Hold* status, on the **Revenue Budget** and **Cost Budget** tabs of the [Change Orders](#) form, you can increase and decrease values in existing project budget lines as well as create new budget lines. When you edit a change order line, you can see the following values: the original budgeted amount in the **Original Budgeted Amount** column; the released and draft change order amounts in the **Previously Approved CO Amount** and **Other Draft CO Amount** columns, respectively; and the revised budgeted amount in the **Revised Budgeted Amount** column.

While a change order has the *On Hold* status, the **Quantity** and **Amount** values of a revenue budget line or cost budget line of the change order increase the **Potential CO Quantity** and **Potential CO Amount** of the corresponding revenue budget line or cost budget line of the project on the [Projects](#) form.

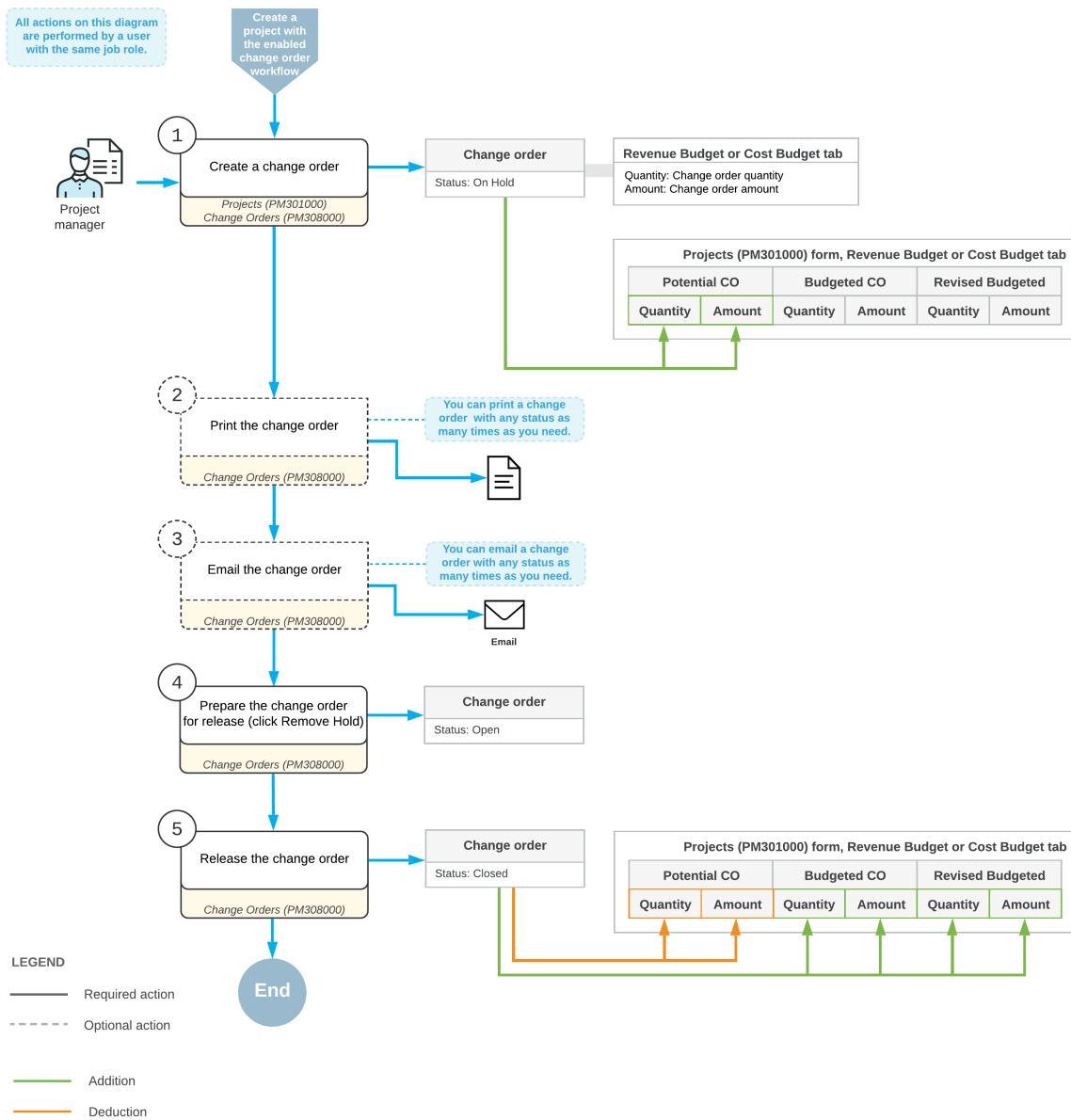
A change order with any status can be printed and emailed to the customer. To print the change order, on the More menu of the [Change Orders](#) form, you click **Print**. To email the change order, on the More Menu of the same form, you click **Email**.

When a change order is released, the **Potential CO Quantity** and **Potential CO Amount** of the corresponding budget lines are decreased and the **Budgeted CO Quantity** and **Budgeted CO Amount** are increased on the [Projects](#) form.

## Workflow of Managing Changes to the Project Budget

The following diagram illustrates the workflow of managing changes to the project budget.

## Managing changes in the project budget



## Update of the Project Budget when a Change Order Is Released

When a change order is released, the budgeted values of the corresponding project on the [Projects \(PM301000\)](#) form are updated as follows:

- If the project has a revenue budget line with the same project task, account group, and inventory item as a revenue budget line of the change order, the system updates the following columns of the revenue budget line of the project on the **Revenue Budget** tab, with the column values computed as noted:
  - Budgeted CO Quantity** = The total quantity of released change orders
  - Budgeted CO Amount** = The total amount of released change orders
  - Revised Budgeted Quantity** = **Original Budgeted Quantity** + **Budgeted CO Quantity**
  - Revised Budgeted Amount** = **Original Budgeted Amount** + **Budgeted CO Amount**

- **Pending Invoice Amount** = **Revised Budgeted Amount** \* **Completed (%)** / 100 – **Actual Amount** – **Draft Invoice Amount**



As the result of the update of the **Pending Invoice Amount**, the amount can be a rational value, including a negative one.

- If the project has a cost budget line with the same project task, account group, and inventory item as a cost budget line of the change order, the system updates the following columns of the cost budget line of the project on the **Cost Budget** tab, with the column values calculated as follows:
  - **Budgeted CO Quantity** = The total quantity of released change orders
  - **Budgeted CO Amount** = The total amount of released change orders
  - **Revised Budgeted Quantity** = **Original Budgeted Quantity** + **Budgeted CO Quantity**
  - **Revised Budgeted Amount** = **Original Budgeted Amount** + **Budgeted CO Amount**
- If the project does not have a revenue or cost budget line with the same project task, account group, and inventory item as a revenue or cost budget line of the change order, the system creates a new revenue or cost budget line for the project based on the revenue or cost budget line of the change order. In this newly created budget line, the unit rate is copied from the corresponding change order line.

## Lesson 9: Tracking Changes to the Budget

### Single-Tier Change Management: To Track Changes to the Project Budget

In this activity, you will learn how you can turn on the change order workflow for a project and manage changes to the project's budgeted values by creating change orders.

#### Story

Suppose that the Thai Food Restaurant customer has ordered two juicers, along with eight hours of the installation service from the SweetLife Fruits & Jams company. SweetLife's project accountant has created a project and configured the revenue and cost budgets based on the agreement reached with the customer. During project execution, the customer requests one more juicer, along with the installation, as a part of the same project. The project accountant estimated that installation of additional juicer will require five hours of the installation service.

Acting as the project accountant, you will turn on the change order workflow for the project and create a change order to update the project budget according to the customer's request and to reflect these changes at the project budget level.

#### Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the following features have been enabled:
  - *Project Accounting*, which provides support for the project accounting functionality
  - *Change Orders*, which gives you the ability to manage changes to the project's budgeted and committed values
- On the [Projects](#) (PM301000) form, the *TOMYUM6* project has been created and the *INSTALL* project task has been created for the project.
- On the [Change Order Classes](#) (PM203000) form, the *DEFAULT* change order class has been created.



- On the [Projects Preferences](#) (PM101000) form, the *DEFAULT* change order class has been selected in the **Default Change Order Class** box on the **General** tab (**General Settings** section).

## Process Overview

In this activity, you will turn on the change order workflow for the project on the [Projects](#) (PM301000) form. On the same form, you will create a new change order. You will then modify and process the created change order on the [Change Orders](#) (PM308000) form.

## System Preparation

To prepare to perform the instructions of the activity, in the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2022*. If a different date is displayed, click the Business Date menu button, and select *1/30/2022* on the calendar.

### Step 1: Turning on the Change Order Workflow for the Project

To turn on the change order workflow for the project, which makes it possible to create change orders for the project, do the following:

- On the [Projects](#) (PM301000) form, open the *TOMYUM6* project.
- On the **Summary** tab, select the **Change Order Workflow** check box to turn on the change order workflow for the project.
- Save your changes to the project.

Since you turned on the change order workflow for the project, the **Revised Budgeted Quantity** and **Revised Budgeted Amount** columns on the **Revenue Budget** and **Cost Budget** tabs have become read-only.

### Step 2: Creating a Change Order for the Project

To make changes to the project budget by creating a change order, do the following:

- While you are remaining on the [Projects](#) (PM301000) form with the *TOMYUM6* project selected, on the More menu, click **Create Change Order**. The system creates a change order and opens it on the [Change Orders](#) (PM308000) form.
- In the Summary area of this form, in the **Description** box, enter *One more juicer with installation requested by the customer.*

Notice that the system has automatically selected the *DEFAULT* change order class for the change order because this class is the default change order class specified on the [Projects Preferences](#) (PM101000) form.

- On the **Revenue Budget** tab, click **Add Row** on the table toolbar and specify the following settings in the row:

- Project Task:** *INSTALL*
- Amount:** *2900*

When you select the project task, the system automatically fills in the settings of the line based on the revenue budget line of the project with the same task, because the revenue budget level of the project is *Task*.

When you enter the **Amount** of the line, which represents the additional revenue, the system calculates the **Revised Budgeted Amount** as the sum of the **Original Budgeted Amount** and the **Amount**.

- On the table toolbar of the **Cost Budget** tab, click **Select Budget Lines**.
- In the **Select Budget Lines** dialog box, select the unlabeled check box for both cost budget lines and click **Add Lines & Close**.

The system closes the dialog box and adds the selected lines to the change order.

6. In the added budget line with the *LABOR* account group (which is the line for the *INSTALL* item), enter 5 in the **Quantity** column.
7. In the line with the *MATERIAL* account group (which is the line for the *JUICER15* item), enter 1 in the **Quantity** column.

When you update the quantity of the line, the system automatically calculates the **Amount** value based on the **Unit Rate** value of the line, which is inherited from the project budget line. In the line, the system also calculates the **Revised Budgeted Quantity** value as the sum of the **Original Budgeted Quantity** and **Quantity** values, and it calculates the **Revised Budgeted Amount** value as the sum of the **Original Budgeted Amount** and **Amount** values.

When you specify changes to the project budget, the revenue budget change total in the Summary area becomes \$2,900 and the cost budget change total becomes \$2,400. Until you release the change order, these changes will not affect the project budget.

8. Save your changes to the change order.
9. On the More menu, click **Print** to print the change order.

The system navigates to the [Change Order](#) (PM643000) report, which is a ready-to-print version of the change order. The printed form lists the revenue budget lines of the change order, which the customer might need to review and agree to.

10. Click Back in the browser window to return to the change order on the [Change Order](#) form, and on the form toolbar, click **Remove Hold** to assign the change order the *Open* status. Then click **Release** to release the change order.
11. On the [Projects](#) form, open the *TOMYUM6* project.
12. On the **Change Orders** tab, make sure the change order you have created is shown. The change order has the *Closed* status.
13. On the **Cost Budget** tab, review the cost budget lines that have been updated by the change order you have processed (see the screenshot below).

The system has calculated the **Revised Budgeted Quantity** as the sum of the **Original Budgeted Quantity** and the **Budgeted CO Quantity**, and it has calculated the **Revised Budgeted Amount** as the sum of the **Original Budgeted Amount** and the **Budgeted CO Amount** (see the following screenshot). The **Budgeted CO Quantity** and **Budgeted CO Amount** are the quantity and amount of the change order.

Projects  
TOMYUM6 - Juicers with the installation

NOTES FILES TOC

← → + - K < > | COMPLETE PROJECT RUN PROJECT BILLING ...

|                |                                         |                  |        |                |             |
|----------------|-----------------------------------------|------------------|--------|----------------|-------------|
| * Project ID:  | TOMYUM6 - Juicers with the installation | Status:          | Active | Actual Income: | 0.00        |
| Customer:      | TOMYUM - Thai Food Restaurant           | Actual Expenses: | 0.00   | Margin:        | 0.00 % 0.00 |
| Template:      |                                         |                  |        |                |             |
| * Description: | Juicers with the installation           |                  |        |                |             |

SUMMARY TASKS REVENUE BUDGET **COST BUDGET** BALANCES INVOICES CHANGE ORDERS UNION LOCALS ACTIVITIES EMPLOYEES EQUIPMENT DEFAULTS ATTRIBUTES

Project Task:

☐ Group by Task

VIEW TRANSACTIONS

| *Account Group | Description                                     | Original Budgeted Quantity | UOM   | Unit Rate  | Original Budgeted Amount | Potential CO Quantity | Potential CO Amount | Budgeted CO Quantity | Budgeted CO Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Actual Quantity |
|----------------|-------------------------------------------------|----------------------------|-------|------------|--------------------------|-----------------------|---------------------|----------------------|--------------------|---------------------------|-------------------------|-----------------|
| LABOR          | Installation of equipment at the customers' ... | 8.00                       | HOUR  | 80.0000    | 640.00                   | 0.00                  | 0.00                | 5.00                 | 400.00             | 13.00                     | 1,040.00                | 0.00            |
| MATERIAL       | Commercial juicer with a production rate of ... | 2.00                       | PIECE | 2,000.0000 | 4,000.00                 | 0.00                  | 0.00                | 1.00                 | 2,000.00           | 3.00                      | 6,000.00                | 0.00            |

**Figure: The cost budget updated with the change order**

You have processed a change order for the project.

## Lesson 10: Tracking Changes to Commitments

### Change Orders for Commitments: General Information

By using the change order functionality in Acumatica ERP, you can manage changes to a project's committed values if the commitment functionality has been configured for project accounting. For more information on commitments, see [Committed Costs: General Information](#).

#### Configuration of a Change Order Class

If the **Internal Cost Commitment Tracking** check box is selected on the **General** tab (**General Settings** section) of the [Projects Preferences](#) (PM101000) form, the system exposes commitments on the [Commitments](#) (PM306000) form. To allow users to make changes to commitments, you configure a change order class on the [Change Order Classes](#) (PM203000) form. On the **Details** tab of this form, you select the **Commitments** check box to allow changes to committed values.

You can grant access rights to particular change order classes for particular users. For example, you can configure access rights so that an employee responsible for purchases can use only a change order class with the **Commitments** check box selected on the **Details** tab of the [Change Order Classes](#) form. This class of change orders will have only the **Commitments** tab on the [Change Orders](#) (PM308000) form, and the employee will not be able to adjust the revenue or cost budget of a project by using change orders.

#### Change Order Workflow

You can track changes to commitments that have been created based on purchase orders of the *Normal* and *Project Drop-Ship* type. On the [Change Orders](#) (PM308000) form, in a change order with the *On Hold* status, you can process the following changes to a project's committed values:

- Creating a new purchase order for a project
- Adding a new line to an existing purchase order
- Adjusting an existing purchase order by adding a new negative line
- Making an addition to or deduction from an existing purchase order with a positive or negative amount



The amount of a negative change order line may not exceed the **Line Total** amount of the purchase order.

- Making an addition to or deduction from an existing purchase order line with a positive or negative amount



The quantity and amount of a negative change order line may not exceed the received or billed quantities and amounts of the purchase order.

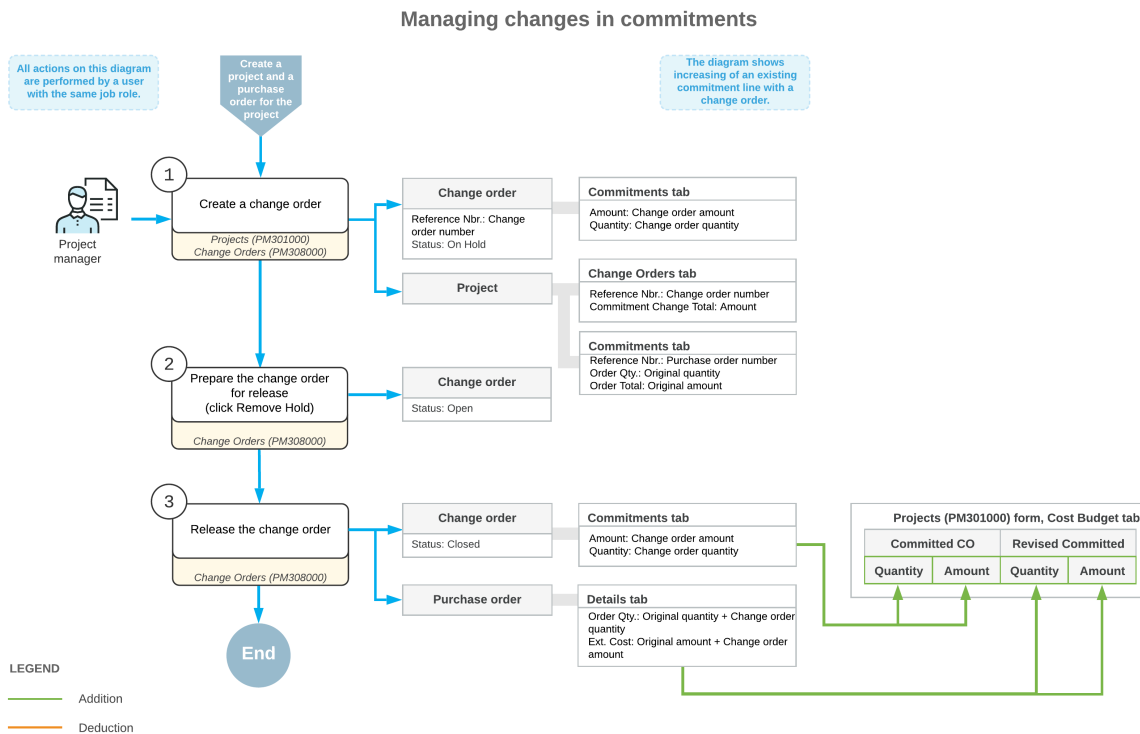
When you release the change order, based on the **Quantity** and **Amount** of a commitment line on the **Commitments** tab of the [Change Orders](#) form, the system updates the related purchase order or creates a new one, depending on the type of the commitment line, and updates the **Committed CO Quantity** and **Committed CO Amount** of the corresponding cost budget line of the project on the [Projects](#) (PM301000) form.



If the *Construction* feature is enabled on the [Enable/Disable Features](#) (CS100000) form, you can also track changes to commitments that have been created based on the subcontracts. For more information about processing subcontracts, see [Subcontracts: General Information](#).

## Workflow of Managing Changes to Commitments

The following diagram illustrates the workflow of managing changes to commitments.



## Update of a Purchase Order when a Change Order Is Released

When a change order is released, the system updates or creates purchase order or orders on the [Purchase Orders](#) (PO301000) form based on the commitment lines of the change order—that is, the lines on the **Commitments** tab of the [Change Orders](#) (PM308000) form—as follows:

- If a commitment line of the change order has the *Update* or *Reopen* status, the system updates the following columns of the corresponding purchase order line on the **Details** tab of the [Purchase Orders](#) form, with the column values computed as noted:
  - Order Qty.:** The original **Order Qty.** of the purchase order line, plus (or minus) **Quantity** of the corresponding commitment line of the change order.
  - Ext. Cost:** The original **Ext. Cost** of the purchase order line, plus (or minus) **Amount** of the corresponding commitment line of the change order.
  - Requested:** The **Order Date** of the corresponding commitment line of the change order.
  - Completed** and **Closed** check boxes: Cleared
  - Canceled** check box: Cleared, except for the following case.

In a purchase order line, the **Order Qty.** of lines with stock items cannot be equal to zero. If a change order line with the negative amount is applied to a purchase order line with the stock item so that the resulting quantity must be zero, the system does not change the **Order Qty.**, sets the **Unbilled Qty.** to zero, and selects the **Canceled** check box in the line to indicate that this line was canceled.

- If a commitment line of the change order has the *New Line* status, the system adds a new line with the following column values to the **Details** tab of the [Purchase Orders](#) form of the corresponding purchase order:

- **Order Qty.: Quantity** of the corresponding commitment line of the change order
- **Ext. Cost: Amount** of the corresponding commitment line of the change order
- **Requested: Order Date** of the corresponding commitment line of the change order
- If any commitment lines of the change order have the *New Document* status, the system groups these lines by vendor and creates a new purchase order on the [Purchase Orders](#) form for each vendor with key settings determined as follows:
  - The date of the created purchase order is the earliest **Order Date** of the commitment lines of the change order.
  - The **Requested** date of each purchase order line is the **Order Date** of the corresponding commitment line of the change order.
  - The description of the created purchase order is *Change Order #CONumber*, where CONumber is the reference number of the change order.

## Update of the Project Budget when a Change Order Is Released

For each purchase order line on the [Purchase Orders](#) (PO301000) form updated by a change order, the system updates the corresponding project commitment. For each purchase order line created from a change order, the system creates a new project commitment. If the project has a cost budget line with the same project task, account group, and inventory item on the **Cost Budget** tab of the [Projects](#) (PM301000) form as an updated or newly created purchase order line, the system updates the cost budget line of the project. Otherwise, the system creates a new cost budget line for the project based on the commitment. The **Original Committed Quantity** and **Original Committed Amount** of the updated cost budget line remain the same, whereas other columns on the **Cost Budget** tab of the [Projects](#) form are updated with the column values computed as noted:

- **Revised Committed Quantity: Order Qty.** of the purchase order line
- **Revised Committed Amount: Ext. Cost** of the purchase order line
- **Committed CO Quantity: Revised Committed Quantity** minus **Original Committed Quantity**
- **Committed CO Amount: Revised Committed Amount** minus **Original Committed Amount**
- **Committed Open Amount: Open Amount** of the purchase order line

## Change Orders for Commitments: Purchase Order Workflow

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If the change order workflow is not turned on for a project, you need to update a purchase order related to the project directly on the [Purchase Orders](#) (PO301000) form. If the change order workflow is turned on for the project, the standard workflow of a purchase order related to the project is affected as follows:

- If the purchase order has no related change orders, the purchase order can be modified directly on the [Purchase Orders](#) form. At the same time, you can create a change order for this purchase order, if needed.
- The change order workflow is automatically turned on for the purchase order if at least one change order has been created for the purchase order or the purchase order originates from a change order.
- When the change order workflow is turned on for the purchase order, the purchase order cannot be removed or put on hold; it can only be printed, emailed, canceled, completed, or altered by yet another change order.
- If the purchase order has the *Completed*, *Closed*, or *Canceled* status, a user can reopen it by processing a change order for the purchase order. Such a purchase order will be assigned the *Open*, *Pending Printing*, or *Pending Email* status, depending on the configuration of the purchase order workflow.

## Change Orders for Commitments: To Create a Change Order Class

This activity will walk you through the process of configuring a change order class.

### Story

Suppose that you, as the system administrator of the SweetLife Fruits & Jams company, need to configure a change order class to be used by a purchase manager for creating change orders for project commitments. The change order class must prevent users from changing the revenue and cost budgets of a project.

### Configuration Overview

For the purposes of this activity, the following features have been enabled on the [Enable/Disable Features](#) (CS100000) form:

- *Project Accounting*, which provides support for the project accounting functionality
- *Construction*, which provides support for the construction functionality
- *Change Orders*, which gives you the ability to track changes to projects with change orders

### Process Overview

You will configure a change order class on the [Change Order Classes](#) (PM203000) form.

### System Preparation

To prepare to perform the instructions of this activity, sign in to the system as a system administrator by using the *gibbs* username and the *123* password.

### Step: Configuring a Change Order Class

To configure a change order class that will be used for creating change orders for project commitments, perform the following instructions:

1. Open the [Change Order Classes](#) (PM203000) form.



To open the form for creating a new record, type the form ID in the Search box, and on the Search form, point at the form title and click **New** right of the title.

2. On the form toolbar, click **Add New Record**, and enter the following settings in the Summary area:

- **Class ID:** COMMITMENT
- **Description:** Change orders to commitments

Notice that the **Active** check box is selected by default.

3. On the **Details** tab, clear the **Cost Budget** and **Revenue Budget** check boxes, and leave the **Commitments** check box selected. With these settings, for the change orders with this class selected, users can make changes to only commitments without the cost and revenue budgets being affected.
4. Save the change order class you have created.

You have defined a change order class that can be used for creating change orders that affect project commitments.

## Change Orders for Commitments: Process Activity

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In this activity, you will learn how you can track changes to project commitments with change orders.

### Story

Suppose that the HM's Bakery and Cafe customer has ordered the services of installation and employee training on operating the previously bought juicer from the SweetLife Fruits & Jams company. The project accountant of SweetLife has created the project in Acumatica ERP and ordered the following services from the Squeeze Inc. vendor:

- Three hours of juicer installation
- Eight hours of training on operating the juicer

The vendor has provided the services. Acting as the project accountant, you will create a purchase order with both of the provided services in the appropriate quantities. You will then receive the invoice from the vendor and realize that the quantity of the provided services differs from the quantity of the ordered services as follows:

- An hour of an additional service, the site review, was provided.
- The vendor also provided and installed a feeder basket for the juicer.
- The installation took one hour more than the ordered quantity.
- The training took two hours less than the ordered number of hours.

Per the agreement with the vendor, you will adjust the provided services within the created purchase order and create a new purchase order for the feeder basket.

### Configuration Overview

In the *U100* dataset, the following tasks have been performed for the purposes of this activity:

- On the [Enable/Disable Features](#) (CS100000) form, the following features have been enabled:
  - *Project Accounting*, which provides support for the project accounting functionality
  - *Change Orders*, which gives you the ability to manage changes to the project's budgeted and committed values
  - *Inventory and Order Management* feature, which provides the functionality of purchase orders
- On the [Projects](#) (PM301000) form, the *HMBAKERY12* project has been created and the *INSTALL* project task has been created for the project. This project task is also the default task of the project. On the **Summary** tab of the form (**Project Properties** section), the **Change Order Workflow** check box is selected for the project so that users can track all the changes to the budgeted values by using change orders.
- On the [Non-Stock Items](#) (IN202000) form, the *SITEREVIEW*, *INSTALL*, and *TRAINING* non-stock items have been defined.
- On the [Stock Items](#) (IN202500) form, the *BASKET* stock item has been defined.
- On the [Vendors](#) (AP303000) form, the *SQUEEZO* vendor has been created.

### Process Overview

In this activity, you will create a purchase order on the [Purchase Orders](#) (PO301000) form. On the [Commitments](#) (PM306000) form, you will review the commitments that the system has made to the project based on the purchase order. You will also review the corresponding committed values of the project budget on the [Projects](#) (PM301000) form. On the [Change Orders](#) (PM308000) form, you will create a change order to adjust the created commitments. You will then modify and process the created change order on the [Change Orders](#) form.



## System Preparation

To prepare to perform the instructions of the activity, do the following:

1. Sign in to the system as Pam Brawner using the *brawner* username and 123 password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to 1/30/2022. If a different date is displayed, click the Business Date menu button, and select 1/30/2022 on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
3. Open the [Projects Preferences](#) (PM101000) form, and on the **General** tab (**General Settings** section), select the **Internal Cost Commitment Tracking** check box to expose commitments and committed values in the project budget, and save your changes to the project accounting preferences.

## Step 1: Creating Commitments for the Project

To create a purchase order for the project, which entails the creation of commitments, do the following:

1. Open the [Purchase Orders](#) (PO301000) form.



To open the form for creating a new record, type the form ID in the Search box, and on the Search form, point at the form title and click **New** right of the title.

2. On the form toolbar, click **Add New Record**, and enter the following settings in the Summary area:
  - **Vendor:** *SQUEEZO*
  - **Description:** Purchase for HM's Bakery and Cafe
3. On the **Details** tab, add two purchase order lines, and specify the settings shown in the following table in the lines you add.

| Inventory ID    | Order Qty. | Project           | Cost Code     |
|-----------------|------------|-------------------|---------------|
| <i>INSTALL</i>  | 3          | <i>HMBAKERY12</i> | <i>00-000</i> |
| <i>TRAINING</i> | 8          | <i>HMBAKERY12</i> | <i>00-000</i> |



The system inserts *INSTALL* as the project task automatically in each line because this is the default task of the *HMBAKERY12* project.

4. Save the purchase order.
5. On the form toolbar, click **Remove Hold**. The system assigns the purchase order the *Open* status and creates commitments for the project.
6. In the Summary area of the [Commitments](#) (PM306000) form, select *HMBAKERY12* in the **Project** box, make sure the other boxes are cleared, and on the **Cost Commitments** tab, review commitments that the system has created when you saved the purchase order with the *Open* status. There are two commitments:
  - The commitment with the *INSTALL* item and committed original and revised amounts of \$240
  - The commitment with the *TRAINING* item and committed original and revised amounts of \$320
7. On the [Projects](#) (PM301000) form, open the *HMBAKERY12* project, and on the **Commitments** tab, review the list of purchase orders related to the project. Notice that the project has only one related purchase order, which is the one you have just created. On the **Cost Budget** tab, review the original committed values and the revised committed values. Notice that the original committed quantity of each line equals the revised committed quantity (8 for the *TRAINING* item and 3 for the *INSTALL* item) and the original committed amount



of each line equals the revised committed amount (\$320 for the *TRAINING* item and \$240 for the *INSTALL* item).

## Step 2: Changing the Project Commitments

To change the project commitments by using a change order, do the following:

1. While you are remaining on the *Projects* (PM301000) form with the *HMBAKERY12* project selected, on the More menu, click **Create Change Order**. The system creates a change order and opens it on the *Change Orders* (PM308000) form.
2. In the Summary area, specify the following settings:
  - **Class:** *COMMITMENT*
  - **Description:** Adjustment to the purchase orders from Squeezeo Inc.
3. On the **Commitments** tab, to increase the quantity and amount of an existing line of the purchase order, do the following:
  - a. On the table toolbar, click **Select Commitments**.
  - b. In the **Select Commitments** dialog box, which opens, select the unlabeled check box for the line with the *INSTALL* inventory item, and click **Add Lines & Close**.  
 The system adds the selected purchase order line to the change order and closes the dialog box. Notice that the status of the added line is *Update*.
  - c. In the added line, enter 1 in the **Quantity** box.  
 When you update the **Quantity** value, the system automatically calculates the **Amount** value (\$80) based on the **Unit Cost** of the line.  
 The system also calculates the **Potentially Revised Quantity** value, which is 4, as the sum of the **Order Qty.** and **Quantity** values (3 + 1), and calculates the **Potentially Revised Amount** value, which is \$320, as the sum of the **Ext. Cost** and **Amount** values (\$240 + \$80).
4. To decrease the quantity and amount of an existing line of the purchase order, do the following:
  - a. On the table toolbar, click **Select Commitments**.
  - b. In the **Select Commitments** dialog box, select the commitment with the *TRAINING* inventory item by selecting the check box in the unlabeled column, and click **Add Lines & Close**.  
 The system closes the dialog box and adds the selected purchase order line to the change order. Notice that the status of the added line is *Update*.
  - c. In the added line, enter -2 in the **Quantity** column.  
 When you update the **Quantity** value, the system automatically calculates the **Amount** (-\$80), **Potentially Revised Quantity** (6), and **Potentially Revised Amount** (\$240) values.
5. To add a new line to the existing purchase order, add a commitment line and specify the following settings for it (see the screenshot below):
  - **Project Task:** *INSTALL*
  - **Cost Code:** *00-000*
  - **Inventory ID:** *SITEREVIEW*
  - **Description:** *Site review*
  - **Quantity:** 1
  - **Unit Cost:** 40
  - **Commitment Nbr.:** The reference number of the purchase order you have created

Notice that the system has assigned the line the *New Line* status.

6. To add a new purchase order for the project, add a commitment line, and specify the following settings for it:

- **Project Task:** *INSTALL*
- **Cost Code:** *00-000*
- **Inventory ID:** *BASKET*
- **Description:** *Feeder basket*
- **Quantity:** *1*
- **Unit Cost:** *250*
- **Vendor:** *SQUEEZO*

Notice that the system has assigned the line the *New Document* status.

7. Save your changes to the change order.

The **Commitments Change Total** in the Summary area must be equal to \$290, as shown in the following screenshot.

The screenshot shows the 'Change Orders' form for '000004 - Installation of juicers and training for employees'. The 'Summary' tab is active, displaying the following values:

|                              |        |
|------------------------------|--------|
| Revenue Budget Change Total: | 0.00   |
| Commitment Change Total:     | 290.00 |
| Cost Budget Change Total:    | 0.00   |
| Gross Margin Amount:         | 0.00   |
| Gross Margin %:              | 0.00   |

Below the summary, the 'COMMITMENTS' tab is active, showing a table of commitment lines. The table has columns for Status, Project Task, Cost Code, Inventory ID, Description, Quantity, UOM, Unit Cost, Amount, Account, Vendor, Commitment Type, and Commitment Nbr.

| Status       | Project Task | Cost Code | Inventory ID | Description                                    | Quantity | UOM   | Unit Cost | Amount | Account | Vendor  | Commitment Type       | Commitment Nbr. |
|--------------|--------------|-----------|--------------|------------------------------------------------|----------|-------|-----------|--------|---------|---------|-----------------------|-----------------|
| Update       | INSTALL      | 00-000    | INSTALL      | Installation of equipment at the customers'... | 1.00     | HOUR  | 80.00     | 80.00  | 54200   | SQUEEZO | Normal Purchase Order | 000031          |
| Update       | INSTALL      | 00-000    | TRAINING     | Training on juicer usage (at customer's pla... | -2.00    | HOUR  | 40.00     | -80.00 | 54100   | SQUEEZO | Normal Purchase Order | 000031          |
| New Line     | INSTALL      | 00-000    | SITEREVIEW   | Site review                                    | 1.00     | HOUR  | 40.00     | 40.00  | 54100   | SQUEEZO | Normal Purchase Order | 000031          |
| New Document | INSTALL      | 00-000    | BASKET       | Feeder basket                                  | 1.00     | PIECE | 250.00    | 250.00 | 50000   | SQUEEZO | Normal Purchase Order |                 |

**Figure: Changes to project commitments**

8. On the form toolbar, click **Remove Hold** to assign the change order the *Open* status, and then click **Release** to release the change order.
9. On the *Purchase Orders* (PO301000) form, open the purchase order that you have prepared earlier in this activity and review how the purchase order that has been modified as follows:
- On the More menu, notice that the **Hold** command is unavailable, which means that you cannot put the purchase order on hold and make changes to the purchase order. This is because the related project has the change order workflow turned on and the purchase order has a related change order.
  - On the **Details** tab, make sure the purchase order now contains three lines. In the lines with the *INSTALL* and *TRAINING* inventory items, the updated **Order Qty.** must be equal 4 and 6, respectively. Also notice the newly added line with the *SITEREVIEW* item and a quantity of 1.
  - On the **Change Orders** tab, make sure that three change order lines related to the purchase order are displayed.
10. On the *Purchase Orders* (PO301000) form, open the new purchase order that have been created on release of the change order.
11. In the Summary area, review the description of the created purchase order, which contains the number of the change order based on which the purchase order has been created.
12. On the **Details** tab, make sure that the order has a single line with the *BASKET* inventory item and a quantity of 1.

### Step 3: Reviewing the Updated Commitments

To review the commitments that the system has updated based on the change order you have processed earlier in this activity, do the following:

1. Open the [Commitments](#) (PM306000) form.
2. In the Summary area, select *HMBAKERY12* in the **Project** box, make sure that the other boxes are cleared, and on the **Cost Commitments** tab, review the commitments that have been updated.

Notice that the commitments that have been updated with the change order have nonzero **Committed CO Quantity** and **Committed CO Amount** values. The **Revised Committed Quantity** and **Revised Committed Amount** values of these commitments also differ from the **Original Committed Quantity** and **Original Committed Amount** values, respectively.

Commitments TC

CREATE EXTERNAL COMMITMENT

|                        |                                      |                 |        |                          |      |
|------------------------|--------------------------------------|-----------------|--------|--------------------------|------|
| Project:               | HMBAKERY12 - Installation of juicers | Revised Com...  | 12.00  | Committed Received Q...  | 0.00 |
| Account Group:         |                                      | Revised Com...  | 850.00 | Committed Invoiced Qu... | 0.00 |
| Project Task:          |                                      | Committed Op... | 12.00  | Committed Invoiced A...  | 0.00 |
| Cost Code:             |                                      | Committed Op... | 850.00 |                          |      |
| Inventory ID:          |                                      |                 |        |                          |      |
| Related Document Type: | All Commitments                      |                 |        |                          |      |

ALL RECORDS **COST COMMITMENTS**

|   | Related Document Type | Related Document | Type     | *Project   | *Account Group | *Project Task | *Inventory ID | Cost Code | External Ref. Nbr | UOM   | Original Committed Quantity | Original Committed Amount | Committed CO Quantity | Committed CO Amount | Revised Committed Quantity | Revised Committed Amount |
|---|-----------------------|------------------|----------|------------|----------------|---------------|---------------|-----------|-------------------|-------|-----------------------------|---------------------------|-----------------------|---------------------|----------------------------|--------------------------|
| > | Purchase Order        | Normal_000032    | Internal | HMBAKERY12 | MATERIAL       | INSTALL       | BASKET        | 00-000    |                   | PIECE | 0.00                        | 0.00                      | 1.00                  | 250.00              | 1.00                       | 250.00                   |
|   | Purchase Order        | Normal_000031    | Internal | HMBAKERY12 | LABOR          | INSTALL       | TRAINING      | 00-000    |                   | HOUR  | 8.00                        | 320.00                    | -2.00                 | -80.00              | 6.00                       | 240.00                   |
|   | Purchase Order        | Normal_000031    | Internal | HMBAKERY12 | SUBCON         | INSTALL       | INSTALL       | 00-000    |                   | HOUR  | 3.00                        | 240.00                    | 1.00                  | 80.00               | 4.00                       | 320.00                   |
|   | Purchase Order        | Normal_000031    | Internal | HMBAKERY12 | LABOR          | INSTALL       | SITEREVIEW    | 00-000    |                   | HOUR  | 0.00                        | 0.00                      | 1.00                  | 40.00               | 1.00                       | 40.00                    |

**Figure: Project commitments updated with the change order**

3. On the [Projects](#) (PM301000) form, open the *HMBAKERY12* project, and on the **Cost Budget** tab, review the updated committed values of the cost budget lines.

Notice that the system has updated the revised committed values that have been calculated as the sum of the original committed values and committed CO values.

4. On the **Commitments** tab, make sure that the second purchase order created based on the change order has appeared in the table.

You have finished processing a change order for the project commitment.