Consultant Course

Project Accounting

P120 Project Accounting Basic Scenarios 2025 R1

Revision: 4/29/2025

Acumatica
The Cloud ERP

Contents

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Software Version: 2025 R1

Last Updated: 04/29/2025

How to Use This Course

This course provides a set of lessons that illustrate project accounting processes in a midsize company. The course consists of lessons that guide you step by step through the examples and explanations of the configuration and business process flow in Acumatica ERP.

What Is in This Guide

The guide includes the *Company Story* topic and process activities. The *Company Story* topic explains the organizational structure of the company that has been 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.

Which Training Environment You Should Use

All lessons of the course should be completed in an instance of Acumatica ERP 2025 R1 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 should prepare an instance of Acumatica ERP 2025 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 complete the course lessons, the settings in the screenshots may differ from the settings in the system.

What Is in Additional Materials

In the *Additional Materials* part of the guide, you can find the following information related to the processes and scenarios covered in the corresponding parts of the guide:

- Additional information related to the processes
- Transactions generated as a result of the processes
- Details about the reports, inquires, and forms you can use to review and gather information related to the processes
- Explanations on how to perform mass-processing operations related to the processes

What the Documentation Resources Are

Acumatica ERP provides a wide variety of documentation resources, which you can access from this course, from the system, or from the *Help portal*. Links to related information 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 activities 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**.

   > When you create a system tenant, you may be signed out after its creation, depending on how many non-System tenants your Acumatica ERP instance already had:
   >
   > - If you started with one non-System tenant (to which you are signed in) and you create a new one, the system signs you out to switch from single-tenant mode to multitenant mode.
   > - If the instance had multiple non-System tenants and you create another, it is already in multitenant mode. Instead of being signed out, you wait until the system completes the operation and then proceed.

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. Open the *Apply Updates* (SM203510) form and click **Schedule Lockout**.
11. In the **Schedule Lockout** dialog box, click **OK**.
12. Open the *Tenants* form again.
13. On the form toolbar, click **Restore Snapshot**.
14. If the **Warning** dialog box appears, click **Yes**.
15. 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.
16. Sign in to the tenant that you have just created.
17. Open the *Apply Updates* form again.
18. On the form toolbar, click **Stop Lockout.**

Which Credentials You Should Use

To complete the lessons, sign in as the following users:

1. Lesson 1: *brawner*
2. Lesson 2: *brawner*

3. Lesson 3: *brawner*
4. Lesson 4: *brawner*
5. Lesson 5: *brawner*
6. Lesson 6: *brawner*
7. Lesson 7: *gibbs* and *brawner*
8. Lesson 8: *brawner*
9. Lesson 9: *brawner*
10. Lesson 10: *gibbs* and *brawner*
11. Lesson 11: *brawner*
12. Lesson 12: *gibbs*
13. Lesson 13: *bloom* and *brawner*

The password for each user is *123*.

Which License You Should Use

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 licensing 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.
- SweetLife Service and Equipment Sales Center: This branch is a service center with a small warehouse where juicers are stored. This branch assembles, sells, installs, and services juicers, in addition to training customers' employees to operate juicers.

Operational Activity

The company has been operating starting in the *01-2024* financial period. In November 2024, 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 began its operations in *01-2025* in response to the company's growth.

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

SweetLife Company Sales and Services

Each SweetLife 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).
- SweetLife 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 short-term service provision.

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).

Part 1: Creation of Projects

This part describes the use and creation of project templates and common tasks. You will learn how to create a new project based on a project template, and how to define a project template based on a project or project quote.

Lesson 1: Creating Project Templates and Common Tasks

Your organization may plan to perform projects that are similar to one another, and the projects may have tasks that are like other tasks in the same project or a different project. This lesson explains how you can expedite the process of creating projects by using project templates, project task templates, and common tasks.

Project Templates and Common Tasks: General Information

In Acumatica ERP, you can create project templates from scratch by adding every detail that you think will be required for a typical project of specific type. Alternatively, you can create a template based on an existing project which you think is a typical representative of projects of specific type.

When users create projects based on the templates, they can change any settings for particular projects—templates are used only to provide the default settings, thus making the project creation easier for users.

Learning Objectives

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

- Create a project template based on a project
- Create a project template from scratch
- Create a project based on the project template
- Create a common task and add this task to a project

Applicable Scenarios

You create project templates and common tasks if you need to ease the creation of typical projects and typical tasks for existing projects, respectively.

Templates Created from Existing Projects

If you need to quickly create a new project based on the existing project, you can create a copy of the project by clicking **Copy Project** on the More menu of the *Projects* (PM301000) form. If you plan to use some specific types of project in future, you create a project template based on an existing project and then use this template to create new projects of the type.

On the *Projects* (PM301000) form, you select a project that is a typical project of specific type and click **Create Template** on the More menu. The system will create a project template and include the project template tasks in this project template. You can modify the settings of the created template. Also, you can delete some of the tasks or add new tasks.

Templates Created from Scratch

A project template is an entity that you select when creating a new project to auto-populate the budget, settings, and attributes of the project with default values that are appropriate for projects of the type. In the created project, you can override the default values that have been inserted based on the project template, if needed.

You can create project templates from scratch on the *Project Templates* (PM208000) form.

When you create a project template, you can specify as many settings as you want, including the following:

- General information: The broad information about the projects, including the default GL accounts and subaccounts and billing period. In the **Status** box on the Summary area of the form, you can see whether the specific project template is available for creating new projects. You can create projects only by using project templates with the *Active* status.
- Visibility settings: The list of functional areas where the projects based on this template will be visible.
- Template tasks: The tasks to be included in the projects based on this template.
- List of employees: The employees who will work on the projects and the project manager who will be monitoring projects of the type. You also specify labor items and hourly rates for employees working on this project. Also, you can specify whether only the listed employees can work for the project (by selecting the **Restrict Employees** check box on the **Summary** tab).
- List of equipment: The equipment to be used for the projects with appropriate non-stock items designating setup, run, and suspend rates and respective prices specific for projects of the type. You can specify whether only the listed equipment can be used for these projects.
- Notes and files: Supplementary documents and notes to be provided with a project created based on the template. If the *Project Quotes* feature is enabled on the *Enable/Disable Features* (CS100000) form, the files and notes attached to a project template are also copied to the projects that are created from project quotes based on this project template.

The settings specified for the project template are copied to each project created based on this project template.

Template Tasks

A project template may include project tasks that are actually templates of tasks that can be included in projects based on the template. You can add project task templates to the project template.

You add the project tasks to the project template and specify the settings for these tasks by using the *Project Template Tasks* (PM208010) form. When you create a new template task, you can specify whether it is automatically included in all projects based on the project template.

Template task settings include the following:

- General settings: You can specify overall information about the task, including approver, tax category, default accounts and subaccounts, and billing period. The general settings also include visibility settings, the list of functional areas in which this project task must be visible. You can make tasks visible only in the functional areas in which the parent project is visible—the scope for the task cannot be wider than the scope for the project.
- Recurring billing settings: Recurring billing can be used to implement the flat-price scenario with recurring payments when your future project uses flat rates for services or products you provide to your customer regularly. For more information about recurring billing, see *Project Billing Preparation: Recurring Billing*.
- Notes and files: You can attach supplementary documents and notes to be attached to a project task created based on this template task. If the *Project Quotes* feature is enabled on the *Enable/Disable Features* (CS100000) form, files and notes attached to a project template are also copied to the project tasks added to project quotes based on this project template.

The settings specified for the project template task are copied to the project tasks created based on this project template. If any of these settings are not specified in the project template task, the system copies the respective values from the project template.

Common Tasks

Common tasks are also templates of tasks, but they are not linked to any specific project or project template. You can add common tasks to any new or existing project and project quote. You create common tasks on the *Common Tasks* (PM208030) form. Generally, you provide the same types of settings for common tasks as for the template tasks: general, budget, and recurring billing settings.

The settings specified for the common task are copied to the project tasks created based on this common task. If any of these settings are not specified in the common task, the system copies the respective values from the project template specified for the project.

Project Templates and Common Tasks: Process Activity

This activity will walk you through the process of configuring project templates. You will create a common task and add this task to a project. You will also learn how to create a new project based on a project template.

Story

Suppose that the Lake Cafe customer has ordered a juicer, along with the following services from the SweetLife Fruits & Jams company: site review, installation, and training of employees on operating the juicer. SweetLife's project accountant has analyzed the past projects and realized that customers are usually doing typical fixed-price projects that involve the sale of a juicer, along with the services of installation and site review. Sometimes customers' projects also involve training on operating the juicer.

The project accountant decides to create a new project template for such a project, and to create a common task for training on operating juicers (so the task can be quickly added to projects as needed). Then the project accountant creates a project for the customer based on the created project template and common task.

You will perform the needed actions in the system, acting as the project accountant.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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 *COMBINED* billing rule has been configured.

Process Overview

You create a project template on the *Project Templates* (PM208000) form. You create a common task on the *Common Tasks* (PM208030) form. Then you use the *Projects* (PM301000) form to create a project based on the created project template and add the common task to 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 project accountant 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 *1/30/2025*. If a different date is displayed, click the Business Date menu

button and select *1/30/2025* 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 Template

To create a new project template, do the following:

1. On the *Project Templates* (PM208000) form, add a new record.
2. In the Summary area, specify the following settings:
   - **Template ID**: `INSTALL`
   - **Description**: `Installation project`
3. On the **Summary** tab, specify the following settings:
   - **Project Properties** section:
     - **Revenue Budget Level**: *Task and Item*
     - **Cost Budget Level**: *Task*
     - **Project Manager**: *EP00000001*
   - **Billing and Allocation Settings** section:
     - **Billing Period**: *On Demand*
     - **Billing Rule**: *COMBINED*
4. On the **Tasks** tab, add a new row, and specify the following settings in the row:
   - **Task ID**: *PHASE1*
   - **Type**: *Cost and Revenue Task*
   - **Description**: `Site review`
5. Add one more row, and specify the following settings:
   - **Task ID**: *PHASE2*
   - **Type**: *Cost and Revenue Task*
   - **Description**: `Installation`

   By default, the system inserts *By Billing Period* as the **Billing Option** of each project task and the *COMBINED* billing rule as the **Billing Rule**.
6. On the **Revenue Budget** tab, add each line of the project revenue that is listed in the following table by clicking **Add Row** and specifying the listed settings in the row.

Project Task	Inventory ID	Original Budgeted Quantity	Unit Rate
PHASE1	*SITEREVIEW*	2	50
PHASE2	*JUICER10*	1	1500
PHASE2	*INSTALL*	4	100

   For each line, the system inserts *REVENUE* as the **Account Group** because the sales account specified in the settings of the stock and non-stock items is mapped to this account group, which has the *Income* type.
7. Save your changes to the project template.

   When you save the project template, the system automatically creates project template tasks corresponding to the tasks you have added to the project template.
8. On the form toolbar, click **Activate** to assign the project template the *Active* status, which makes it possible to use the project template for creating projects.

9. On the **Tasks** tab, in the **Task ID** column, click the *PHASE1* link to open the task on the *Project Template Tasks* (PM208010) form.

   On the **Summary** tab of this form, notice that the **Automatically Include in Project** check box is selected by default. With this setting, the project template task will be automatically included in any project created based on the associated project template.

You have created a project template and project template tasks. In the next step, you will create a common task.

Step 2: Creating a Common Task

A common task is a task that can be added to any new or existing project (unlike a project template task, which is associated with just one project template). To create a common task, perform the following instructions:

1. On the *Common Tasks* (PM208030) form, add a new record.
2. In the Summary area, specify the following settings:
   - **Task ID**: `TRAINING`
   - **Description**: `Training on juicer usage`
3. On the **Budget** tab, add a budget line with the following settings:
   - **Account Group** *LABOR*

     The system automatically inserts *Expense* in the **Type** column when you select the account group.
   - **Inventory ID**: *TRAINING*
   - **Cost Code**: `00-000`
   - **Description**: `Training on juicer usage`
   - **UOM**: *HOUR*
   - **Unit Rate**: `50`
4. Save your changes to the common task.

You have created a common task. In the next step, you will create a project based on the project template you have created.

Step 3: Creating a Project Based on the Project Template

To create a project based on template, do the following:

1. On the *Projects* (PM301000) form, create a new project, and specify the following settings:
   - **Project ID**: `INSTLAKE`
   - **Customer**: *LAKECAFE*
   - **Template**: *INSTALL*

   When you select the project template, the system fills in the relevant elements of the project with the settings specified for the template, including tasks and revenue budget lines.
2. In the Summary area, enter `Installation project for Lake Cafe` as the **Description** of the project.
3. On the **Summary** tab, clear the **Change Order Workflow** check box.
4. Save your changes to the project.
5. On the **Tasks** tab, make sure that the *PHASE1* and *PHASE2* tasks have been copied to the project from the selected project template.
6. On the table toolbar of the tab, click **Activate Tasks** to change the status of the added tasks to *Active*.
7. On the **Revenue Budget** tab, make sure that three revenue budget lines have been copied to the project from the selected project template.

8. In the line with the *PHASE1* task and the *SITEREVIEW* item, specify `4` as the **Original Budgeted Quantity**.

   When you enter the **Original Budgeted Quantity** in each line, the system automatically calculates the **Original Budgeted Amount** as the **Original Budgeted Quantity** multiplied by the **Unit Rate** (see the screenshot below).

9. In the line with the *PHASE2* task and the *INSTALL* item, specify `8` as the **Original Budgeted Quantity**.
10. In the line with the *PHASE2* task and the *JUICER10* item, specify `2` as the **Original Budgeted Quantity**.

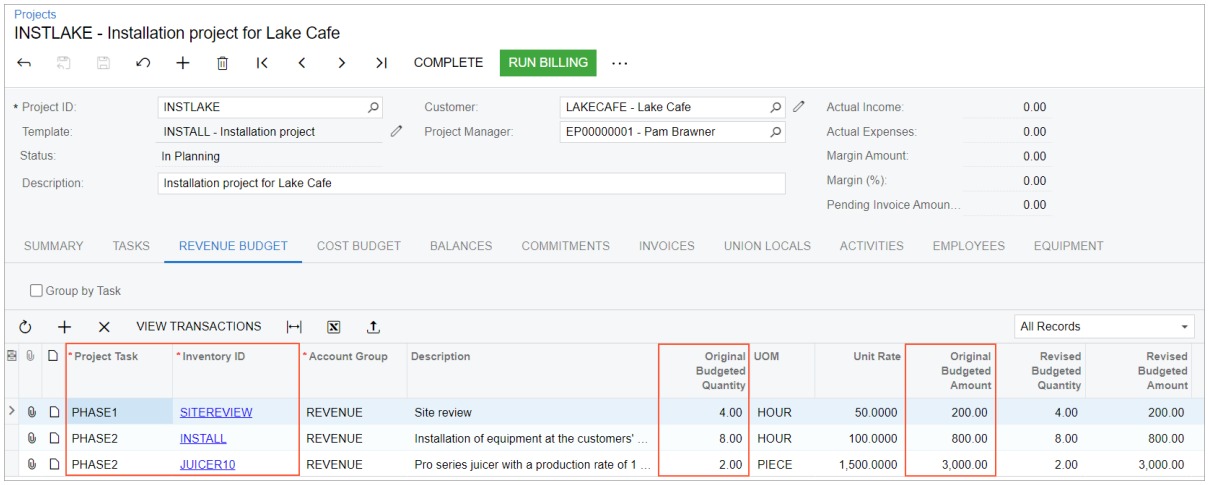


Figure: Revenue budget lines in the project

11. Save the project.
12. On the form toolbar, click **Activate**. The system assigns the project the *Active* status.

You have created the project based on the project template. In the next step, you will add the common task to the project.

Step 4: Adding the Common Task to the Project

To add the common task to the *INSTLAKE* project, perform the following instructions:

1. While you are still reviewing the *INSTLAKE* project on the *Projects* (PM301000) form, on the table toolbar of the **Tasks** tab, click **Add Common Tasks**.
2. In the **Add Tasks** dialog box, which opens, select the check box in the unlabeled column for the line with the *TRAINING* common task, and click **Add Tasks & Close**.

   The system adds the common task to the project and closes the dialog box.

3. On the **Tasks** tab, select *Active* as the **Status** in the line with the *TRAINING* task, which you just added.
4. On the **Cost Budget** tab, make sure that the line with the *TRAINING* common task has been added to the cost budget of the project. Specify `1` as the **Original Budgeted Quantity** in this line.
5. Save your changes to the project.

You have finished configuring the project based on a project template and have added the common task to the project.

Lesson 2: Creating Projects from Project Quotes

This lesson explains how you can work with project quotes, which you prepare and process if you need to estimate a potential project and send a proposal to a customer before you create the corresponding project. After the customer agrees to the terms of a particular quote, you can convert this project quote to a project.

Project Quotes: General Information

In Acumatica ERP, you use a project quote for planning purposes before you create the corresponding project in the system and begin billing and accounting for revenues and costs. You can create a project quote to estimate the revenue and costs of a potential project and then send this quote to the customer for acceptance. You can modify the project quote as many times as is necessary until an agreement is reached. After the customer agrees to the terms of a quote, you convert the accepted quote to a project.

Learning Objectives

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

- Create a project quote from scratch
- Create a project quote based on an opportunity
- Specify the settings of a project quote by using a project template
- Estimate the potential revenue and costs of a possible project
- Print the project quote and send it by email

Applicable Scenarios

You create a project quote if you want to send a proposal to the customer or potential customer before you create a project, or if you need to agree with the customer about the terms of a potential project before creating the project.

Creation of Project Quotes from Scratch

You create project quotes on the *Project Quotes* (PM304500) form. In a new project quote, which initially has the *Draft* status, you specify the following settings:

- The description of the project quote.
- The project template, which the system uses to populate the project tasks, attributes, and project manager of the project quote. You can change these default settings, if needed.
- The business account associated with the project quote.

  Based on the settings specified for the selected business account, the system inserts the financial settings on the **Financial** tab and the contact information on the **Addresses** tab. You can override these settings, if needed.
- Optional: The project tasks on the **Project Tasks** tab, which are copied from the selected project template by default (but you can modify the project tasks that are inserted based on the template). You can also add common tasks to the project quote.
- The estimated labor and material costs and prices on the **Estimation** tab. These lines represent the estimated revenue and costs of a project quote. When you create a project based on the project quote, the system converts the estimation lines to lines of the revenue and cost budgets based on the settings specified in each line:

- An estimation line with an account group specified in the **Revenue Account Group** column establishes revenue; the **Ext. Price** of the line is the estimated revenue amount.
- An estimation line with an account group specified in the **Cost Account Group** column establishes costs; the **Ext. Cost** of the line is the estimated cost amount.
- Estimation lines with both the **Revenue Account Group** and the **Cost Account Group** specified establish revenue and costs at the same time.

Project Quote Processing

When you have finished modifying the project quote settings, you submit the quote by clicking **Submit** on the form toolbar of the *Project Quotes* (PM304500) form. A submitted project quote is assigned the *Approved* status and is ready for further processing.

If you have decided to email a submitted project quote to the customer, you click **Send** on the More menu. The system creates the corresponding email activity, attaches the printable version of the quote to this email activity, and sends it to the recipient. The project is then assigned the **Sent** status.

If you need to track a project quote that has been accepted or declined by the customer, you can use the following commands on the More menu:

- **Mark as Accepted**: Click this command to assign the project quote the *Accepted by Customer* status. The project quote can be printed, sent, and converted to a project.
- **Mark as Declined**: Click this command to assign the project quote the *Declined by Customer* status. You can then edit the details of the declined project quote and send it for customer review again. To modify a project quote, click **Edit** on the form toolbar. The quote is assigned the *Draft* status and can be modified.

  If you need to modify an existing project quote but also want to leave its original version intact (for example, to have a complete history of the submitted quotes), you can create a copy of the project quote by clicking the **Copy** command; you then modify the copy.

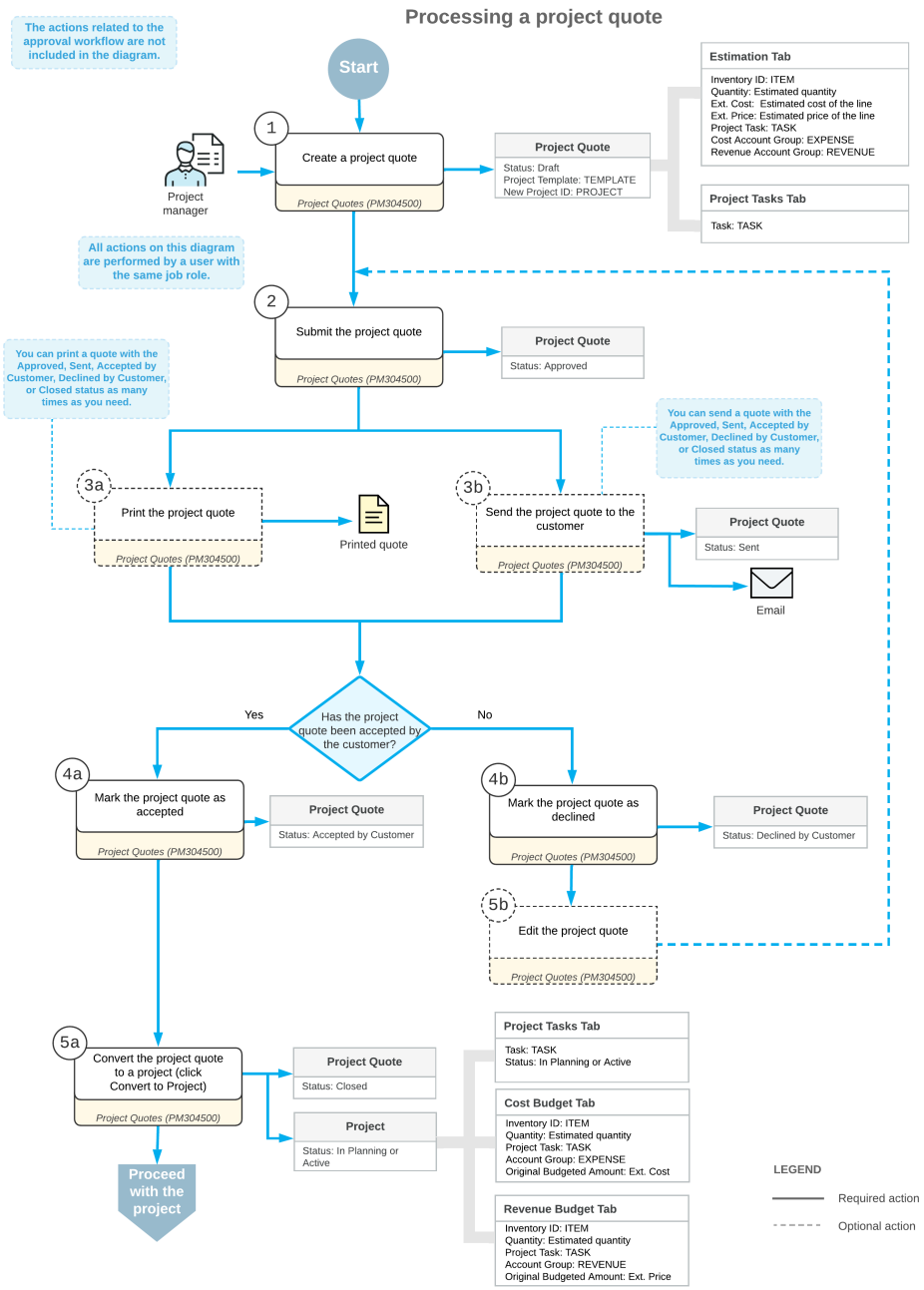
You can convert a project quote with the *Approved*, *Accepted by Customer*, or *Sent* status to a project. To be able to do this, you should specify the project template and business account in the Summary area of the form. If auto-numbering is disabled for the *PROJECT* segmented key on the *Segmented Keys* (CS202000) form, you must also specify the identifier of the project to be created.

After you have specified the required settings, you click **Convert to Project** on the form toolbar of the *Project Quotes* form. In the **Convert to Project** dialog box, which opens, you specify the settings to be used for the created project and click **OK**. The system opens the project created based on the project quote on the *Projects* (PM301000) form; it also assigns the project quote the *Closed* status. In the created project, a link to the project quote is displayed in the **Quote Ref. Nbr.** box on the **Summary** tab (**Quote** section) of the *Projects* form.

If you delete the project, the system changes the status of the project quote from *Closed* to *Approved*, so you can assign the *Draft* status to the project quote, edit it, and again create a project based on the project quote.

Workflow of Project Quotes

The following diagram illustrates the workflow of a project quote being processed.



Project Quotes: Creation of Project Quotes from Opportunities

In Acumatica ERP, an opportunity represents a potential sale to a new or existing customer. You can create a project quote based on an opportunity and then create a project based on this project quote.

The following sections describe the project quotes creation based on opportunities. For more information on working with opportunities, see *Managing Opportunities*.

Creation of a Project Quote Based on an Opportunity

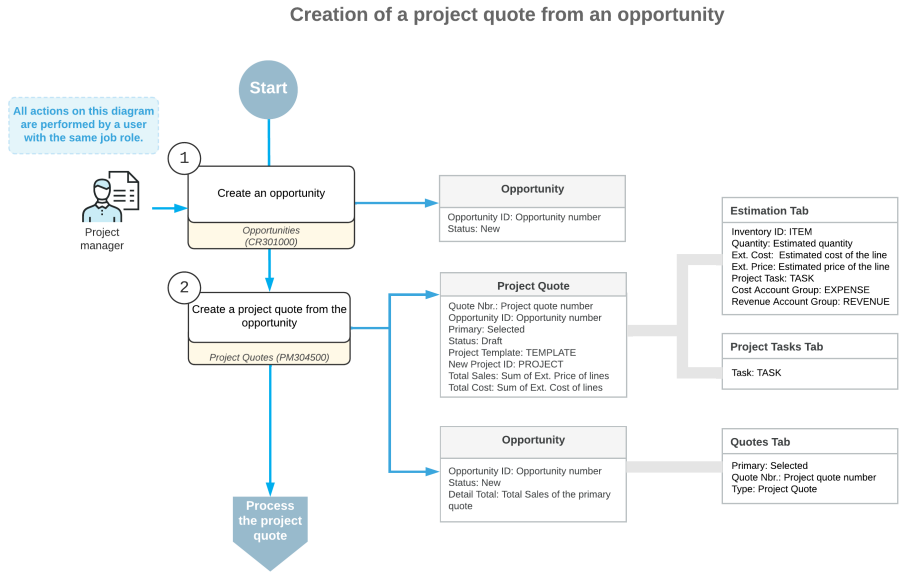
To create a project quote based on an opportunity, you open the opportunity on the *Opportunities* (CR304000) form, and click **Create Quote** on the form toolbar. In the **Create Quote** dialog box, which the system opens, you select

Project Quote in the **Quote Type** box to indicate the type of quote to be created based on the opportunity. Then you specify the basic settings and initiate the creation of the quote by clicking **Create and Review**.

The system creates the project quote and opens it on the *Project Quotes* (PM304500) form. In the Summary area, the system inserts the identifier of the opportunity in the **Opportunity ID** box and copies the business account, the description, and the owner from the opportunity to the quote.

Once you save the project quote associated with the opportunity, on the *Opportunities* form, the project quote is listed on the **Quotes** tab along with any other project and sales quotes associated with the opportunity.

The following diagram illustrates the creation of a project quote from an opportunity.



After the project quote has been created based on the opportunity, its workflow is the same as that of a project quote that has been created from scratch. For information, see *Project Quotes: General Information*.

Primary Project Quotes

If you create a project quote for an opportunity, and the opportunity does not have any other quotes, the system sets this project quote as the primary by selecting the **Primary** check box in the following places:

- In the Summary area on the *Project Quotes* (PM304500) form
- In the row that has the settings of the project quote on the **Quotes** tab of the *Opportunities* (CR304000) form

If you create a new project quote and set it as primary, the previous primary quote of this opportunity becomes non-primary.

If multiple quotes are created for an opportunity, one of the quotes must be set as the primary. You can set a project quote as a primary quote for a non-closed opportunity either by clicking **Set as Primary** on the *Project Quotes* form toolbar or during creation of a new project quote.

> The **Details** tab on the *Opportunities* form is not displayed if a project quote has been created for an opportunity and set as primary.

You can create a project from an opportunity-based project quote if this quote has been set as primary. To create a project based on a project quote, you click **Convert to Project** on the form toolbar of the *Project Quotes* form. The created project is associated with the opportunity and can be used for the creation of sales orders, invoices, and service orders.

Project Quote Addresses

When you create a project quote based on an opportunity, the system inserts the location-related information in the project quote on the *Project Quotes* (PM304500) form as follows:

- Copies the address settings from the **Ship-To Address** section on the **Shipping** tab of the *Opportunities* (CR304000) form to the **Project Address** section on the **Addresses** tab of the *Project Quotes* form for the project quote. If you need to change the project address in the project quote, you can select the **Override** check box in the **Project Address** section and update the information in the section.
- Copies the contact settings from the **Contact** section on the **Contact** tab of the *Opportunities* form to the **Bill-To Contact** section on the **Addresses** tab of the *Project Quotes* form for the project quote.
- Copies the address information from the **Address** section on the **Contact** tab of the *Opportunities* form to the **Bill-To Address** section on the **Addresses** tab of the *Project Quotes* form for the project quote.

If you specify a different business account in the **Business Account** box of the Summary area, or a location in the **Location** box of the **Financial** tab of the *Project Quotes* form, the system displays a dialog box in which you need to confirm the replacement of the existing settings in the quote with the new settings.

Project Quotes: To Create a Project Quote Based on an Opportunity

This activity will walk you through the process of creating a project quote from an opportunity and creating a project based on the project quote.

Story

Suppose that the HM's Bakery and Cafe customer has ordered a juicer for one of its restaurants, along with the installation and training services from the SweetLife Fruits & Jams company. The sales manager of SweetLife has created an opportunity for the provision of the juicer and the services. Acting as SweetLife's estimator, you will create a project quote for this opportunity, confirm the project quote with the customer, and convert the project quote to the project.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support this activity:

- 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
  - *Project Quotes*, which provides the ability to create project quotes
  - *Customer Management*, which provides the customer relation management (CRM) functionality, including management of opportunities
- On the *Opportunities* (CR304000) form, the *000001* opportunity has been created. A note and a file have been attached to the opportunity.
- On the *Project Templates* (PM208000) form, the *PROGRESS* project template has been configured with the *PHASE1* and *PHASE2* project template tasks.
- On the *Account Groups* (PM201000) form, the *REVENUE*, *MATERIAL*, *SUBCON*, and *LABOR* account groups have been created.
- On the *Stock Items* (IN202500) form, the *JUICER15* stock item has been configured.
- On the *Non-Stock Items* (IN202000) form, the *INSTALL* and *TRAINING* non-stock items have been configured.

Process Overview

On the *Opportunities* (CR304000) form, you will initiate the creation of a project quote for the opportunity created for the customer. On the *Project Quotes* (PM304500) form, you will then create the project quote and specify all required settings, including the estimation lines and the project template to be used for project creation. You will also print the project quote and email it to the customer for review. Once the project quote has been confirmed with the customer, you will convert the project quote to a project.

Step 1: Creating a Project Quote

To create a project quote for an opportunity, do the following:

1. On the *Opportunities* (CR304000) form, open the *000001* opportunity, and in the Summary area, notice that the amount in the **Detail Total** box is equal to *3,500.00*.
2. On the form toolbar, click **Create Quote**.
3. In the **Create Quote** dialog box, which opens, do the following:
   a. Select *Project Quote* as the **Quote Type**.

      Notice that the **Set New Quote as Primary** check box is selected.

   b. Click **Create & Review**.

   The system creates a project quote based on the opportunity and opens the project quote on the *Project Quotes* (PM304500) form. Notice the following:

   - In the Summary area, the **Primary** check box is selected, which means that the project quote is the primary quote of the opportunity, whose identifier is shown in the **Opportunity ID** box. The description of the quote has been copied from the opportunity.
   - On the form title bar, the icon to the left of **Notes** is shaded in yellow, and *(1)* is shown after **Files**, indicating that the project quote has a note and an attached file, which have been copied from the opportunity.
4. In the Summary area of the *Project Quotes* form, specify the following settings:
   - **Project Template**: *PROGRESS*
   - **New Project ID**: `HMBAKERY1`

   When you select the project template, the system fills in the relevant elements of the project quote with the settings specified for the template.
5. On the **Project Tasks** tab, make sure that two tasks have been copied from the selected project template. Notice that the **Default** check box is selected for the *PHASE1* task. The project task is specified as the default task of the project quote because this task is the default task of the selected project template.

Step 2: Estimating the Revenue and Costs of the Project Quote

To estimate the revenue and costs of the project quote based on the customer's order, do the following:

1. While you are still viewing the project quote on the *Project Quotes* (PM304500) form, on the **Estimation** tab, add a line with the following settings:
   - **Inventory ID**: *JUICER15*
   - **Quantity**: `1`
   - **Project Task**: *PHASE1* (inserted automatically)
   - **Cost Code**: *00-000*
   - **Cost Account Group**: *MATERIAL* (inserted automatically)
2. Add a second line with the following settings:

- **Inventory ID**: *INSTALL*
- **Quantity**: `4`
- **Project Task**: *PHASE1* (inserted automatically)
- **Cost Code**: *00-000*
- **Cost Account Group**: *SUBCON* (inserted automatically)

3. Add a third line with the following settings:
   - **Inventory ID**: *TRAINING*
   - **Quantity**: `8`
   - **Project Task**: *PHASE2*
   - **Cost Code**: *00-000*
   - **Cost Account Group**: *LABOR* (inserted automatically)

   The added lines specify estimated costs by project task and inventory item.
4. In each of the added lines, change **Ext. Price** to `0`, and make sure the **Revenue Account Group** column is empty. When this quote is converted to a project, the system will convert these lines to cost budget lines of the project.
5. On the same tab, add a revenue line with the following settings:
   - **Description**: `The juicer with installation`
   - **Ext. Price**: `2900`
   - **Project Task**: *PHASE1* (inserted automatically)
   - **Cost Code**: *00-000*
   - **Revenue Account Group**: *REVENUE*
6. On the same tab, add second revenue line with the following settings:
   - **Description**: `Training of employees`
   - **Ext. Price**: `400`
   - **Project Task**: *PHASE2*
   - **Cost Code**: *00-000*
   - **Revenue Account Group**: *REVENUE*

   Notice that for each of the added revenue lines, the **Ext. Cost** is *0* and the **Cost Account Group** column is empty. When this quote is converted to a project, the system will convert these lines of the quote to revenue budget lines of the project.
7. Save your changes to the project quote.

   In the Summary area, notice that the amount in the **Total Sales** box is *3,300.00*, which is the total of the values in the **Ext. Price** column on the **Estimation** tab. The amount in the **Total Cost** box is *2,640.00*, which is the total of the values in the **Ext. Cost** column on the **Estimation** tab. The gross margin amount of the quote is $660 (20%).
8. On the *Opportunities* form, again open the *000001* opportunity, and notice the following:
   - In the Summary area, the **Detail Total** of the opportunity has been changed to the total sales of the created project quote (*3,300.00*).
   - On the **Quotes** tab, where the project quote you created is listed in the table, the total sales of the quote is shown in the **Detail Total** column (*3,300.00*). Also, the check box in the **Primary** column is selected, which means that this is the primary project quote of the opportunity.

Step 3: Confirming the Project Quote with the Customer

To confirm the project quote, do the following:

1. On the *Project Quotes* (PM304500) form, open the project quote that you have created earlier in this activity.

2. On the form toolbar, click **Submit**. The system changes the status of the quote to *Approved*; you can no longer edit the quote's settings.
3. On the form toolbar, click **Send** to send the project quote to the customer. The system changes the status of the project quote to *Sent*.
4. On the **Activities** tab, click the link in the **Summary** column of the only line. The system opens the email on the *Email Activity* (CR306015) form. On the form title bar, notice that *(1)* is shown after **Files**: the system has generated the ready-to-print version of the quote and attached the generated PDF to the email. The email has been sent to the customer's email address, which is specified on the **Addresses** tab of the *Project Quotes* form.
5. Close the form and return to the project quote on the *Project Quotes* form.
6. On the form toolbar, click **Print** to print the project quote.

   The system navigates to the *Project Quote* (PM604500) report, which is the same report as has been attached to the email. The printed form lists the estimated revenue of the project quote, which the customer needs to review and agree to.
7. Click Back in the browser window to return to the project quote on the *Project Quotes* form.
8. On the More menu, click **Mark as Accepted**. The project quote is assigned the *Accepted by Customer* status.

Now you can convert the agreed quote to a project.

Part 2: Advanced Billing

The lesson of this part how you can configure complex billing rules that perform the billing of projects based on different groups of settings.

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 lesson, 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 of the corresponding project, but a different billing rule can be specified for the task.

You create billing rules on the *Billing Rules* (PM207000) form. In the **Billing Steps** table, 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.

  > If you configure multiple time and material steps for the same account group, only the last pro forma invoice line created based on these steps will be linked to the project transaction that has been used as a basis for billing.

- 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 for informational purposes if this is a *Time and Material* billing step; the respective invoice lines will have a billed quantity and billed amount of 0.
- 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 and Allocation 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. For more information about using billing rates, see *Billing Rates: General Information*.

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 Codes* 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` (the employee of the project transaction that is being billed)
- `InventoryItem` (the inventory item of the project transaction that is being billed)
- `Vendor` (the vendor of the project transaction that is being billed)

Lesson 3: Billing Projects for Progress and Time and Material

The billing procedure in Acumatica ERP is based on billing rules that specify the conditions for which the system calculates the amounts to be billed to customers. This lesson describes how to configure complex billing rules for projects that require billing both for progress and for time and material.

Billing Projects: To Configure a Combined Billing Rule

The following implementation activity will walk you through the process of configuring a combined billing rule so that you can bill a fixed-price project in two stages based on the time and material that was spent.

Story

Suppose that the Thai Food Restaurant customer has ordered a juicer from the SweetLife Fruits & Jams company, along with the installation and training of the company's employees on operating the juicer. Both companies have agreed that the customer will be billed in two stages. In the first stage, the customer will pay for the juicer, and for 40% of the services, which have a fixed price. In the second stage (after the project is completed), the customer will pay for the remainder of the services.

Acting as the project accountant, you need to configure the appropriate billing rule.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support this activity:

- On the *Enable/Disable Features* (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the *Account Groups* (PM201000) form, the *MATERIAL*, *LABOR*, and *SUBCON* account groups of the expense type have been configured. These account groups will aggregate the expenses posted to particular GL accounts.

Process Overview

You will create a combined billing rule on the *Billing Rules* (PM207000) form to be able to bill different stages of a project with different billing settings.

Step 1: Configuring a Billing Rule and a Step with Billing for Progress

To configure a billing rule and add a step to bill the customer for progress, do the following:

1. On the *Billing Rules* (PM207000) form, create a new record.
2. In the Summary area, specify the following settings:
   - **Billing Rule ID**: `COMBRULE`
   - **Description**: `Combined billing in two stages`
3. In the **Billing Steps** table, add a row for the billing rule step, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `10`
   - **Description**: `Billing for progress`
4. In the right pane, specify the following settings for the step (which is selected in the left pane because it is the only step):
   - **Billing Type**: *Progress Billing*
   - **Invoice Description Formula**: `='Invoice for '+[PMProject.ContractCD]`

     The system uses this formula to define the description of the invoice created based on the billing rule. The `PMProject.ContractCD` data field stores the project identifier.
   - **Line Description Formula**: `=[PMBudget.Description]`
   - **Use Sales Account From**: *Account Group*
   - **Create Lines with Zero Amount and Quantity**: Cleared
5. Save your changes.

Step 2: Configuring a Billing Rule Step to Bill for Materials

To add and configure a step to bill the customer for materials, do the following:

1. While you are still reviewing the *COMBRULE* billing rule on the *Billing Rules* (PM207000) form, in the **Billing Steps** table, add a row for the second billing rule step, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `20`
   - **Description**: `Material cost plus markup`
2. In the right pane, specify the following settings for the new step (which is selected in the left pane):
   - **Billing Type**: *Time and Material*
   - **Account Group**: *MATERIAL*

     This step of the billing rule will be used for processing project transactions related to the account group, which includes expenses for materials.
   - **Rate Type**: Empty

     This step of billing rule does not use billing rates, so the rate type is not needed.
   - **Invoice Description Formula**: `='Invoice for '+[PMProject.ContractCD]`

     The system uses this formula to define the description of the invoice created based on the billing rule. The `PMProject.ContractCD` data field stores the project identifier.
   - **Line Quantity Formula**: `=[PMTran.BillableQty]`
   - **Line Amount Formula**: `=[PMTran.BillableQty]*1.25`

     The invoiced amount is calculated as the amount of a project transaction multiplied by the fixed 1.25 coefficient.
   - **Line Description Formula**: `=[PMTran.Description]`
   - **Use Sales Account From**: *Inventory Item*
   - **Create Lines with Zero Amount and Quantity**: Cleared

3. Save your changes.

Step 3: Configuring a Billing Rule Step with Billing for Labor

To add and configure a step to bill the customer for employees' labor, do the following:

1. While you are still reviewing the *COMBRULE* billing rule on the *Billing Rules* (PM207000) form, in the **Billing Steps** table, add a row for the third step of the billing rule, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `30`
   - **Description**: `Employee labor`
2. In the right pane, specify the following settings for the new step, which is selected in the left pane:
   - **Billing Type**: *Time and Material*
   - **Account Group**: *LABOR*

     This step of the billing rule will be used for processing project transactions related to the account group, which includes employee labor expenses.
   - **Rate Type**: Empty

     This step of billing rule does not use billing rates, so the rate type is not needed.
   - **Invoice Description Formula**: `='Invoice for '+[PMProject.ContractCD]`

     The system uses this formula to define the description of the invoice created based on the billing rule. The `PMProject.ContractCD` data field holds the project identifier.
   - **Line Quantity Formula**: `=[PMTran.BillableQty]`
   - **Line Amount Formula**: `=[PMTran.Amount]*1.25`

     The invoiced amount is calculated as the amount of a project transaction multiplied by the fixed 1.25 coefficient.
   - **Line Description Formula**: `=[PMTran.Description]`
   - **Use Sales Account From**: *Inventory Item*
   - **Create Lines with Zero Amount and Quantity**: Cleared
3. Save your changes.

Step 4: Configuring a Billing Rule Step with Billing for Subcontractors' Services

To add and configure a fourth step to the billing rule for billing customers on services provided by subcontractors, do the following:

1. While you are still reviewing the *COMBRULE* billing rule on the *Billing Rules* (PM207000) form, in the **Billing Steps** table, add a row for the fourth step of the billing rule, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `40`
   - **Description**: `Re-invoice subcontractor services`
2. In the right pane, specify the following settings for the new step, which is selected in the left pane:
   - **Billing Type**: *Time and Material*
   - **Account Group**: *SUBCON*

     This step of the billing rule will be used for processing project transactions related to the account group, which includes services provided by subcontractors.
   - **Rate Type**: Empty

     This step of billing rule does not use billing rates, so the rate type is not specified.

- **Invoice Description Formula**: =`'Invoice for '+[PMProject.ContractCD]`

  The system uses this formula to define the description of the invoice created based on the billing rule. The `PMProject.ContractCD` data field stores the project identifier.
- **Line Quantity Formula**: =`[PMTran.BillableQty]`
- **Line Amount Formula**: =`[PMTran.Amount]*1.25`

  The invoiced amount is calculated as the amount of a project transaction multiplied by the fixed 1.25 coefficient.
- **Line Description Formula**: =`[PMTran.Description]`
- **Use Sales Account From**: *Inventory Item*
- **Create Lines with Zero Amount and Quantity**: Cleared

3. Save the billing rule.

You have configured the combined billing rule that can be used for billing the first part of project for progress and the rest of the project for time and materials. To bill the project by using this rule, you need to assign the rule to the project tasks.

Billing Projects: To Bill a Project with a 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 *1/30/2025*, 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 to support 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.
- On the *Warehouses* (IN204000) form, the *EQUIPHOUSE* warehouse has been created, and the *TOMYUM2* location has been created and associated with the *PHASE1* task of the *TOMYUM2* project.

- On the *Stock Items* (IN202500) form, the *JUICER15* stock item has been defined.

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 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 *1/30/2025*. If a different date is displayed, click the Business Date menu button, and select *1/30/2025* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

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. On the *Issues* (IN302000) form, add a new record.
2. 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* (inserted automatically)
   - **Location**: *TOMYUM2*
   - **Quantity**: `1`
   - **Unit Price**: `2,500`
   - **Reason Code**: *INISSUEPROJ*
   - **Inventory Source**: *Project Stock* (inserted automatically)
   - **Project**: *TOMYUM2* (inserted automatically)
   - **Project Task**: *PHASE1* (inserted automatically)
   - **Cost Code**: *00-000*

   In the footer of the table, the system shows that one juicer is available for issue for the selected project and warehouse location. **Unit Cost** in the line is $2,000. This is the cost at which the item will be issued from inventory.
4. Save the inventory issue, and release it.
5. On the *Projects* (PM301000) form, open the *TOMYUM2* project.
6. 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 Quantity** is `1` because you have issued one juicer from the project-specific location. 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).
7. On the table toolbar of the tab, click **View Transactions**. On the *Project Transaction Details* (PM401000) form, which opens, review the only row in the table. The **Amount** of the transaction is $2,000, the **Billable** check box is selected, and the **Billed** check box is cleared. This transaction will be billed by the time and material step of the billing rule assigned to the *PHASE1* project task.

8. Close the form to return to the *Projects* form.

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). This pending amount will be billed by the progress billing step of the billing rule assigned to the *PHASE1* and *PHASE2* project tasks.
2. Save your changes to the project, and on the form toolbar, click **Run 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, click the **AR Ref. Nbr.** link to open the accounts receivable invoice that was created on the *Invoices and Memos* (AR301000) form. The AR invoice has three lines: two lines with the **Inventory ID** column empty 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 with the *JUICER15* item and 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.

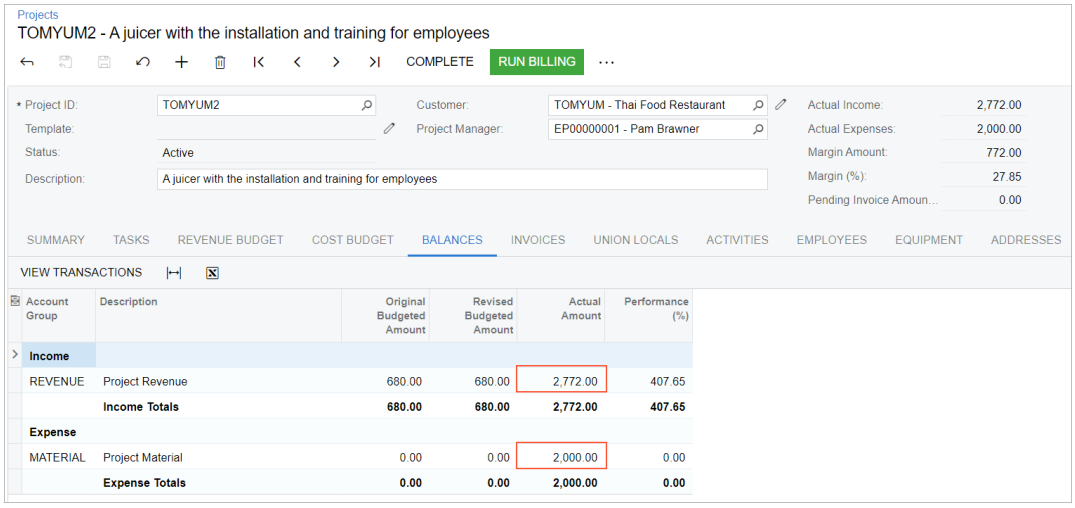


Figure: The project balances

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

Lesson 4: Modifying Billing Rules

This lesson describes how you can update the settings of an existing billing rule to ensure that the generated documents have the appropriate format.

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 to support 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 *Account Groups* (PM201000) form, the *MATERIAL*, *LABOR*, and *SUBCON* expense account groups have been defined.
- On the *Billing Rules* (PM207000) form, the *TIMEMATERIAL* billing rule has been configured. The billing rule includes a step for each of the configured expense account groups.
- 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 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 as follows:

   - 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 billing rule 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 **Billing Steps** table, 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 **Billing Steps** table, 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 **Billing Steps** table, 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:

a. In the **Billing Steps** table, add a new row, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `40`
   - **Description**: `Travel cost plus markup`

b. 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*

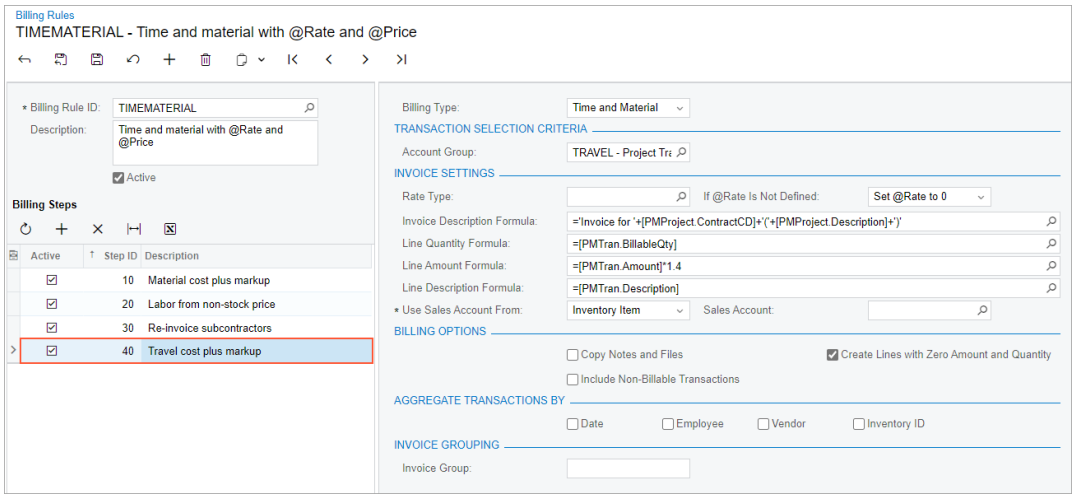


Figure: The new step of the billing rule

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:
   a. In the left pane, click the *20 - Labor from non-stock price* step.
   b. In the right pane, in the **Aggregate Transactions By** section, select the **Inventory ID** check box.
5. Save your changes to the billing rule.

Step 3: Billing a Project With the Updated Billing Rule

To bill the project with the billing rule that you have modified and review how the changes to the billing rule affect the prepared pro forma invoice, do the following:

1. On the *Projects* (PM301000) form, open the *TOMYUM10* project.
2. On the form toolbar, click **Run Billing**.

   The system creates a pro forma invoice and opens it on the *Pro Forma Invoices* (PM307000) form. Notice the following changes to the pro forma invoice, which are shown in the screenshot below:

   - The description of the pro forma invoice is now *Invoice for TOMYUM10 (A juicer with the installation and training for employees)*.
   - On the **Time and Material** tab, a line with the *TRAVEL* inventory item has appeared.
   - On the **Time and Material** tab, there is only one line with the *PHASE3* task and *TRAINING* inventory item.

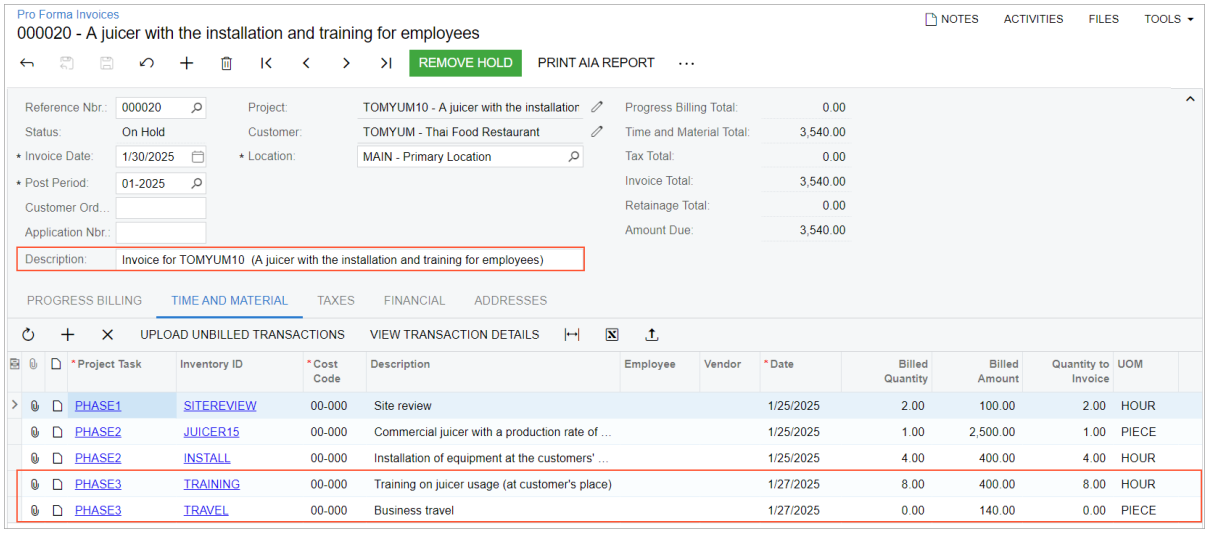


Figure: The pro forma invoice generated by the updated billing rule

3. Click the line with the *PHASE3* task and *TRAINING* inventory item, and on the table toolbar, click **View Transaction Details** to review the list of project transactions corresponding to the invoice line. In the **Transaction Details** dialog box, which opens, make sure that three transactions were grouped into one line during the billing, based on the aggregation setting of the billing rule you have modified.

You have modified the billing rule and prepared pro forma invoice for the project based on this updated rule.

Lesson 5: Using Prices and Rates in Billing

This lesson explains how you can configure a billing rule to be used for billing customers for different services provided for the project with different billing rates.

Billing Rates: General Information

You must establish an adequate pricing model in the project that 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 billing rates for configuring complex billing rules.

Learning Objectives

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

- Create a rate table code and rate type

- Define a rate sequence
- Define a rate table with particular rates
- Use billing rates for billing projects with different billing rates

Applicable Scenarios

You configure and use billing rates if you need to perform project billing so that the system applies the appropriate rate based on the dates when the work has been performed, as well as any of the following factors:

- Particular projects and project tasks
- Specific account groups
- Certain inventory items
- Specific employees

Billing Rate Configuration

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. The process of defining a billing rate includes the configuration of rate table codes, 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. A billing rate is defined for a particular date range; a rate table may include multiple rates with different effective dates. You can create a single rate table with multiple rate sequences and rate codes to be used for all projects, or define multiple rate tables to maintain different pricing models for the projects based on different factors. For example, you can create different rate tables and select the rate table to be used for the project depending on whether a customer of a project is a local one or international one.

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 specific projects, project tasks, employees, account groups, and 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.

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 multiple rate codes with one sequence, you can reduce the number of sequences that need to be configured for each pair of a rate table and a 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. As another example, suppose that you want to use different rates for three projects. Instead of creating multiple sequences with the **Project** check box selected in the table on the *Rate Lookup Rules* form and specifying a rate for each sequence under one rate code, you can use only one sequence and three rate codes to define different rates for these three projects.

Workflow of Rate Table Configuration

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

1. You create a rate table code on the *Rate Table Codes* (PM204200) form.
2. You create 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 the 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 code 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 code, 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 a new identifier in the **Rate Code** box.

   For the selected rate sequence, in the table on the **Rate** tab, you enter the exact values of billing rates with the date range during which the rates are effective. Also, on the tabs that appear for the types of factors that were defined in the rate sequence, you specify the specific factors that will define the applicability of the rates that you enter for the current rate sequence. These factors may include particular projects, project tasks, account groups, inventory items, and employees. 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 rates as the value of the *@Rate* parameter.

5. On the *Billing Rules* (PM207000) form, you create a billing rule and assign particular rate types to billing steps.

   In the billing rule steps, you use the *@Rate* parameter to refer to a particular billing rate in the billing rule formulas. In each billing rule step, you can specify this parameter as a multiplier, addend, or constant in the **Invoice Description Formula**, **Line Quantity Formula**, **Line Amount Formula**, and **Line Description Formula** boxes on the *Billing Rules* form.

   You can also assign rate types to allocation rules steps on the *Allocation Rules* (PM207500) form. Then you specify the *@Rate* parameter in the formulas of the allocation rule so that the system will use its value during transaction allocation. You can specify the parameter in the **Quantity Formula**, **Billable Qty. Formula**, **Amount Formula**, and **Description Formula** boxes on the *Allocation Rules* form.

6. On the *Projects* (PM301000) form, you assign a particular rate table to each of the project tasks of the project.

Billing Rates: To Create a Billing Rule with Rates

In the following implementation activity, you will learn how to create a billing rule that uses rate tables for the calculation of the invoice amounts for different account groups.

Story

Suppose that you are Pam Brawner, the project accountant of the SweetLife Fruits & Jams company. You need to create a billing rule to be used for billing customers for the different services provided for the project with different billing rates based on the following requirements:

- The billing amount of expenses for materials should be calculated based on the quantity of the materials and the price of the corresponding inventory item.
- The billing amount of expenses for employee labor should be calculated based on the amount and the billing rate of the labor (which also depends on the project task for which the labor has been performed).
- The billing amount of services provided by subcontractors should be calculated based on the amount of the project transaction with the fixed 1.25 margin coefficient.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support this activity:

- On the *Enable/Disable Features* (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the *Account Groups* (PM201000) form, the *MATERIAL*, *LABOR*, and *SUBCON* account groups of the expense type have been configured. These account groups will aggregate the expenses posted to particular GL accounts.

Process Overview

You will create a billing rule on the *Billing Rules* (PM207000) form for billing a project by rates.

Step 1: Configuring a Billing Rule Step with Billing Based on the Item Price

To configure a billing rule and add the first step to it, do the following:

1. On the *Billing Rules* (PM207000) form, create a new record.
2. In the Summary area, specify `RATERULE` as the **Billing Rule ID** and `Billing for time and material with rates` as the **Description**.
3. In the **Billing Steps** table, add a row for the billing rule step, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `10`
   - **Description**: `Billing for materials (cost with markup)`
4. In the right pane, specify the following settings for the step selected in the left pane:
   - **Billing Type**: *Time and Material*
   - **Account Group**: *MATERIAL*

     This step of the billing rule will be used for processing project transactions related to the account group, which includes expenses for materials.
   - **Rate Type**: Empty

     This step of billing rule does not use billing rates, so the rate type is not needed.
   - **Invoice Description Formula**: `='Invoice for '+[PMProject.ContractCD]`

     The system uses this formula to define the description of any invoice that is created based on the billing rule. The `PMProject.ContractCD` data field stores the project identifier.
   - **Line Quantity Formula**: `=[PMTran.BillableQty]`
   - **Line Amount Formula**: `=[PMTran.BillableQty]*@Price`

     The invoiced amount is calculated as the quantity of the project transaction multiplied by the price of the related inventory item.
   - **Line Description Formula**: `=[PMTran.Description]`
   - **Use Sales Account From**: *Inventory Item*
   - **Create Lines with Zero Amount and Quantity**: Cleared
5. Save your changes.

Step 2: Configuring a Billing Rule Step with Billing Based on the Billing Rate

Add the second step to the billing rule as follows:

1. While you are still reviewing the *RATERULE* billing rule on the *Billing Rules* (PM207000) form, in the **Billing Steps** table, add a row for the second billing rule step, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `20`

- **Description**: `Labor from non-stock price`

2. In the right pane, specify the following settings for the step selected in the left pane:
   - **Billing Type**: *Time and Material*
   - **Account Group**: *LABOR*

     This step of the billing rule will be used for processing project transactions related to the account group, which includes employee labor expenses.
   - **Rate Type**: *LABOR*

     This step of billing rule will receive the value of the *@Rate* parameter based on the selected rate type.
   - **Invoice Description Formula**: `='Invoice for '+[PMProject.ContractCD]`

     The system uses this formula to define the description of any invoice that is created based on the billing rule. The `PMProject.ContractCD` data field stores the project identifier.
   - **Line Quantity Formula**: `=[PMTran.BillableQty]`
   - **Line Amount Formula**: `=[PMTran.Amount]*@Rate`

     The invoiced amount is calculated as the amount of the project transaction multiplied by the rate for the labor specified in the appropriate rate table assigned to the project task being billed.
   - **Line Description Formula**: `=[PMTran.Description]`
   - **Use Sales Account From**: *Inventory Item*
   - **Create Lines with Zero Amount and Quantity**: Cleared
3. Save your changes.

Step 3: Configuring a Billing Rule Step with Fixed-Price Billing

Add the third step to the billing rule, which is for billing expenses on services provided by subcontractors at a fixed rate as follows:

1. While you are still reviewing the *RATERULE* billing rule on the *Billing Rules* (PM207000) form, in the **Billing Steps** table, add a row for the third billing rule step, and specify the following settings in the row:
   - **Active**: Selected
   - **Step ID**: `30`
   - **Description**: `Re-bill subcontractors`
2. In the right pane, specify the following settings for the step selected in the left pane:
   - **Billing Type**: *Time and Material*
   - **Account Group**: *SUBCON*

     This step of the billing rule will be used for processing project transactions related to the account group, which includes services provided by subcontractors.
   - **Rate Type**: Empty

     This step of billing rule does not use billing rates, so the rate type is not specified.
   - **Invoice Description Formula**: `='Invoice for '+[PMProject.ContractCD]`

     The system uses this formula to define the description of any invoice created based on the billing rule. The `PMProject.ContractCD` data field stores the project identifier.
   - **Line Quantity Formula**: `=[PMTran.BillableQty]`
   - **Line Amount Formula**: `=[PMTran.Amount]*1.25`

     The invoiced amount is calculated as the amount of the project transaction multiplied by the fixed 1.25 coefficient.
   - **Line Description Formula**: `=[PMTran.Description]`
   - **Use Sales Account From**: *Inventory Item*
   - **Create Lines with Zero Amount and Quantity**: Cleared

3. Save your changes.

You have configured a billing rule that can be used for billing a project by using different billing rates that apply to different provided work and services. To bill a project by using this rule, you need to assign the rule to the project tasks of the project.

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 for the different services provided for the project with different billing rates.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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 includes the steps that have been configured 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* project transaction 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. Open the *Project Transaction Details* (PM401000) form.

2. In the Selection area of the form, select *TOMYUM3* as the **Project**, and make sure that the other boxes are cleared. 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 **Billable** check box is selected and the **Billed** check box is cleared, indicating that the project is pending billing.
3. 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.
4. On the form toolbar, click **Run 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 * $80).

   The unit price in each pro forma invoice line is calculated as the billed amount divided by the billed quantity.
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. 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.
6. On the **Financial** tab, click the **AR Ref. Nbr.** link to open the accounts receivable invoice that was created on the *Invoices and Memos* (AR301000) form.
7. 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.

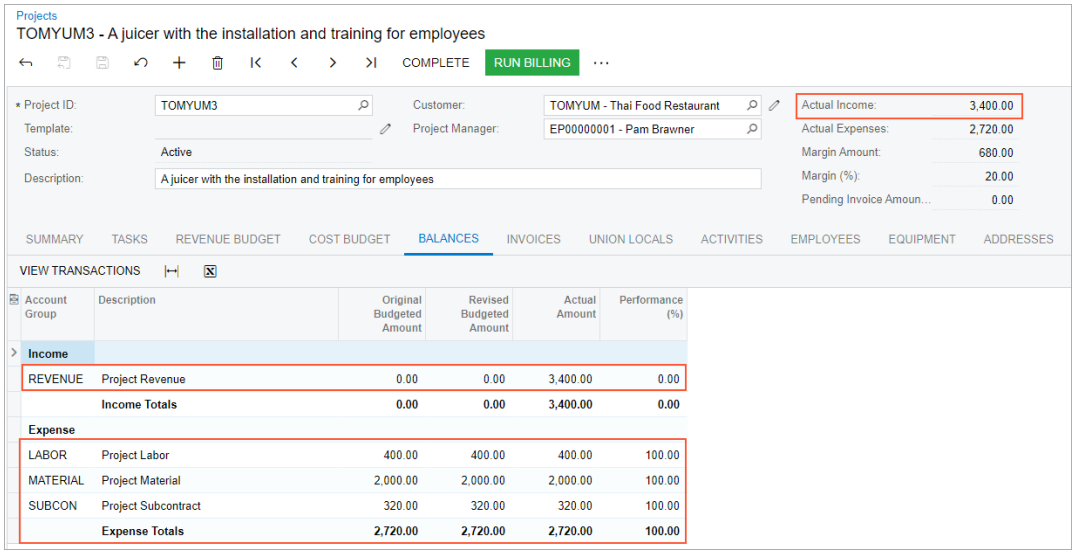
Step 2: Reviewing the Project Transactions and the Updated Project Balance

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.



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.

Part 3: Budgets and WIP Costs

This part describes how to restructure a budget of an existing project, and how to account for project expenses in accordance with generally accepted accounting principles (GAAP).

Lesson 6: Restructuring the Project Budget

The life cycle of a project can lead to adjustments to your project budget structure at any stage and require you to store the list of budget revisions.

Learning Objectives

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

- Restructure the project budget
- Save a revision of the project budget
- Restructure the project budget after a billing that has affected the budget

Applicable Scenarios

You restructure the project budget when you realize that the current budget structure does not fit your needs.

Project Budget: To Restructure the Budget

This activity will walk you through the process of reestablishing the budget structure of a project.

Story

Suppose that the Lake Cafe customer has ordered a juicer, along with the services of installation and training of employees on operating the juicer from the SweetLife Fruits & Jams company. SweetLife's project accountant has decided that the revenue budget level of the project should include inventory items, created the project to account for the provided material and work, and entered project transactions.

Suppose that later the project accountant realizes that an extra level of detail of the revenue budget is not necessary. After restructuring the revenue budget and removing inventory items from the budget detail, the project accountant bills the customer. After the billing, it becomes clear that the previous level of detail of the revenue budget fitted the reporting requirements better and it is necessary to restructure the budget again.

Acting as the project accountant, you will restructure the project budget before and after the billing.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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 *LAKECAFE* project has been created and the *PHASE1* and *PHASE2* project tasks have been created for the project. The *Task and Item* revenue budget level has been specified for the project and three revenue budget lines have been added.

- On the *Project Transactions* (PM304000) form, the *PM00000024* batch of project transactions related to the project has been created and released.

Process Overview

You will adjust the project budget and save project budget revisions on the *Projects* (PM301000) form. On the same form, you will initiate the project billing. You will complete the billing on the *Invoices and Memos* (AR301000) form. You will then adjust the project budget one more time on the *Projects* form and recalculate the project balances on the *Recalculate Project Balances* (PM504000) form.

System Preparation

To prepare to perform the instructions of the activity, download the `LAKECAFE_Budget_1.xlsx` and `LAKECAFE_Budget_2.xlsx` files to your device.

Step 1: Restructuring the Project Budget

To save the original version of the project budget and restructure the budget, do the following:

1. Open the *Projects* (PM301000) form.
2. In the **Project ID** box, select *LAKECAFE*.
3. To create a backup of the original revenue budget of the project, do the following:
   a. On the table toolbar of the **Revenue Budget** tab, click **Export to Excel**.

      The system exports the revenue budget to an Excel file.

   b. On your computer, locate the created file, and rename it to `LAKECAFE_Revenue_Budget_1.xlsx`.
4. To attach to the project the file with the exported revenue budget, do the following:
   a. On the form title bar, click **Files**.
   b. In the **Files** dialog box, click **Browse**, and select the `LAKECAFE_Revenue_Budget_1.xlsx` file that you have just downloaded.
   c. Click **Upload** to upload the selected file.

      The system uploads the selected file to the project and shows the file in the table of the dialog box.
   d. In the line with the uploaded `LAKECAFE_Revenue_Budget_1.xlsx` file, click the *Edit* link.
   e. On the **Versions** tab of the *File Maintenance* (SM202510) form, which opens, enter `Revision 1 of the revenue budget` in the **Comment** column for the uploaded file.
   f. Save your changes to the file, and close the browser tab with the *File Maintenance* form to return to the *Projects* form.
   g. Close the **Files** dialog box.
5. On the **Revenue Budget** tab, delete each of the three budget lines by clicking the line and then clicking **Delete Row** on the table toolbar.
6. On the **Summary** tab (**Project Properties** section), select *Task* as the **Revenue Budget Level**.
7. On the table toolbar of the **Revenue Budget** tab, click **Load Records from File**, and upload the revenue budget from the `LAKECAFE_Budget_1.xlsx` file, which you have downloaded with the course. While you are uploading the lines, leave the default column mapping.

   The uploaded revenue budget should have two lines with the budgeted amounts of $2,900 and $400.
8. Save your changes to the project.

You have restructured the revenue budget of the project and attached previous budget revision to the project. In the next step, you will bill the project.

Step 2: Billing the Project

To bill the project, do the following:

1. While remaining on the *Projects* (PM301000) form, on the form toolbar, click **Run Billing**.

   The system creates an accounts receivable invoice and opens it on the *Invoices and Memos* (AR301000) form.
2. On the form toolbar, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.
3. Close the form and return to the *Projects* form with the *LAKECAFE* project selected.
4. Press Esc to refresh the form.

You have billed the project. In the next step, you will restructure the revenue budget of the project again.

Step 3: Restructuring the Project Budget After Billing

To perform one more budget revision after billing, while you are still viewing the *LAKECAFE* project on the *Projects* (PM301000) form, do the following:

1. To create a backup of the current revision of the revenue budget of the project, do the following:
   a. On the table toolbar of the **Revenue Budget** tab, click **Export to Excel**.

      The system exports the revenue budget to an Excel file.
   b. On your computer, locate the created file and rename it to `LAKECAFE_Revenue_Budget_2.xlsx`.
2. To upload the current revision of the revenue budget of the project to the file with the original revenue budget, do the following:
   a. On the form title bar, click **Files**.
   b. In the line with the uploaded `LAKECAFE_Revenue_Budget_1.xlsx` file, click the *Edit* link.
   c. On the form toolbar of the *File Maintenance* (SM202510) form, which opens, click **Upload New Version**.
   d. In the **File Upload** dialog box, which opens, click **Choose File**, and select the `LAKECAFE_Revenue_Budget_2.xlsx` file you have downloaded.
   e. Click **Upload** to upload the selected file.

      The system uploads the selected file as a new file version and closes the dialog box.
   f. On the **Versions** tab of the *File Maintenance* form, enter `Revision 2 of the revenue budget` in the **Comment** column for the uploaded file with the **Version ID** of *2*.
   g. Save your changes to the file, and close the browser tab with the *File Maintenance* form to return to the project on the *Projects* form.
   h. Close the **Files** dialog box, and press Esc to refresh the form.
3. On the **Revenue Budget** tab, make sure the revenue budget lines have nonzero amounts in the **Actual Amount** column that the system updated during the project billing.
4. Delete each of the two budget lines by clicking the line and then clicking **Delete Row** on the table toolbar.
5. On the **Summary** tab (**Project Properties** section), select *Task and Item* as the **Revenue Budget Level**.
6. On the table toolbar of the **Revenue Budget** tab, click **Load Records from File**, and upload the revenue budget from the `LAKECAFE_Budget_2.xlsx` file, which you have downloaded with the course. While you are uploading the lines, leave the default column mapping.

   The uploaded revenue budget should have three lines with the budgeted amounts of *400*, *2,500*, and *400*. Notice the revenue budget lines now have *0* in the **Actual Amount** and **Actual Quantity** columns. Now you need to validate the project balances to recalculate the revenue budget in accordance with the related invoices.

7. Save your changes to the project.
8. On the More menu, under **Budget Operations**, click **Recalculate Project Balance**.

   The system validates the balances of the *LAKECAFE* project and recalculates the amounts and quantities affected by invoices. On the **Revenue Budget** tab, review the revenue budget. Notice that the system has updated the actual amounts and quantities of the budget lines, as shown in the following screenshot.

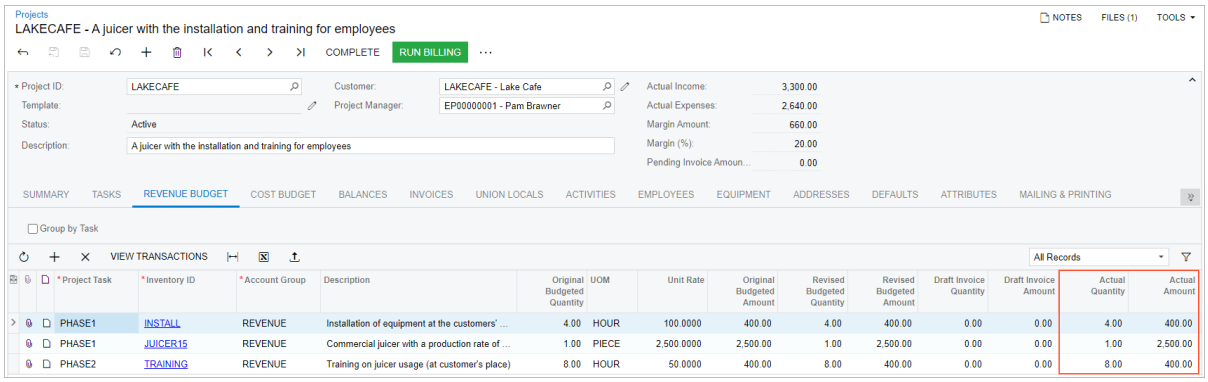


Figure: Project budget after restructuring and validation

You have finished restructuring of the project budget and have validated the budget's actual values.

Lesson 7: Accounting for WIP Labor Costs in Fixed-Price Projects

If you have long-term fixed-price projects with expenses posted to multiple financial periods, in accordance with generally accepted accounting principles (GAAP), you need to record these expenses to the same financial period as the income generated by the invoice. This lesson explains how you can move the expenses to the needed period by configuring and running allocations for these projects.

WIP Labor Costs in Fixed-Price Projects: General Information

According to the matching principle of generally accepted accounting principles (GAAP), the expenses related to the revenue have to be recorded to the same financial period as the revenue is. Expenses may happen in multiple financial periods before an invoice is created for the customer for those costs and the generated revenue can be recognized.

To set up the accounting for work-in-progress (WIP) costs for a project so that it corresponds to the matching principle of GAAP, you can temporarily allocate the project costs to a WIP account group. You then reverse the allocation back to the initial labor account group in the financial period in which an accounts receivable invoice is generated for the project and the revenue is recognized.

Learning Objectives

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

- Configure an allocation rule to move project costs to a WIP account group
- Configure a fixed-price project for allocating costs to the WIP account group
- Temporarily allocate labor costs of the project to the WIP account group

Applicable Scenarios

If you have a long-term fixed-price project with expenses that have been posted to multiple financial periods but the project has not been billed yet, you may need to move the labor expenses to the same financial period as the income generated by the project invoice.

Creating the Allocation Rule

To temporarily allocate labor costs of a fixed-price project to a WIP account, you create an allocation rule on the *Allocation Rules* (PM207500) form. Using this allocation rule, the system creates allocation transactions based on the project transactions posted to a particular account group or groups, which moves costs from the original accounts to a WIP account.

For this allocation rule, you specify the following settings on the **Calculation Rules** tab:

- **Allocation Method**: *Allocate Transactions*

  With this setting, the system calculates the amount to allocate by using the underlying transactions and their amounts.
- **Create Allocation Transaction**: Selected

  With this check box selected, the system creates the allocation transactions resulting from the step.
- **Select Transactions** (**Selection Criteria** section): *Non-Allocated Transactions*

  The step is applied to project transactions that have not been allocated yet.
- **Branch** (**Selection Criteria** section): The branch to be used as the filtering criteria for project transactions to be allocated.
- **Account Group From** (**Selection Criteria** section): The account group that starts the range of account groups whose transactions are involved in the allocation step.
- **Account Group To** (**Selection Criteria** section): The account group that ends the range of account groups whose transactions are involved in this allocation step.

  If you want to allocate the transactions posted to a single account group, specify this account group in the **Account Group From** box, and leave the **Account Group To** box empty.
- **If @Rate Is Not Defined** (**Calculation Settings** section): *Set @Rate to 0*

  You do not need to adjust the quantity and amount of the allocation transaction, so you will not use rates in the formulas of the allocation rule.
- **Quantity Formula** (**Calculation Settings** section): `=[PMTran.Qty]`
- **Billable Qty. Formula** (**Calculation Settings** section): `=[PMTran.BillableQty]`
- **Amount Formula** (**Calculation Settings** section): `=[PMTran.Amount]`

  As the quantity, billable quantity, and amount of the allocation transaction, the system uses the corresponding values of the original transaction. You do not modify the quantity and amount of the original transactions and just move them to a temporary WIP account as is.
- **Description Formula** (**Calculation Settings** section): The description of the created allocation transaction.

You specify the following settings for the allocation rule on the **Allocation Settings** tab:

- **Post Transaction to GL** (**Transaction Options** section): Selected

  With this check box selected, allocation transactions and reversing allocation transactions are posted to the general ledger.
- **Reverse Allocation** (**Transaction Reversal** section): *Never*

  With this setting, the allocation transaction is not reversed automatically. A fixed-price project with a progress billing rule does not use allocation transactions for billing so you cannot use the allocation rule for creating reversing allocation transactions.
- **Account Origin** (**Debit Transaction** section): *Replace* with a WIP account

With this setting, the system generates an allocation transaction that debits the specified WIP account. The account must be mapped to a dedicated WIP account group that reflects the allocated amount and that you will later use in the billing rule.

- **Account Origin** (**Credit Transaction** section): *Debit Source*

  With this setting, the system generates an allocation transaction that credits the debit account of the source transaction.

Configuring Fixed-Price Projects for Allocation

On the *Projects* (PM301000) form, for a fixed-price project to be allocated, you assign the created allocation rule to the project tasks on the **Tasks** tab.

You bill a fixed-price project with a billing rule with a *Progress Billing* step that does not use project transactions, including allocation transactions, for billing. To make the system automatically reverse created allocation transactions, which prevents the allocation transactions from affecting the project balance after you bill the project, you select the WIP account group to which you allocate the project costs in the **Non-Billable WIP Account Group** box on the **Summary** tab (**Billing and Allocation Settings** section) of the *Project Tasks* (PM302000) form.

Allocating and Billing Projects

You run the allocation process for a project by clicking **Run Allocation** on the More menu of the *Projects* (PM301000) form while reviewing the project. As a result, the system creates allocation transactions based on the project transactions selected by using the allocation rules specified for project tasks on the **Tasks** tab. To make it possible to identify a batch of created allocation transactions, the system assigns the *Allocation for <Project ID>* description to such a batch. For the project transactions that have been used as a source of the allocation, the system selects the **Allocated** check box on the *Project Transaction Details* (PM401000) form.

When you bill a fixed-price project and create the accounts receivable document, the system automatically reverses the allocation transactions posted to the account group selected in the **Non-Billable WIP Account Group** box on the **Summary** tab (**Billing and Allocation Settings** section) of the *Project Tasks* (PM302000) form. Reversing allocation transactions copy original allocation transactions and reverse the sign of the amount. Allocation transactions are always reversed in the full amount. When you release the reversing allocation transactions, the system clears the WIP account group and moves the allocated costs back to the original accounts in the financial period the AR document created in.

WIP Labor Costs in Fixed-Price Projects: Implementation Activity

The following implementation activity will walk you through the process of configuring an allocation rule for work-in-progress labor.

Story

Suppose that the SweetLife Fruits & Jams company needs to process projects in accordance with the GAAP matching principle—that is, the expenses related to the revenue have to be recorded to the same financial period as the revenue even if the expenses have been already posted to the system.

Acting as SweetLife's administrative user, you will configure an allocation rule that can temporarily allocate the project labor costs to a work-in-progress account group. To reverse the costs back you will not use the allocation rule.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support this activity:

- On the *Enable/Disable Features* (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the *Account Groups* (PM201000) form, the *WIP* account group has been created; the *12400 - Work in Progress* account has been mapped to the account group.

Process Overview

You will configure an allocation rule for work-in-progress labor on the *Allocation Rules* (PM207500) form.

System Preparation

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

Step: Configuring an Allocation Rule

To configure an allocation rule used for allocating work-in-progress labor costs, perform the following instructions:

1. On the *Allocation Rules* (PM207500) form, create a new record.
2. In the Summary area, specify the following settings:
   - **Allocation Rule**: `WIPFP`
   - **Description**: `WIP allocation`
3. In the **Allocation Steps** table, add a row for the allocation rule step with the following settings:
   - **Step ID**: `10`
   - **Description**: `Labor`
4. In the right pane, on the **Calculation Rules** tab, specify the following settings for the step selected in the left pane:
   - **Allocation Method**: *Allocate Transactions*
   - **Create Allocation Transaction**: Selected
   - **Select Transactions** (**Selection Criteria** section): *Non-Allocated Transactions*
   - **Account Group From** (**Selection Criteria** section): *LABOR*
   - **Account Group To** (**Selection Criteria** section): Empty

     Based on this setting and the previous setting, with this step, the allocation rule processes only transactions of the *LABOR* account group.
   - **If @Rate Is Not Defined** (**Calculation Settings** section): *Set @Rate to 0*
   - **Quantity Formula** (**Calculation Settings** section): `=[PMTran.Qty]`
   - **Billable Qty. Formula** (**Calculation Settings** section): `=[PMTran.BillableQty]`
   - **Amount Formula** (**Calculation Settings** section): `=[PMTran.Amount]`
   - **Description Formula** (**Calculation Settings** section): `='WIP allocation transaction'`
5. In the right pane, on the **Allocation Settings** tab, specify the following settings of the step selected in the left pane:
   - **Post Transaction to GL** (**Transaction Options** section): Selected
   - **Reverse Allocation** (**Transaction Reversal** section): *Never*

     A fixed-price project with a progress billing rule does not use allocation transactions for billing so you will not use the allocation rule for creating of reversing allocation transactions.
   - **Account Origin** (**Debit Transaction** section): *Replace* with *12400 - Work in Progress*

     With this setting, the system generates an allocation transaction that debits the specified account—that is, the *12400 - Work in Progress* account, which is mapped to the *WIP* account group.

- **Account Origin** (**Credit Transaction** section): *Debit Source*

6. Save the created allocation rule.

You have configured the allocation rule that can be used for allocating work-in-progress labor expenses of a cost-plus project. To allocate the expenses of a project by using this rule, you need to assign the rule to the project tasks.

WIP Labor Costs in Fixed-Price Projects: Process Activity

In this activity, you will learn how to temporarily allocate project expenses to a work-in-progress account group and bill the project without using allocation transactions as a basis for billing.

Story

Suppose that in January, the West BBQ Restaurant customer ordered training on operating juicers for 10 employees from the SweetLife Fruits & Jams company. The parties were not able to determine how many training sessions would be needed for the employees to master the use of the juicers. The SweetLife company agreed with the customer to provide as many training sessions as the customer needed in January and February, and that *2/25/2025*, the customer would pay $80 for each employee who attended these training sessions.

SweetLife's project manager has created a project for this work. Then suppose that *1/21/2025*, a consultant of SweetLife provided eight hours of training and logged the time spent by creating and releasing a time card in Acumatica ERP. All 10 of the customer's employees attended that training session, and no more training sessions were needed in February.

Acting as SweetLife's project accountant, you need to bill the customer, and you want the project expense incurred in January to be recorded in the same financial period as the project revenue—that is, in February. You will allocate the project expenses and bill the project.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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 *WESTBBQ6B* project has been created an the *TRAINING* task has been created for the project.
- On the *Account Groups* (PM201000) form, the *WIP* and *LABOR* account groups have been created; also, the *12400 - Work in Progress* account has been mapped to the *WIP* account group.
- On the *Allocation Rules* (PM207500) form, the *WIPPROGRESS* allocation rule has been created. This allocation rule will be used to allocate project transactions that represent a particular type of expenses to the *WIP* account group.
- On the *Billing Rules* (PM207000) form, the *PROGRESS* billing rule has been created. The billing rule has been configured for progress billing and has been assigned to the *TRAINING* task of the *WESTBBQ6B* project.
- On the *Employee Time Cards* (EP305000) form, the *0000001* time card, reflecting the work of Pam Brawner on the *WESTBBQ6B* project, has been created. The time card has been also released and the *PM00000019* batch of project transactions that corresponds to the time card has been created.

Process Overview

In this activity, you will first specify the allocation rule, the billing rule, and the non-billable WIP account group for the project task on the *Project Tasks* (PM302000) form. You will review existing project transactions to be allocated on the *Project Transaction Details* (PM401000) form and then perform allocation for the project on the *Projects* (PM301000) form. On the same form, you will bill the project and release the AR invoice created as a result of the

billing on the *Invoices and Memos* (AR301000) form. The system will create the reversing allocation transactions that you review on the *Project Transaction Details* form and release on the *Project Transactions* (PM304000) form.

System Preparation

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

1. Sign in to the system as project accountant 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 *2/25/2025*. If a different date is displayed, click the Business Date menu button, and select *2/25/2025* on the calendar. For simplicity, in this activity, you will create and process all documents in the system during this business date.

Step 1: Configuring the Project for Allocation and Allocating the Project

To configure the project for allocation and allocate project transactions, do the following:

1. On the *Projects* (PM301000) form, open the *WESTBBQ6B* project and do the following:
   a. In the table on the **Tasks** tab, click the *TRAINING* link in the **Task ID** column.

      The system opens the project task on the *Project Tasks* (PM302000) form.

   b. In the **Billing and Allocation Settings** section on the **Summary** tab, specify the following settings.
      - **Allocation Rule**: *WIPPROGRESS*
      - **Non-Billable WIP Account Group**: *WIP*

      Notice that the *PROGRESS* billing rule is selected in the **Billing Rule**. You do not need to change the progress billing rule because the allocation transactions are not used in the billing of fixed-price projects.

   c. On the form toolbar, click **Save** to save your changes to the project task settings and close the form.
2. On the *Project Transaction Details* (PM401000) form, in the Selection area, select *WESTBBQ6B* in the **Project** box.

   In the table, review the only project transaction and notice the values in the following columns:
   - **Fin. Period**: The transaction has been posted to the 01-2025 financial period.
   - **Debit Account Group**: The transaction has debited the *LABOR* account group.
   - **Allocated**: This check box is cleared, indicating that the transaction has not been allocated.
   - **Orig. Doc. Type**: The value in this column is *Time Card* because the transaction has been created based on the release of the time card created for Pam Brawner for the *WESTBBQ6B* project.
   - **Billed**: This check box is cleared, indicating that the transaction has not been billed.
3. On the *Projects* form, open the *WESTBBQ6B* project.

   On the **Balances** tab, review the project balance. Notice that the actual amount of project expenses ($360) is posted to the *LABOR* account group.
4. On the More menu, under **Billing and Allocations**, click **Run Allocation** to perform the allocation for the selected project.

   When the allocation is completed, on the **Balances** tab, review the project balance again. Notice that the actual amount of project expenses has been moved from the *LABOR* account group to the *WIP* account group.
5. On the *Project Transaction Details* form, in the Summary area, make sure *WESTBBQ6B* is selected in the **Project** box.

   In the table, notice that a new transaction has appeared. Review the transaction, noticing the values in the following columns:

- **Date**: The date of the allocation transaction is the same as the date of the original transaction. Thus, the allocation transaction has been posted to 01-2025, which is the same financial period to which the original transaction was posted.
- **Debit Account Group**: The allocation transaction has debited the *WIP* account group.
- **Credit Account Group**: The allocation transaction has credited the *LABOR* account group, which is the debit account group of the original transaction.
- **Allocated**: This check box is now selected for the original transaction with the *Time Card* original document type, indicating that the transaction has been used as the source for allocation. For the allocation transaction, the check box is cleared.
- **Orig. Doc. Type**: The value in this column is *Allocation* for the new transaction, which means the transaction is an allocation transaction.
- **Billed**: This check box is cleared, indicating that the allocation transaction has not been billed yet along with the original transaction.

Step 2: Billing the Project

To update the progress of project completion and bill the project in an amount that corresponds to the progress, do the following:

1. On the *Projects* (PM301000) form, open the *WESTBBQ6B* project.
2. On the **Revenue Budget** tab, specify `100.00` in the **Completed (%)** column of the revenue budget line. That is, the project has been entirely completed.

   Notice that the system calculates the **Pending Invoice Amount** in the row ($800).
3. On the form toolbar, click **Save** to your changes to the project, and then click **Run Billing**.

   The system creates an AR invoice and opens it on the *Invoices and Memos* (AR301000) form.
4. In the Summary area of the form, make sure that the **Date** of the invoice is *2/25/2025*, which is the current business date, and that the **Post Period** is *02-2025*.
5. On the form toolbar, click **Remove Hold** to assign the accounts receivable invoice the *Balanced* status, and then click **Release** to release the AR invoice.
6. Open the *Project Transaction Details* (PM401000) form, and in the Selection area, select *WESTBBQ6B* in the **Project** box.

   In the table, notice that two new transactions have been created, as shown in the following screenshot.

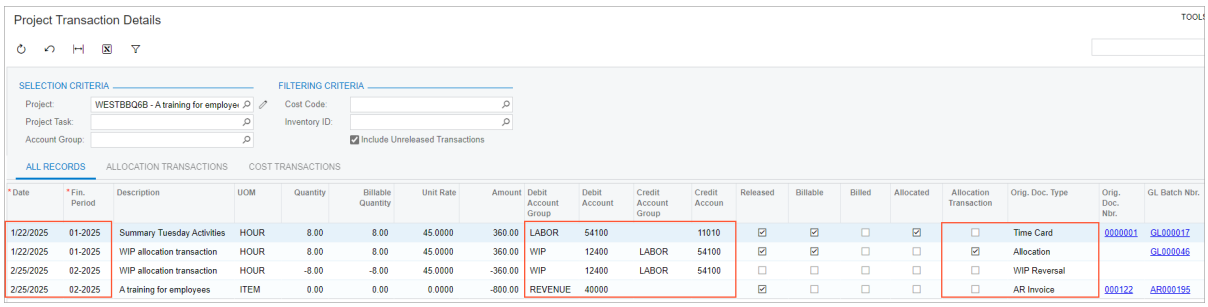


Figure: Project transactions of the WESTBBQ6B project

Review the transactions, noticing the values in the following columns.

- **Orig. Doc. Type**: The value in this column is *WIP Reversal* and *AR Invoice* for the new transactions, which means that the first one is a reversing transaction and the second one originates from the released invoice.
- **Date**: The date of the new transactions is the invoice date. Thus, the transactions have been posted to the *02-2025* financial period.

- **Debit Account Group**: The transaction with the *WIP Reversal* original document type has cleared the *WIP* account group (debited the account group with an opposite amount) and the *LABOR* account group (credited the account group with an opposite amount)). This reversing transaction was created on project billing to clear the WIP account group selected for the project task.

  The transaction with the *AR Invoice* original document type has debited the *REVENUE* account group with the amount calculated with the billing rule of the project task. The transaction was created on release of the AR invoice.
- **Billed**: This check box is cleared for all the transactions, including the original and the allocation transactions, indicating that the transactions have not been used in billing because you have billed the project for progress.
- **Released**: This check box is cleared for the reversing transaction with the *WIP Reversal* original document type, indicating that it has not been released yet.

7. Release the reversing allocation transaction as follows:
   a. In the table, in the row with the *WIP Reversal* original document type, click the link in the **Ref. Number** column to open the project transaction.
   b. On the form toolbar of the *Project Transactions* (PM304000) form, which opens, click **Release**. The system releases the project transaction.
8. On the *Projects* form, open the *WESTBBQ6B* project, and on the **Balances** tab, review the project balance. Notice that the actual amount of project expenses ($360) has been moved back from the *WIP* account group to the *LABOR* account group. The actual amount of the *REVENUE* account group has been updated.

Part 4: Cost Commitments

This part explains how you can configure the tracking of purchase orders related to a project as cost commitments and how you can review these commitments in the project budget.

Lesson 8: Tracking Committed Costs in the Budget

This lesson explains how you can prepare and process project commitments if you need to control purchases for projects by using separate project budget lines.

Committed Costs: General Information

Acumatica ERP supports the tracking of purchase orders for each project as project cost commitments, which gives you the ability to control purchases made for projects. When the commitments are created, the system uses them to populate the cost budget for the corresponding project, project task, inventory item, and account group.

Learning Objectives

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

- Set up the tracking of project commitments in the system
- Create commitments by creating a purchase order for a project
- Review how the commitments affect the project cost budget during the processing of the purchase order

Applicable Scenarios

You set up commitment tracking if you want to distinguish purchases within the cost budget of a project.
When you process a purchase order with detail lines related to the project, the system tracks this purchase as a commitment to the project and updates the cost budget of the project with the purchased services and materials. The commitment values are shown in separate columns in the cost budget.

Tracking of Committed Costs for Projects

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 tracks project-related purchase orders as commitments to these projects and exposes these commitments on the *Commitments* (PM306000) form.

If the *Construction* feature is enabled on the *Enable/Disable Features* (CS100000) form, the system also tracks subcontracts as commitments to projects. For more information about processing subcontracts, see *Subcontracts: General Information*.

The system creates a commitment for a purchase order line in the amount of the **Ext. Cost** of the line and updates the committed values of the corresponding budget line of a project on the **Cost Budget** tab of the *Projects* (PM301000) form if all of the following conditions are met on the *Purchase Orders* (PO301000) form:

- The type of the purchase order is *Normal*, *Drop-Ship* or *Project Drop-Ship*.
- The status of the purchase order is *Pending Printing*, *Pending Email*, or *Open*.
- The purchase order line specifies the project and the applicable project task (and, optionally, the cost code).

On the **Cost Budget** tab of the *Projects* form, for each budget line, the system displays the total values of all the commitments that are associated with the same project, project task, account group, and inventory item. The system tracks the following committed values of the project budget on the **Cost Budget** tab:

- Original committed quantity and amount
- Revised committed quantity and amount
- Committed open quantity and amount
- Committed received quantity
- Committed invoiced quantity and amount

The initial commitment amount is displayed in the **Original Committed Amount** column and the **Revised Committed Amount** column. The **Committed Open Amount** of a new commitment is equal to the **Revised Committed Amount**.

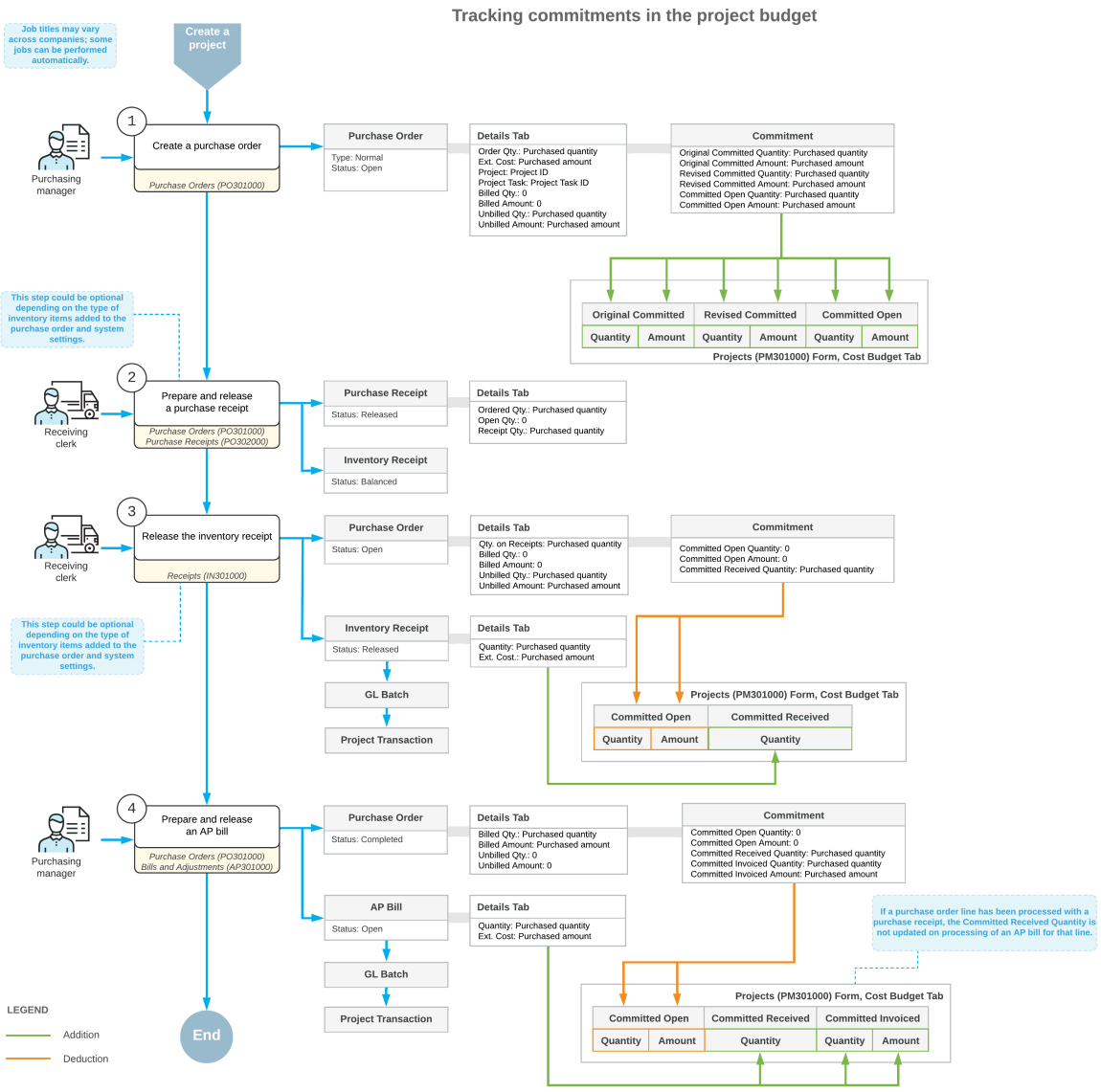
When you release an accounts payable bill with the purchase order lines of the *Service* type, the **Committed Invoiced Quantity** and **Committed Invoiced Amount** of the corresponding commitments are updated with the **Quantity** and **Ext. Cost** values of the bill lines, respectively. The **Committed Invoiced Quantity** and **Committed Invoiced Amount** are subtracted from the **Committed Open Quantity** and **Committed Open Amount** and added to the **Actual Quantity** and **Actual Amount**, respectively.

When an inventory receipt that corresponds to the purchase receipt with the purchase order lines of the *Goods for IN* or *Non-Stock* type is released, the **Committed Received Quantity** of the corresponding commitments is updated with the received quantity. On release of the AP bill with these lines, the received quantity and the amount of the **Ext. Cost** of the related purchase order lines are subtracted from the **Committed Open Quantity** and **Committed Open Amount** and added to the **Committed Invoiced Quantity**, **Committed Invoiced Amount**, **Actual Quantity** and **Actual Amount**, respectively.

After a purchase order line is assigned the *Closed* status, the **Committed Open Quantity** and **Committed Open Amount** of the corresponding commitment become *0*. If a purchase order has been canceled, the incomplete amounts are subtracted from the **Committed Open Amount**.

Workflow of Commitments

The following diagram illustrates the workflow of processing a commitment and the ways the commitment affects the project budget.



Committed Costs: Process Activity

This activity will walk you through the creation of a purchase order for a project and tracking this purchase order as a commitment to the project cost budget.

Story

Suppose that the HM's Bakery and Cafe customer has ordered the installation of three juicers it previously purchased from the SweetLife Fruits & Jams company. Acting as SweetLife's project accountant, you have created a project related to the planned installation work. The installation, which is performed by the vendor of the juicers, has been provided for each juicer. Based on the agreement with the vendor, your company will be billed in two parts—that is, first for the installation of the first two juicers and then for the installation of the third juicer. Acting as the project accountant, you need to capture the first part of the installation cost as a commitment to the project.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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
  - *Inventory and Order Management*, which provides the purchase order functionality
- On the *Account Groups* (PM201000) form, the *SUBCON* account group has been created. The *54200 - Project Subcontract Expense* account has been mapped to the account group.
- On the *Vendors* (AP303000) form, the *SQUEEZO* vendor has been created.
- On the *Projects* (PM301000) form, the *HMBAKERY8* project has been created and the *INSTALL* project task has been created for the project. This task is the default project task.
- On the *Non-Stock Items* (IN202000) form, the *INSTALL* non-stock item has been created. On the **General** tab, the **Require Receipt** check box is cleared for the item. On the **Price/Cost** tab (**Standard Cost** section), the **Current Cost** of the item has been set to *80.00*. On the same tab, *Purchases* is selected in the **Post Cost to Expenses On** box. On the **GL Accounts** tab, the *54200 - Project Subcontract Expense* account has been specified as the **Expense Account**.

Process Overview

In this activity, you will create a purchase order on the *Purchase Orders* (PO301000) form with lines related to the project. You will review how the committed amounts are shown in the project budget on the *Projects* (PM301000) form. You will then create a partial bill for the purchase order and release the bill on the *Bills and Adjustments* (AP301000) form.

Finally, you will review how the processed commitments affect the project budget on the *Projects* form.

System Preparation

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

1. 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 *1/30/2025*. If a different date is displayed, click the Business Date menu button and select *1/30/2025* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
2. On the **General** tab (**General Settings** section) of the *Projects Preferences* (PM101000) form, 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: Creating Commitments for the Project

To process a purchase order for the project that updates the project budget with committed values, do the following:

1. On the *Projects* (PM301000) form, open the *HMBAKERY8* project, and on the **Cost Budget** tab, review the cost budget of the project. Because tracking of cost commitments is enabled in the system, the table contains columns for the original committed, revised committed, committed received, committed invoiced, and committed open values. In the only cost budget line of the project, all these values are *0*.
2. On the *Purchase Orders* (PO301000) form, create a purchase order, and specify the following settings in the Summary area:
   - **Vendor**: *SQUEEZO*
   - **Description**: `Purchase for HM's Bakery & Cafe`

- **Date**: *1/30/2025*

3. On the **Details** tab, add three purchase order lines, and specify the settings shown in the following table in the lines you add.

Inventory ID	Line Description	Order Qty.	Project	Cost Code
INSTALL	`Installation of the first juicer`	`3`	*HMBAKERY8*	*00-000*
INSTALL	`Installation of the second juicer`	`4`	*HMBAKERY8*	*00-000*
INSTALL	`Installation of the third juicer`	`5`	*HMBAKERY8*	*00-000*

The system automatically selects the *INSTALL* project task when you select the project of the line because this task is the default task of the *HMBAKERY8* project.

4. Make sure the **Ext. Cost** of the added lines is *240.00*, *320.00*, and *400.00*, respectively; these represent the costs committed to the project.
5. In the Summary area, make sure that the **Detail Total** value, which is the sum of the **Ext. Cost** values of the three lines, is *960.00*, and save the purchase order.
6. On the form toolbar, click **Remove Hold**. The system assigns the purchase order the *Open* status.

   When the *Open* status is assigned to the purchase order, the system creates the commitments for the project.
7. On the *Projects* form, open the *HMBAKERY8* project, and on the **Cost Budget** tab, review the updated cost budget line.

   Notice that the committed quantities and amounts of the cost budget line have been updated and the **Original Committed Amount**, **Revised Committed Amount**, and **Committed Open Amount** columns contain the purchase order total (*960.00*).
8. On the table toolbar, click **View Commitments** to review the commitments that correspond to the cost budget line on the *Commitments* (PM306000) form. Notice that the system has created a commitment for each purchase order line and that all the commitments correspond to one cost budget line.
9. Close the form and return to the *Projects* form with the *HMBAKERY8* project.
10. On the **Commitments** tab, click the link in the **Order Nbr.** column to open the purchase order that you have created earlier in this activity.
11. On the More menu of the *Purchase Orders* form, which the system opens, click **Enter AP Bill** to create a bill for the purchase order.

    The system creates an accounts payable bill and opens the bill on the *Bills and Adjustments* (AP301000) form.
12. On the **Details** tab of this form, delete the line with the **Quantity** of *5.00* to bill the purchase order partially, as your company agreed on with the vendor.

    When you delete the line, the amount in the **Detail Total** box in the Summary area becomes *560.00*.
13. On the form toolbar, click **Remove Hold** to assign the bill the *Balanced* status, and then click **Release** to release the bill.
14. Return to the *Projects* form with the *HMBAKERY8* project, press Esc to refresh the form, and review the updated cost budget on the **Cost Budget** tab.

    Notice that the billed quantity and amount (*7.00* and *560.00*, respectively) of the purchase order have been subtracted from the committed open quantity and amount, which is now equal to *5.00* and *400.00*, respectively. The billed quantity and amount have been added to the committed invoiced quantity and

amount, to the actual quantity and amount, and to the received committed quantity, as shown in the following screenshot.

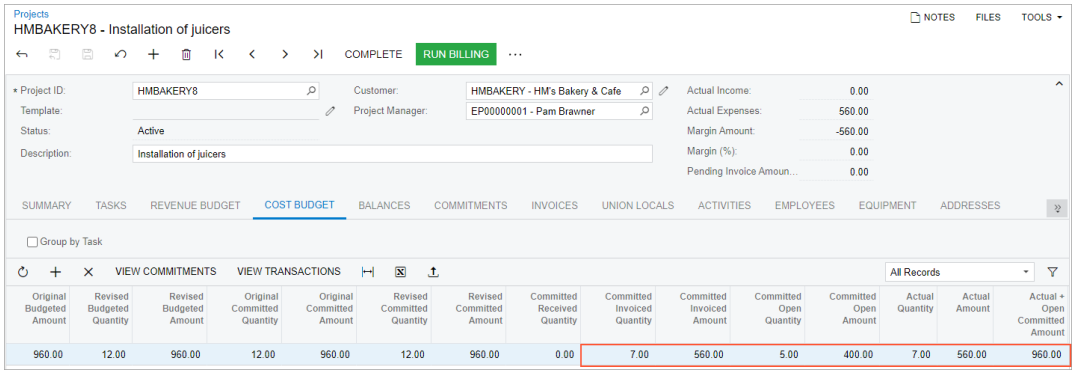


Figure: Committed values of the project cost budget

You have processed the commitment to the project.

Part 5: Single-Tier Change Management

This part describes how you can track changes to the project revenue and cost budget by using the functionality of change orders.

Lesson 9: Tracking Changes to the Budget

This lesson explains how to turn on the change order workflow for a project and how to process a change order to update the project budget based on a customer's request. You will also learn how to reflect these changes at the project budget level.

Single-Tier Change Management: General Information

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 lesson, 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
- 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 *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.

Once you have created change order classes, you specify the change order class to be used by default in newly created change orders in the **Default Change Order Class** box on the **General** tab of the *Projects Preferences* (PM101000) form.

In a new change order, you can override the change order class that the system has inserted by default. If no default change order class has been specified on the *Projects Preferences* form, you must select the change order class manually on the *Change Orders* (PM308000) form.

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 create a change order for the project on the *Projects* form by clicking **Create Change Order** on the More menu. The system creates a change order with the *On Hold* status and the project selected and opens it on the *Change Orders* (PM308000) form.

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 (CO) amounts in the **Previously Approved CO Amount** and **Other Draft CO Amount** columns, respectively; and the updated budgeted amount in the **Revised Budgeted Amount** column.

When a change order is saved with 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.

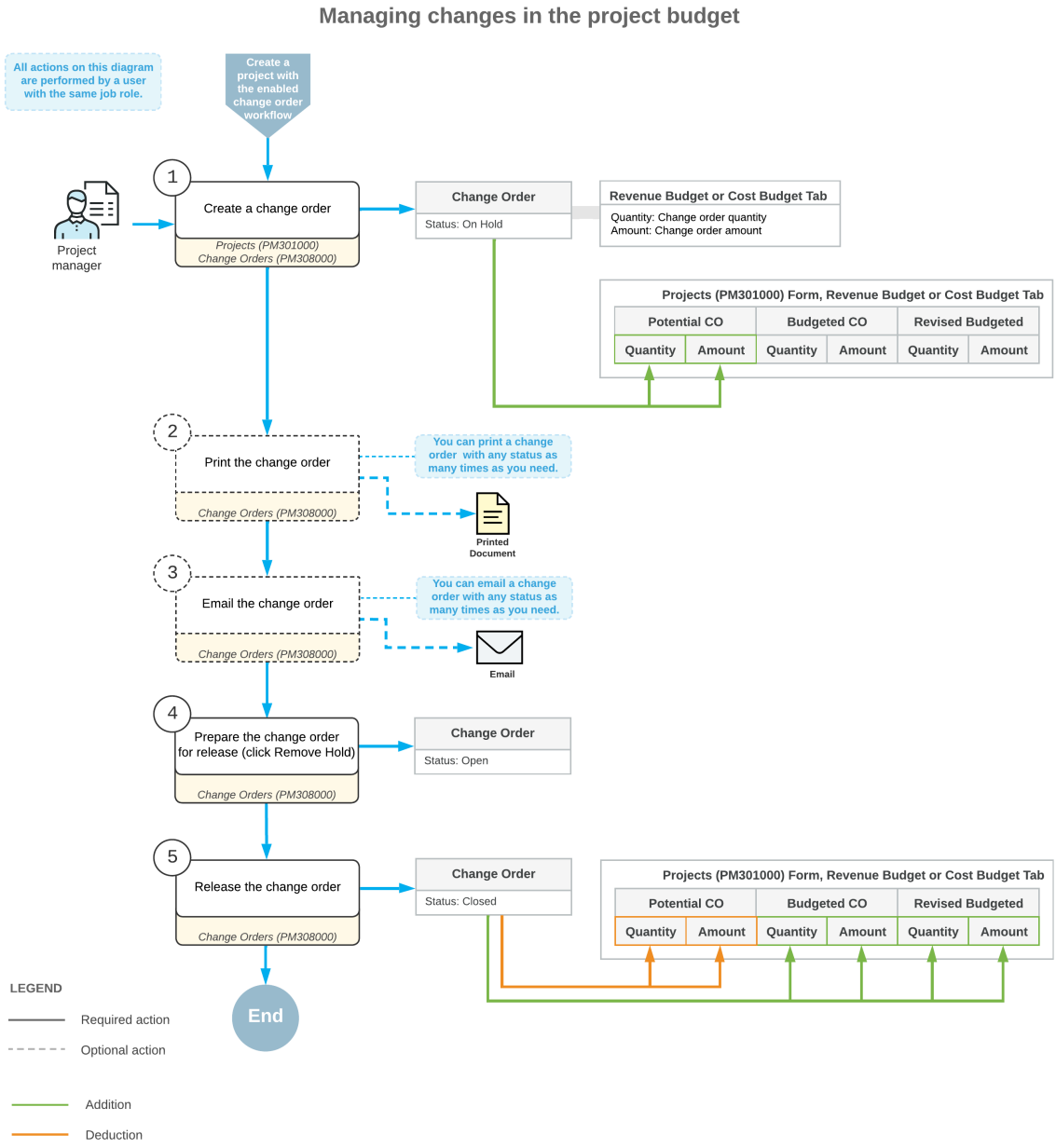
A change order can be printed or emailed to the customer. To print the change order, on the More menu of the *Change Orders* form, you click **Print**. To email the change order, on the More menu of the same form, you click **Email**.

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. The change order is assigned the *Closed* status.

You can cancel a change order by clicking **Cancel** on the form toolbar of the *Change Orders* form to indicate that the changes will not be processed further. The system assigns the change order the *Canceled* status and decreases the potential CO values of the corresponding revenue budget lines and cost budget lines of the project 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.



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.

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 has estimated that the installation of this additional juicer will require five hours of the installation service. Also, the project accountant has decided to track these changes to the project at the budget level because the installation of the third juicer was not planned initially.

Acting as the project accountant, you will turn on the change order workflow for the project to be able to track changes to the project budget. Then you will 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 to support 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. Then you will create and process a change order for the project on the *Change Orders* (PM308000) form. Finally, you will review how the changes have affected the values in the project budget.

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:

1. On the *Projects* (PM301000) form, open the *TOMYUM6* project.
2. On the **Summary** tab, select the **Change Order Workflow** check box to turn on the change order workflow for the project.
3. 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. Now you can make changes to these values only by using the change orders.

Step 2: Creating a Change Order for the Project

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

1. 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 for the project and opens it on the *Change Orders* (PM308000) form.

   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.
2. In the Summary area of this form, in the **Description** box, enter `One more juicer with installation requested by the customer`.
3. On the **Revenue Budget** tab, click **Add Row** on the table toolbar and specify the following settings in the row:
   - **Project Task**: *INSTALL*
   - **Account Group**: *REVENUE*
   - **Description**: `Additional juicer with installation`
   - **Amount**: `2900`

     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**.
4. On the table toolbar of the **Cost Budget** tab, click **Add Budget Lines**.
5. In the **Add Budget Lines** dialog box, which opens, 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.

   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 tab to return to the change order on the *Change Orders* form.
11. On the form toolbar, click **Remove Hold** to assign the change order the *Open* status. Then click **Release** to release the change order.
12. On the *Projects* form, open the *TOMYUM6* project.
13. On the **Change Orders** tab, make sure the change order you have created is shown. The change order has the *Closed* status.
14. 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.

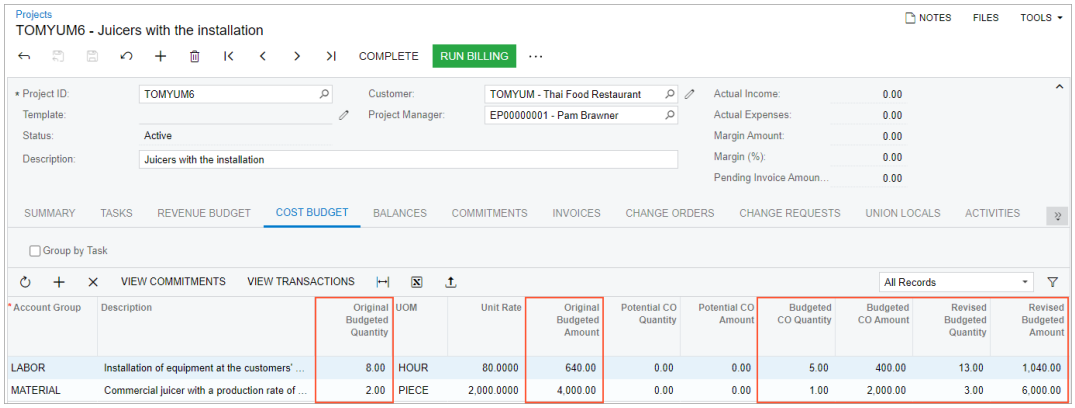


Figure: The cost budget updated with the change order

You have processed a change order for the project.

Lesson 10: Tracking Changes to Commitments

This lesson describes how you can use the functionality of change orders to track changes to the project commitments. This gives you the ability to control the profitability of every change initiated by a customer.

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*.

Learning Objectives

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

- Create a change order class for tracking commitments
- Update cost commitments with a change order
- Review the changes to the project budget that have been made with change orders
- Make changes to closed commitments

Applicable Scenarios

You turn on the change order workflow for a project and enable commitment tracking if you want to distinguish purchases within the cost budget of a project, control changes made to the committed values of the project budget, and track these changes at the budget level. To make changes to the project budget, you create change orders, which do not alter the original committed values.

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 this form, you select the **Commitments** check box to allow changes to committed values.

Change Orders for Project Commitments

You can track changes to project commitments that have been created based on project-related subcontracts and purchase orders that have 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 or subcontract for a project
- Adding a new line to an existing purchase order or subcontract
- Adjusting an existing purchase order or subcontract by adding a new negative line
- Making an addition to or deduction from an existing purchase order or subcontract 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 or subcontract line with a positive or negative amount

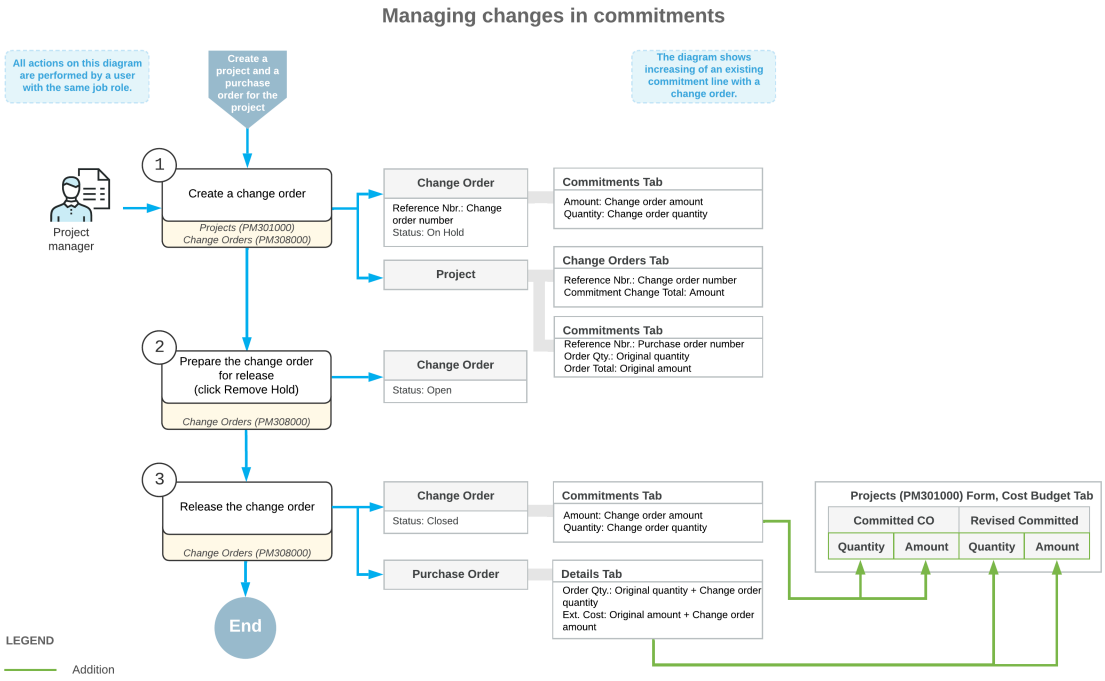
> ⚠ The quantity and amount of a negative change order line may not exceed the received or billed quantities and amounts of the purchase order.

- Reopening a purchase order or subcontract

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 commitment document or creates a new one, depending on the type of the commitment line, and updates the **Committed CO Quantity**, **Committed CO Amount**, **Revised Committed Quantity** and **Revised Committed Amount** of the corresponding cost budget line of the project on the *Projects* (PM301000) form. For more information, see *Change Orders for Commitments: Commitment Updates on Release of Change Orders*.

Workflow of Managing Changes to Commitments

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



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
- *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 the system administrator by using the *gibbs* username and the *123* password.

Step: Creating a Change Order Class

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

1. On the *Change Order Classes* (PM203000) form, add a new record.
2. In the Summary area, enter the following settings:
   - **Class ID**: `COMMITMENT`
   - **Description**: `Change orders to commitments`

   Notice that the **Active** check box is selected by default.
3. 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 defined a change order class that can be used for creating change orders that affect project commitments.

Change Orders for Commitments: Process Activity

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 Squeezo 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 number of hours.
- 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 to support 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 *1/30/2025*. If a different date is displayed, click the Business Date menu button and select *1/30/2025* 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 Commitments for the Project

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

1. On the *Purchase Orders* (PO301000) form, add a new record.

2. In the Summary area, enter the following settings:
   - **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
INSTALL	3	*HMBAKERY12*	*00-000*
TRAINING	8	*HMBAKERY12*	*00-000*

> The system inserts *INSTALL* as the project task 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, and make sure the other boxes are cleared. In the table, review the commitments that the system 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, 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 Squeezo 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 **Add Commitments**.
   b. In the **Add Commitments** dialog box, which opens, select the unlabeled check box in the line with the *INSTALL* inventory item and a line amount of $240, 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 **Add Commitments**.
   b. In the **Add 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 new row and specify the following settings for it (see the screenshot below):
   - **Project Task**: *INSTALL*
   - **Cost Code**: *00-000*
   - **Inventory ID**: *SITEREVIEW*
   - **Quantity**: `1`
   - **Unit Cost**: `40`
   - **Commitment Nbr.**: The reference number of the purchase order

     This is the same reference number as was used in the two previous lines.
   - **Description**: `Site review`

   Notice that the system has assigned the line the *New Line* status.
6. To add a new purchase order for the project, add a new row, and specify the following settings for it:
   - **Project Task**: *INSTALL*
   - **Cost Code**: *00-000*
   - **Inventory ID**: *BASKET*
   - **Quantity**: `1`
   - **Unit Cost**: `250`
   - **Vendor**: *SQUEEZO*
   - **Description**: `Feeder basket`

   Notice that the system has assigned the line the *New Document* status.
7. Save your changes to the change order.

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

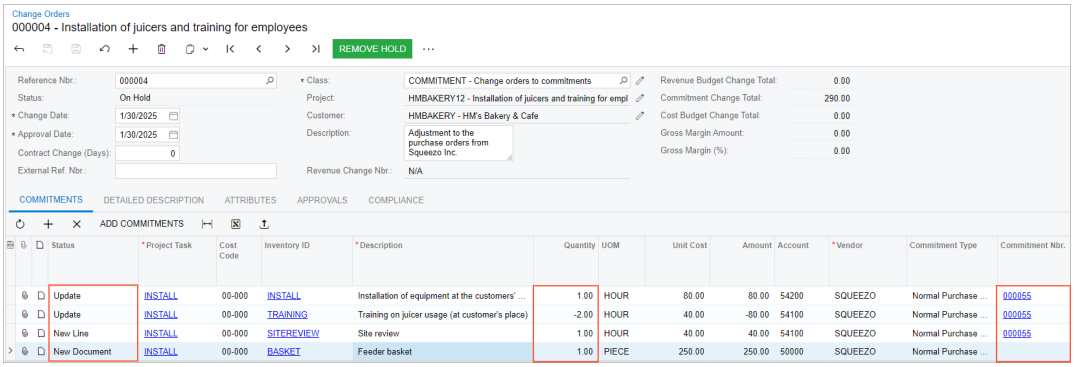


Figure: Changes to project commitments

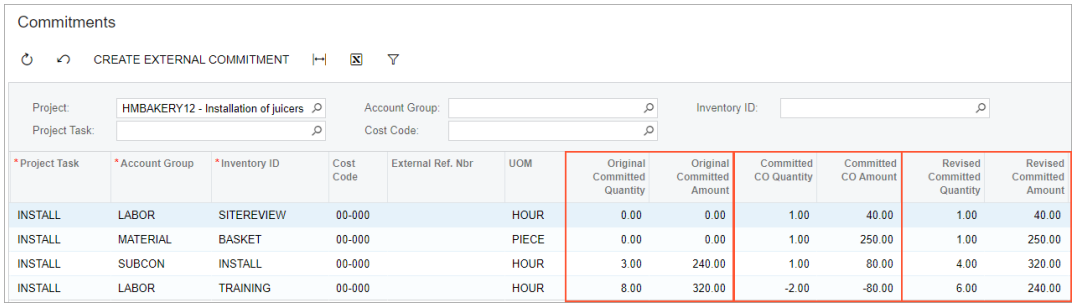
8. On the form toolbar, click **Remove Hold** to assign the change order the *Open* status, and then click **Release** to release the change order.
9. On the *Purchase Orders* (PO301000) form, open the purchase order that you have prepared earlier in this activity, and review how the purchase order has been modified as follows:
   a. On the More menu, notice that the **Hold** command is unavailable. You cannot put the purchase order on hold and make changes to the purchase order because the purchase order has a related change order.
   b. On the **Details** tab, make sure the purchase order now contains three lines. Make sure that the **Order Qty.** is set to *4* in the line with the *INSTALL* item and *6* in the line with the *TRAINING* item. Also, notice the newly added line with the *SITEREVIEW* item and a quantity of *1*.
   c. On the **Change Orders** tab, make sure that three change order lines related to the purchase order are displayed.
10. On the same form, open the second purchase order that was created on release of the change order. This purchase order to the *SQUEEZO* vendor was created based on the change order line with the *New Document* status and has the order total of *250.00*.
11. In the Summary area, review the description of the created purchase order, which contains the number of the change order that the purchase order is based on.
12. On the **Details** tab, make sure that the order has a single line with the *BASKET* inventory item and a quantity of *1*. On the **Change Orders** tab, make sure that the corresponding change order line is displayed.

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. In the table, 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

CREATE EXTERNAL COMMITMENT

Project: HMBAKERY12 - Installation of juicers
Project Task:
Account Group:
Cost Code:
Inventory ID:

* Project Task	* Account Group	* 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
INSTALL	LABOR	SITEREVIEW	00-000		HOUR	0.00	0.00	1.00	40.00	1.00	40.00
INSTALL	MATERIAL	BASKET	00-000		PIECE	0.00	0.00	1.00	250.00	1.00	250.00
INSTALL	SUBCON	INSTALL	00-000		HOUR	3.00	240.00	1.00	80.00	4.00	320.00
INSTALL	LABOR	TRAINING	00-000		HOUR	8.00	320.00	-2.00	-80.00	6.00	240.00

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.

Lesson 11: Preventing Direct Purchases to Projects

This lesson describes how to lock the project budget after the purchases on the project have been agreed upon with vendors. Once the project budget is locked, users can process additional purchases only by using the change order functionality.

Single-Tier Change Management: Locking Commitments

If internal cost commitment tracking is configured in the system and the change order workflow is configured for a particular project, after the purchases on the project have been agreed on with vendors and entered into the system, you can lock the commitments for the project.

When you decide to prevent users from directly creating new commitments for the project, you select the project on the *Projects* (PM301000) form and click **Lock Commitments** on the More menu. Until you unlock the commitments for the project, you can process new purchases for the project only with change orders.

If commitments are locked for the project, users cannot perform the following actions:

- Creating new purchase orders for the project on the *Purchase Orders* (PO301000) form
- Adding new lines to the existing purchase orders for the project on the *Purchase Orders* form
- Creating new subcontracts for the project on the *Subcontracts* (SC301000) form
- Adding new lines to the existing subcontracts for the project on the *Subcontracts* form

However, users can edit or delete the existing commitments that have been created before the lock by editing or deleting the corresponding purchase order lines or subcontract lines directly.

Once you decide to permit users to create new purchase orders and make changes to existing purchase orders for the project on the *Purchase Orders* form, you unlock the ability to process project commitments directly for the project by clicking **Unlock Commitments** on the More menu of the *Projects* form.

For more information on commitments, see *Committed Costs: General Information*.

Single-Tier Change Management: To Prevent Direct Changes to Commitments

If you want to manage changes to a project's committed values, you can prevent the creation of purchase orders for the project on the *Purchase Orders* (PO301000) form and create new commitments by using change orders.

Story

Suppose that the HM's Bakery and Cafe customer has ordered a juicer from the SweetLife Fruits & Jams company, along with the services of installation and training for its employees on operating the juicer. SweetLife has contracted the Squeezo Inc. vendor to perform the installation. The project accountant of SweetLife has created a project with tasks corresponding to the installation and training phases.

Acting as the project accountant, you need to purchase the installation service from the vendor. When you purchase the budgeted service, you will lock the commitments for the project to prevent the direct processing of purchase orders for the project.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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 *HMBAKERY11* project has been created and the *PHASE1* (for installation) and *PHASE2* (for training) project tasks have been created for the project. *PHASE1* is the default task of the project. The cost budget of the project has not been configured.
- On the *Non-Stock Items* (IN202000) form, the *INSTALL* non-stock item has been created.
- On the *Vendors* (AP303000) form, the *SQUEEZO* vendor has been created.

Process Overview

In this activity, you will create a purchase order for the project on the *Purchase Orders* (PO301000) form. You will then lock the project commitments on the *Projects* (PM301000) form to prevent the creation of purchase orders for the project on the *Purchase Orders* form.

Step 1: Creating a Purchase Order for the Project

To create a purchase order for the project, do the following:

1. On the *Purchase Orders* (PO301000) form, create a purchase order, and specify the following settings in the Summary area:
   - **Vendor**: *SQUEEZO*
   - **Description**: `Purchase for HM's Bakery & Cafe`
2. On the **Details** tab, click **Add Row** on the table toolbar, and specify the following settings in the row:
   - **Inventory ID**: *INSTALL*
   - **Order Qty.**: `4.00`
   - **Project**: *HMBAKERY11*

- **Project Task**: *PHASE1* (inserted automatically)
- **Cost Code**: *00-000*

3. On the form toolbar, click **Remove Hold**. The system assigns the purchase order the *Open* status.

   When the *Open* status is assigned to the purchase order, the system updates the committed values of the project.

4. On the *Projects* (PM301000) form, open the *HMBAKERY11* project, and review the cost budget on the **Cost Budget** tab. Notice that the original committed quantity and amount of the budget line with the *PHASE1* project task and the *INSTALL* inventory item are *4* and *320.00*, respectively.

Step 2: Locking Commitments for the Project

To prevent the direct creation of purchase orders for the project, do the following:

1. While you are still reviewing the *HMBAKERY11* project on the *Projects* (PM301000) form, on the More menu, click **Lock Commitments**.
2. On the *Purchase Orders* (PO301000) form, create a purchase order, and specify the following settings:
   - **Vendor**: *SQUEEZO*
   - **Description**: `Purchase for HM's Bakery & Cafe`
3. On the **Details** tab, click **Add Row**, and specify the following settings in the row:
   - **Inventory ID**: *INSTALL*
   - **Order Qty.**: `2.00`
   - **Project**: *HMBAKERY11*

   When you select the project, the system shows an error message in the **Project** column that says you cannot create purchase order commitments for this project because the commitments are locked for the project (see the following screenshot).

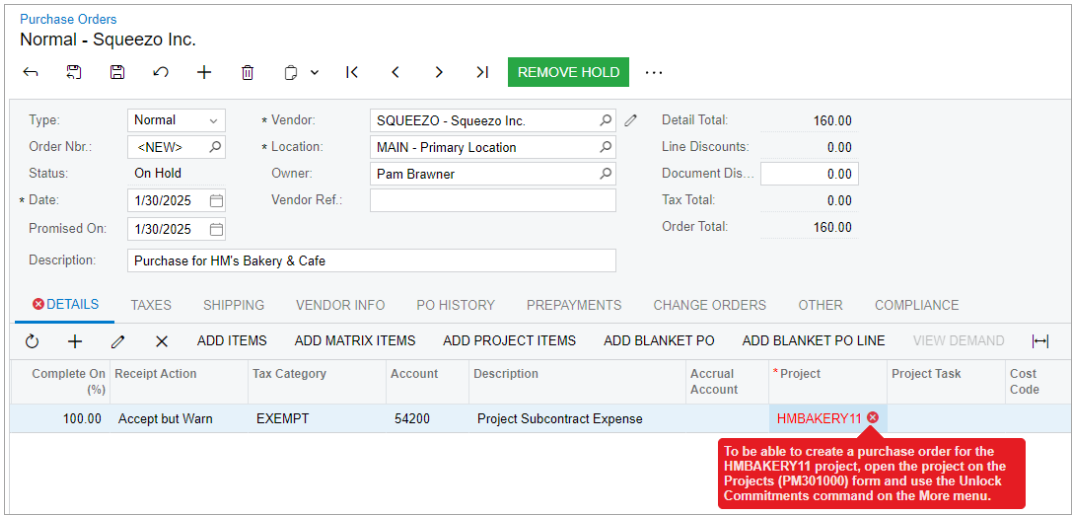


Figure: The restriction of direct commitment creation for the project

> Until you unlock the commitments for the project, you can process new purchases for the project only with change orders.

4. Close the form without saving the purchase order, which was created solely for testing purposes.

Part 6: Time Tracking

This part describes how to track the time that employees have spent for projects.

Lesson 12: Configuring Time Tracking in Projects

This lesson describes how to configure the tracking of employee time spent for projects so that you can bill projects based on this time.

Time Tracking Configuration: General Information

In Acumatica ERP, you can configure time tracking so that employees will be able to report the time spent on any project based on time cards and, optionally, time activities. Employees' reported time will be tracked in the project and billed automatically when project billing is run.

Learning Objectives

In this lesson, you will learn how to configure the system so that employee time can be tracked for individual projects. In particular, you will do the following:

- Prepare the system for the configuration of time tracking
- Enable the needed system features
- Specify the minimum required configuration so that time cards (and time activities, if applicable) can be used to track employee time spent for a project

Applicable Scenarios

When you are initially configuring accounting for projects, you configure time tracking if your organization is going to bill the customers for the time employees spend working on any projects.

Time Tracking with Time Cards in Projects

If time tracking is in use in your organization, the time the employees spend on daily activities is recorded in time cards to track the expenses. A time card is a weekly report on the time an employee has spent each day on particular activities, including project-related ones. If time tracking is configured for use with projects, the time reported by employees is logged to the related project (or to the non-project code if no project is involved). The employee time logged to a particular project is billed during the project billing procedure.

When a time card that includes project-related activities is released, for each line of a time card that relates to a project, the system retrieves the labor cost rate at which the employee's labor is billed and generates the corresponding project transaction. The project transaction affects the cost budget of the related project: The system either updates the actual amount and quantity of the existing line or adds a new cost budget line with the incurred costs. Further, this project transaction is billed according to the billing rule specified for the corresponding project task.

Time Tracking with Time Activities in Projects

You can configure the system so that an employee will report working hours by using time cards in combination with time activities. The information from time activities entered by the employee is then copied to the employee

time card for the week that includes the date for which the time activity has been entered. For more information, see *Time Tracking Configuration: Tracking Time with Time Activities*.

Time Tracking Implementation

To prepare the system for time reporting for projects, you perform the following general steps:

1. You enable the *Advanced Financials* feature on the *Enable/Disable Features* (CS100000) form, and specify the minimum required configuration for time reporting. For more information, see *Time Tracking Configuration: To Configure Time Tracking in Projects*.
2. On the *Earning Types* (EP102000) form, you select the **Billable** check box for the earning types that will be specified in the time cards that must be billed within a project. The earning type determines how the system calculates the cost of employee labor.
3. Optionally, you configure time tracking with time activities, as illustrated in the *Time Tracking Configuration: To Track Time with Time Activities*.
4. On the *Non-Stock Items* (IN202000) form, you define labor non-stock items that correspond to the services provided by employees; then on the *Employees* (EP203000) form, you assign the labor items to the employees who will perform those types of labor. For an example of the creation of labor items, see *Labor Items: To Configure a Labor Item*.
5. On the *Labor Rates* (PM209900) form, you define labor cost rates that are specific to employees, projects, and project tasks. For an example of this task being performed, see *Labor Items: To Define Labor Cost Rates*.
6. You configure the basic project accounting settings, as demonstrated in the *Basic Project Configuration: Implementation Activity*.

After you perform the basic time tracking configuration, employees will be able to log project-related work by using time cards (and, optionally, time activities).

Time Tracking Configuration: Tracking Time with Time Activities

The following section explains how to configure the system to track time spent on project by using time activities, which an employee enters on the *Activity* (CR306010) form to record the provided services.

Combining of Time Cards and Time Activities

In Acumatica ERP, an employee can report working hours by using time cards in combination with time activities. If tracking of time with time activities is configured in the system, the **Track Time and Costs** check box becomes available for a time activity on the *Activity* (CR306010) form; in each activity, an employee provides the description of the performed services and reports the working hours spent on these services. The reported data from the time activity is then copied to the employee time card that relates to the week that includes the date for which the time activity has been entered. On the *Employee Time Cards* (EP305000) form, the employee can view the details of all time activities associated with a particular time card.

A time activity can be released individually or within the time card to which it is added. When the time card is released, all the associated time activities are released automatically. For time activities associated with a project, a project transaction is created during time card release. During the project billing procedure, based on the time and material step of the billing rule configured for the account group associated with this project transaction, the applicable customer is billed for the reported employee time spent on the project.

Configuration of Time Tracking with Time Activities

To configure the tracking of time with time activities, you perform the following general steps:

1. On the *Enable/Disable Features* (CS101000) form, you enable the *Time Management* feature.

2. On the *Earning Types* (EP102000) form, you select the **Billable** check box for the earning types that will be specified in the time activities that must be billed within a project. The earning type determines how the system calculates the cost of employee labor.
3. On the *Activity Types* (CR102000) form, you select the **Track Time and Costs** check box for the activity types for which you want to track time. In the newly entered time activities of the type, the **Track Time and Costs** check box will be selected by default.

After you perform these configuration steps, employees will be able to log project work and specify the information required for billing (that is, the earning type for the time activity, and the total billable time spent on a particular project).

Time Tracking Configuration: To Configure Time Tracking in Projects

In this implementation activity, you will learn how to configure the system to track time spent on particular projects.

Story

Suppose that you, as an administrative user of the SweetLife Fruits & Jams company, are configuring accounting for projects. The manager of the company has decided to track employee time spent on each project and bill the customer based on employee time spent on work related to the customer's project. The employees should report their working time on a weekly basis by using time cards.

You must configure the basic time tracking configuration and specify the time tracking settings in the project accounting preferences.

System Preparation

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

Step 1: Reviewing the Basic Configuration for Time Reporting

Make sure the minimum required configuration for time reporting has been performed by doing the following:

1. On the *Enable/Disable Features* (CS100000) form, make sure that the *Advanced Financials* feature is enabled.
2. On the *Earning Types* (EP102000) form, review the default earning types. Make sure that the **Billable** check box is selected for the *RG (Regular Hours)* and *OT (Overtime)* earning types, which will be used for time tracking in projects.
3. On the **General** tab of the *Time and Expenses Preferences* (EP101000) form (in the **Time Reporting Settings** section), make sure that *Post PM and GL Transactions* is specified in the **Time Posting Option** box.

Step 2: Reviewing the Basic Configuration for Project Accounting

Do the following to make sure the minimum required configuration has been performed for project accounting that relates to time tracking functionality:

1. On the *Enable/Disable Features* (CS100000) form, make sure the *Projects* feature is enabled.
2. On the *Projects Preferences* (PM101000) form, make sure of the following:
   - In the **Visibility Settings** section, the **Time Entries** and **Expenses** check boxes are selected.
   - In the **Expense Account Source** box, *Labor Item* is specified.

- In the **Expense Accrual Account Source** box, *Labor Item Accrual* is specified.

Time Tracking Configuration: To Track Time with Time Activities

In the following implementation activity, you will learn how to configure the system for tracking time in projects by using time activities.

Story

Suppose that you, as an administrative user of SweetLife Fruits & Jams company, are configuring accounting for projects. The manager of the company has decided to track employee time spent on each project and bill the customer based on employee time spent on work related to the customer's project. The employees should report their working time on a daily basis by using time activities.

You must configure the system for using time activities for time tracking.

System Preparation

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

Step: Configuring Time Reporting for Time Activities

Do the following to make sure the minimum required configuration has been performed in the system for time reporting by using time activities:

1. On the *Enable/Disable Features* (CS100000) form, make sure that the *Time Management* feature is enabled.
2. On the *Activity Types* (CR102000) form, make sure the **Track Time and Costs** check box is selected for the *Work Item* activity type, which you will use for logging time spent by projects.

Lesson 13: Tracking Employee Work in Projects

This lesson describes how to track billable hours and employees' work time on projects, and how to bill projects based on this time.

Employee Time Billing: General Information

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 lesson, 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 Cards* (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

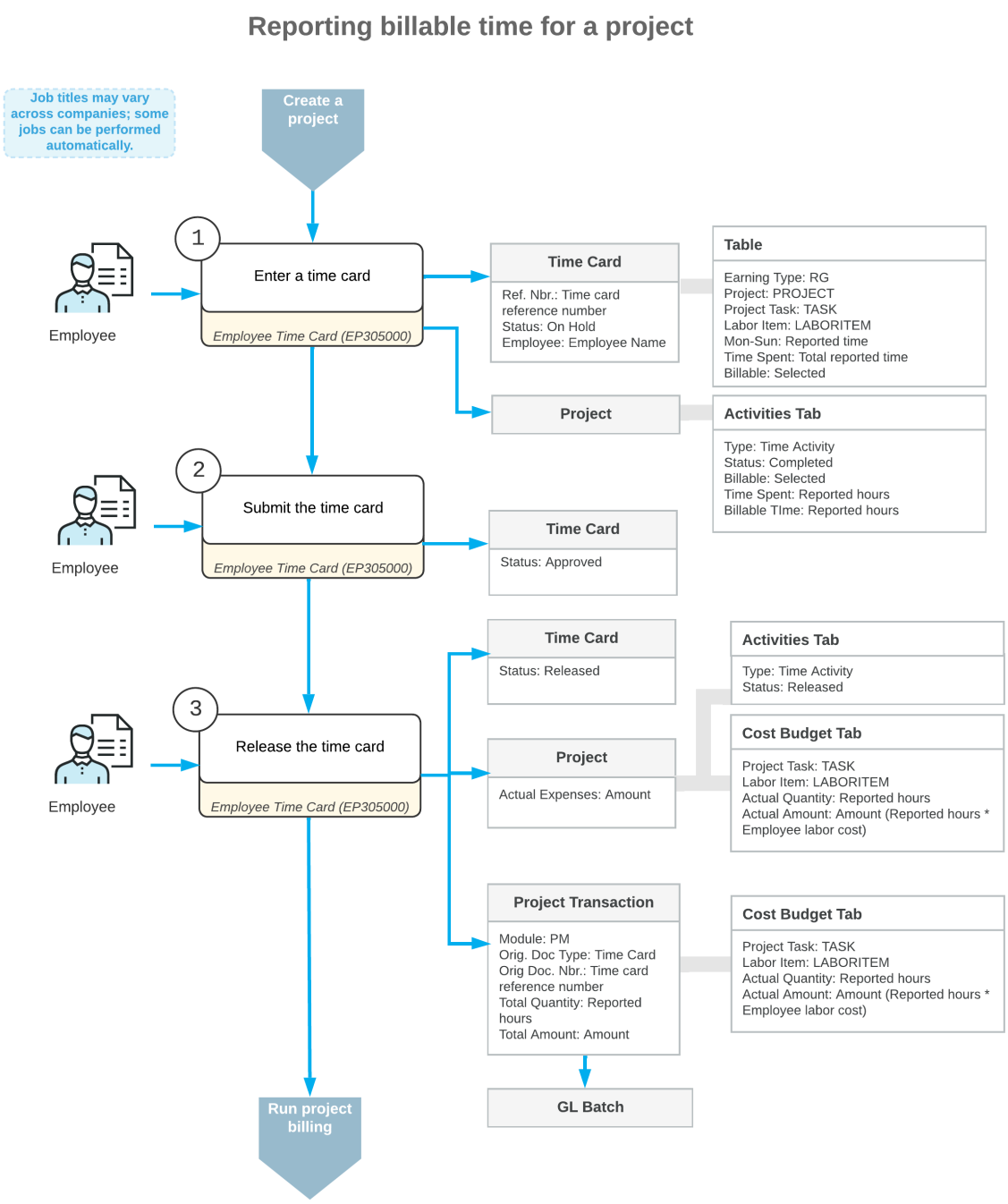
For each time duration reported in the time card, the system creates a time activity linked to the project; the activity is assigned the *Completed* status. You can review the list of time activities related to a project on the **Activities** tab of the *Projects* (PM301000) form.

If time tracking with time activities is configured, on the **Activities** 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. To indicate that the time activity is related to a project, you select the **Track Time and Costs** check box and specify the project-related information in the Summary area of the form. Finally, you 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.

When the time card is released, the related project transaction is created and released, 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 released.

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.



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 processes these lines as follows:

- Generates project transactions for each time activity within a time card that is associated with a project.

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.

- Generates general ledger transactions (and does not generate project transactions) for each time activity within a time card that is associated with a non-project code.

Employee Time Billing: To Enter a Project-Related Time Activity

In this activity, you will enter a time activity for work related to a project.

Story

Suppose that the HM's Bakery and Cafe customer has contacted the SweetLife Fruits & Jams company to order training on operating juicers for the company's new employees. The project accountant has created a project to account for the provided services.

Further suppose that Todd Bloom has spent four hours training the customer's employees on Monday. Acting as Todd Bloom, you need to enter a time activity to log the time spent working on the project.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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
  - *Time Management*, which provides support for tracking the time that employees spend on activities
- On the *Projects* (PM301000) form, the *HMBAKERY7* project has been created and the *TRAINING* project task has been added to the project.
- On the *Activity Types* (CR102000) form, the **Track Time** check box is selected for the *Work Item* activity type.
- On the *Non-Stock Items* (IN202000) form, the *CONSULTSR* labor item has been created; on the *Employees* (EP203000) form, this item is assigned to the *EP00000002 – Todd Bloom* employee.

Process Overview

On the *Activity* (CR306010) form, you will enter and complete a time activity for the project on which the employee has worked. Then on the *Projects* (PM301000) form, you will make sure that the time activity has appeared in the project details.

System Preparation

Sign in to the system as an employee by using the *bloom* username and the *123* password.

Step: Entering a Time Activity for the Project

To log the four hours that Todd Bloom has spent training the customer's employees as part of the project, enter a time activity as follows:

1. On the *Projects* (PM301000) form, open the *HMBAKERY7* project.
2. On the table toolbar of the **Activities** tab, click **Create Activity > Create Work Item** to add an activity to the project. The system opens the *Activity* (CR306010) form with the new activity created.

3. On this form, specify the following settings:
   - **Summary**: `A 4-hour training session`
   - **Start Date**: Current business date
   - **Owner**: *Todd Bloom* (selected automatically)
   - **Project**: *HMBAKERY7* (selected automatically)
   - **Project Task**: *TRAINING* (selected automatically)
   - **Cost Code**: *00-000* (selected automatically)
   - **Labor Item**: *CONSULTSR* (selected automatically)
   - **Track Time and Costs**: Selected
   - **Earning Type**: *RG* (selected automatically)
   - **Time Spent**: *04:00*
   - **Billable**: Selected
   - **Billable Time**: *04:00*
4. On the form toolbar, click **Complete** to complete the activity.

   The system creates and saves the activity with the *Work Item* type, closes the *Activity* form, and returns to the project on the *Projects* form.
5. On the **Activities** tab, make sure the time activity you created has appeared, as shown in the following screenshot.

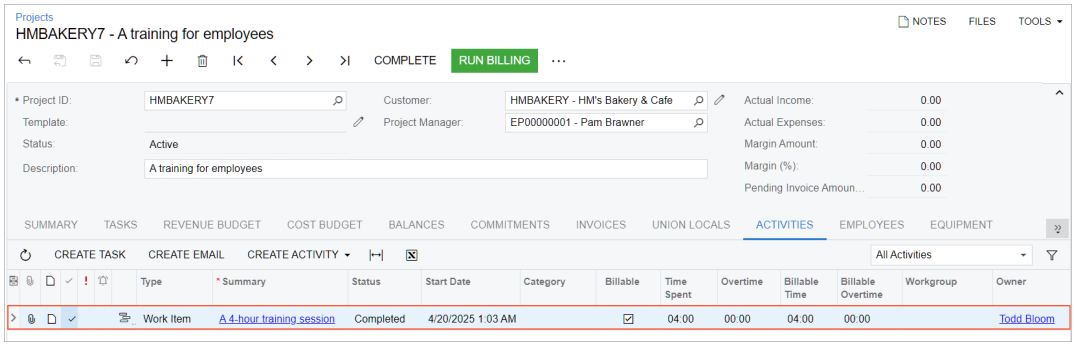


Figure: The time activity related to the project

You have entered the time activity for the work performed by the employee for a project.

Employee Time Billing: To Enter a Project-Related Time Card

In this activity, you will enter a time card for work related to a project.

Story

Suppose that the HM's Bakery and Cafe customer has contacted the SweetLife Fruits & Jams company and ordered training on operating juicers for the company's new employees. The project accountant has created a project to account for the provided services.

Further suppose that project accountant (who also provides employee training services) has spent eight hours training the customer's employees on January 28, 2025. Acting as Pam Brawner, you need to enter a time card to log the time spent working on the project.

Configuration Overview

In the *U100* dataset, the following tasks have been performed to support 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
  - *Advanced Financials*, which provides the functionality of time cards
- On the *Projects* (PM301000) form, the *HMBAKERY7* project has been created, and the *TRAINING* project task has been added to the project.
- On the *Non-Stock Items* (IN202000) form, the *CONSULTPM* labor item has been created; on the *Employees* (EP203000) form, this item is assigned to the *EP00000001 – Pam Brawner* employee. For an example of configuring a labor item and assigning it to an employee, refer to *Labor Items: To Configure a Labor Item*.
- On the *Labor Rates* (PM209900) form, a labor cost rate has been configured for the *EP00000001 – Pam Brawner* employee.

Process Overview

On the *Employee Time Cards* (EP305000) form, you will enter a time card for an employee related to the particular project on which the employee has worked. Then you will submit the time card and release it. Finally, on the *Projects* (PM301000) form, you will make sure that the time card has appeared in the project details.

System Preparation

1. Sign in to the system as project accountant 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 *1/30/2025*. If a different date is displayed, click the Business Date menu button and select *1/30/2025* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

Step: Entering a Time Card for the Project

To log the eight hours that Pam Brawner has spent training the customer's employees as part of the project, enter a time card as follows:

1. On the form toolbar of the *Employee Time Cards* (EP406000) form, add a new record. The system opens the *Employee Time Cards* (EP305000) form with the new time card.

   In the Summary area, *2025-05 (01/26 - 02/01)* is specified in the **Week** box. This is the work week to which the current business date belongs. Also, notice that the system has automatically selected the employee who is currently signed in (*Pam Brawner*) as the **Employee**.
2. On the **Summary** tab, add a row, and specify the following settings:
   - **Earning Type**: *RG*
   - **Project**: *HMBAKERY7*
   - **Project Task**: *TRAINING* (inserted automatically)
   - **Cost Code**: *00-000*
   - **Labor Item**: *CONSULTPM* (inserted automatically)
   - **Tue**: *08:00*
   - **Billable**: Selected (selected automatically based on the settings of the selected earning type)
   - **Description**: `An 8-hour training session`
   - **Approval Status**: *Not Required* (selected 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.

3. Save the time card.
4. On the form toolbar, click **Submit** to submit the time card. The status of the time card is changed to *Approved*.
5. On the form toolbar, click **Release** to release the time card. The time card is assigned the *Released* status.
6. On the *Projects* (PM301000) form, open the *HMBAKERY7* project, and on the **Activities** tab, notice that the time activity you have entered by using the time card is shown on the tab, as shown in the following screenshot.

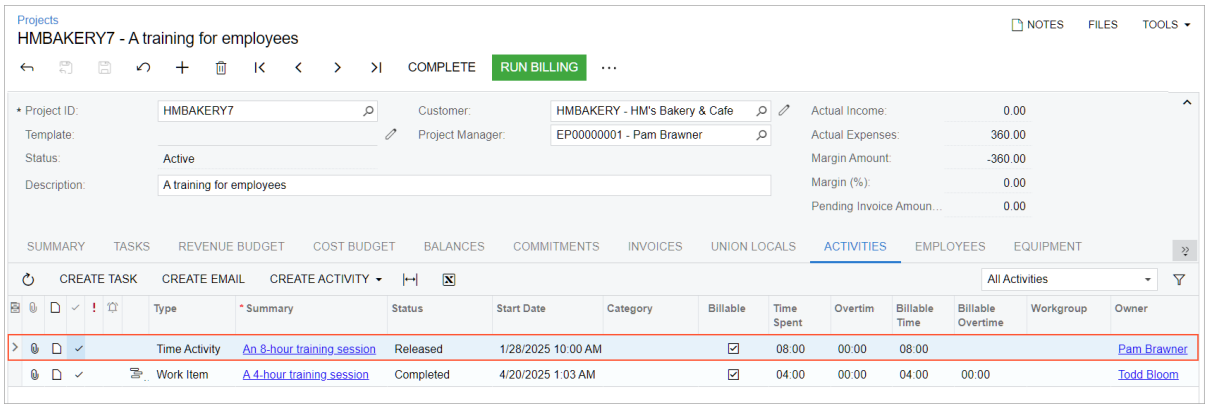


Figure: Time card information tracked in the project

You have submitted and released the time card related to the project.

Additional Materials

This part provides supplemental information related to the processes and examples in the course.

Appendix 1: Creation of Projects

This appendix provides additional materials for the lessons of Part 1.

Project Quotes: Related Report and Inquiry Forms

In the following section, you can find details about the report form you may want to review to gather information about project quotes.

> ⚠ 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.

Printing of a Project Quote

On the *Project Quotes* (PM304500) form, you can print the selected project quote by clicking **Print** on the form toolbar. For the printing of project quotes, the system uses the *Project Quote* (PM604500) report. This report includes estimation lines, the header-level note, and the detailed description of a project quote.

Project Quotes: Creation of a Project from a Project Quote

This topic describes the rules that the system uses during the creation of a project based on a project quote, as well as some specific settings that the system inserts.

Summary Information

To create a project based on a project quote, the user clicks the **Convert to Project** command on the *Project Quotes* (PM304500) form and specifies the needed settings in the **Convert to Project** dialog box.

When the system creates a project based on a project quote, the settings of the created project in the Summary area of the *Projects* (PM301000) form are populated as follows:

- **Project ID**: If auto-numbering has been configured for projects, the project identifier is assigned automatically. If auto-numbering has not been configured, the system fills this box with the **New Project ID** value that was specified for the project quote on the *Project Quotes* form.
- **Template**: The project template selected in the project quote.

  If the project template has attached files or notes, these files and notes will be copied to the created project. If a project template task has attached files or notes, these files and notes will be copied to the project tasks.

  > ⚠ The project tasks and budget may be structured differently for a project created based on a project quote than for a project created based on a project template.

- **Status**: The system sets the status of the new project to *Active* if the **Activate Project** check box was selected in the **Convert to Project** dialog box during the conversion process. If the check box was cleared, the status of the project is *In Planning*.
- **Customer** and **Description**: The system copies the values from the project quote settings (in the **Business Account** and **Description** boxes, respectively, of the *Project Quotes* form) to these boxes.
- **Summary** tab: The system copies the settings of the project template that have been specified in the project quote to this tab.

Project Tasks

When the system creates a project based on the project quote on the *Project Quotes* (PM304500) form, it populates the project tasks on the **Tasks** tab of the *Projects* (PM301000) form using the following rules:

- If the project quote has two or more tasks, these tasks are copied to the project. In this case, if the project quote does not have a default task, the created project does not have a default task either.
- If the project quote has only one task, this task is copied to the project. It is also marked as the default task of the project, even if the task has not been marked as the default task of the project quote.
- If the project quote has no tasks, the system creates a default project task for the project—that is, a task with an identifier of *0* and a description of *Default*.
- The system sets the status of all project tasks to *Active* if the **Activate Tasks** check box was selected in the **Convert to Project** dialog box during the conversion process. If the check box was cleared, the system sets the status of the project tasks to *In Planning*.
- The location of the created tasks is the location of the project quote, as specified on the **Financial** tab of the *Project Quotes* form.
- If the project quote has only one task or does not have any tasks and if any of the estimation lines of the project quote have no project task assigned, the system assigns the default task of the project to the cost budget and revenue budget lines of the project that it creates based on these estimation lines.

The system specifies the default sales, cost, and accrual accounts and subaccounts as follows:

- In the created project, the system inserts the default accounts and subaccounts specified for the template on the *Project Templates* (PM208000) form.
- If a project task is created based on a project template task, the system populates the default accounts and subaccounts with those specified for the project template task on the *Project Template Tasks* (PM208010) form. If the accounts and subaccounts are not specified in the project template task, the system inserts the default values specified for the project template.
- If a project task is created based on the common task, the system populates the default accounts and subaccounts with those specified for the common task on the *Common Tasks* (PM208030) form. If the accounts and subaccounts are not specified for the common task, the system inserts the default values specified for the project template.
- If a project task has been added to the project quote manually, the system inserts the default accounts and subaccounts specified for the project template.

Revenue Budget

When the system creates a project based on the project quote, to populate the revenue budget, the system groups the estimation lines of the project quote depending on the revenue budget level (*Task*, *Task and Item*, or *Task and Cost Code*) of the project template specified for the project quote; the revenue budget level of the project template is specified on the **Summary** tab (**Project Properties** section) of the *Project Templates* (PM208000) form. For each group of estimation lines, on the **Revenue Budget** tab of the *Projects* (PM301000) form, the system creates a revenue budget line with the following settings:

- **Project Task**: The system uses the project task of the aggregated estimation lines.
- **Inventory ID**: The system uses the inventory ID of the aggregated estimation lines. Estimation lines without an inventory item specified are aggregated into a revenue budget line with this column populated with the

empty item code, which is *N/A* by default. You can change the default empty item code in the **Empty Item Code** box on the *Projects Preferences* (PM101000) form.

- **Account Group**: The system uses the revenue account group of the aggregated estimation lines.
- **Description**: Depending on the number of aggregated estimation lines in the group, the system assigns the description to the revenue budget line as follows:
  - If the group consists of one line, the description of this line is copied to the revenue budget line.
  - If the group consists of two or more lines, the description of the revenue budget line is *Aggregated: [Account Group Description]*, where *Account Group Description* is the description of the account group by which the group of estimation lines has been aggregated.
- **Original Budgeted Quantity**: The system inserts the total quantity of the aggregated lines if each of the lines has the same UOM or a UOM that can be converted. Otherwise, the quantity is *0*.
- **UOM**: The system uses the UOM of the aggregated estimation lines if each of the lines has the same UOM or a UOM that can be converted. Otherwise, the UOM is empty.
- **Unit Rate**: The calculation of the unit rate of the revenue budget line depends on the number of aggregated estimation lines in the group as follows:
  - If the group consists of one line, the system calculates the unit rate based on the values in the estimation line by using the following formula: `Unit Rate = Amount / Quantity`, where `Amount = Ext. Price – Discount Amount`.
  - If the group consists of two or more lines and each of these lines has the same UOM or a UOM that can be converted, the system calculates the unit rate as the total amounts of the lines minus the total discount and divided by the total quantity of the lines.
  - If the group of aggregated estimation lines consists of two or more lines and the lines have different UOMs, the unit rate of the revenue budget line is *0*.
- **Original Budgeted Amount**: The system inserts the total amount of the aggregated lines.
- **Tax Category**: The tax category of the revenue budget line depends on the tax category of the aggregated estimation lines in the group as follows:
  - If the group consists of one line, the tax category of this line is copied to the revenue budget line.
  - If the group consists of two or more lines and all the lines have the same tax category, this tax category is copied to the revenue budget line.
  - If the group consists of two or more lines and the lines have either the same tax category or no tax category specified, the specified tax category is copied to the revenue budget line.
  - If the group consists of two or more lines and the lines have at least two different tax categories, the tax category of the revenue budget line is empty.

Cost Budget

When the system creates a project based on the project quote, to populate the cost budget, the system groups the estimation lines of the project quote depending on the cost budget level of the project template specified for the project quote; the cost budget level of the project template is specified on the **Summary** tab (**Project Properties** section) of the *Project Templates* (PM208000) form. For each group of estimation lines, on the **Cost Budget** tab of the *Projects* (PM301000) form, the system creates a cost budget line with the following settings:

- **Project Task**: The system inserts the project task of the aggregated estimation lines.
- **Inventory ID**: The system uses the inventory ID of the aggregated estimation lines. Estimation lines without an inventory item specified are aggregated into a cost budget line with this column populated with the empty item code, which is *N/A* by default. You can change the default empty item code in the **Empty Item Code** box on the *Projects Preferences* (PM101000) form.
- **Account Group**: The system inserts the cost account group of the aggregated estimation lines.
- **Description**: Depending on the number of aggregated estimation lines in the group, the system assigns the description to the cost budget line, as follows:
  - If the group consists of one line, the description of this line is copied to the cost budget line.

    - If the group consists of two or more lines, the description of the cost budget line is *Aggregated: [Account Group Description]*, where *Account Group Description* is the description of the account group by which the group of estimation lines has been aggregated.
- **Original Budgeted Quantity**: The system inserts the total quantity of the aggregated lines if each of the lines has the same UOM or a UOM that can be converted. Otherwise, the quantity is 0.
- **UOM**: The system uses the UOM of the aggregated estimation lines if each of the lines has the same UOM or a UOM that can be converted. Otherwise, the UOM is empty.
- **Unit Rate**: The calculation of the unit rate of the cost budget line depends on the number of aggregated estimation lines in the group as follows:
    - If the group consists of one line, the unit cost of this estimation line is copied to the cost budget line.
    - If the group consists of two or more lines, the system calculates the unit rate as the sum of the **Ext. Cost** values of lines that have a nonzero quantity divided by the total quantity of these lines. The lines of the group with a quantity or **Ext. Cost** of *0* are ignored in the calculation.
- **Original Budgeted Amount**: The system calculates this amount as the total extended cost of the aggregated lines.
- **Unit Price**: The calculation of the unit price of the cost budget line depends on the number of aggregated estimation lines in the group as follows:
    - If the group of aggregated estimation lines consists of one line, the system calculates the unit price based on the values in the estimation line of project quote by using the following formula: `Unit Price = Amount / Quantity`, where `Amount = Ext. Price – Discount Amount`.
    - If the group of aggregated estimation lines consists of two or more lines and each of these lines has the same UOM or a UOM that can be converted, the system calculates the unit price as the total amount of the lines minus the total discount and divided by the total quantity of the lines.
    - If the group of aggregated estimation lines consists of two or more lines and the lines have different UOM values, the unit price of the cost budget line is *0*.
- **Revenue Task**: The system inserts the revenue task based on the type of the project task in the line as follows:
    - If the project task has the *Cost and Revenue Task* type, the system inserts this project task in this column automatically. You can override this value, if needed.
    - If the project task has the *Cost Task* type, the system leaves the column empty. You should select the corresponding revenue task manually.

Project Addresses

When the system creates a project based on the project quote on the *Project Quotes* (PM304500) form, the system copies the settings from the project quote to the project by using the following rules:

- The address information in the **Project Address** section on the **Addresses** tab of the *Project Quotes* form is copied to the same section and tab of the *Projects* (PM301000) form.
- The contact information in the **Bill-To Contact** section on the **Addresses** tab of the *Project Quotes* form is copied to the **Bill-To** section of the same tab of the *Projects* form.
- The address information in the **Bill-To Address** section on the **Addresses** tab of the *Project Quotes* form is copied to the same section and tab of the *Projects* form.

Other Project Settings

The project settings on the following tabs of the *Projects* (PM301000) form are copied from the listed sources:

- **Activities**: The project quote if the **Link Activities to Project** check box was selected in the **Convert to Project** dialog box during conversion
- **Equipment**, **Defaults**, and **Mailing & Printing**: The project template specified for the project quote

- **Attributes**: The project quote

Appendix 2: Advanced Billing

This appendix provides additional materials for the lessons of Part 2.

Billing Rules: 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. The following sections list the settings that you can specify for a billing rule step of the *Progress Billing* type, and describes the process of billing a project for progress by using a simple one-step billing rule.

Configuration of a Billing Rule Step

Each billing rule can include only one step of the *Progress Billing* type. For the billing rule step of this type, you can define the following settings:

- A formula to define the description of the invoice and another formula to define the description of each invoice line, to make the system compose these descriptions dynamically during the billing process.
- The source of the sales account and the source of the destination branch for each invoice line.

  The billing process uses the originating branch from the project settings on the *Projects* (PM301000) 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 of the steps of the billing rules to which the project tasks refer.

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* (PM301000) form.

If a project is billed with a billing rule that includes only a *Progress Billing* billing step, during the billing process, the system ignores any unbilled project transactions.

The progress billing procedure could be initiated for a project if either of the following is true:

- It has at least one revenue budget line with billable project revenue.
- It has pending values of 0 if the progress billing step of the billing rule assigned to any project task has the **Create Lines with Zero Amount and Quantity** check box selected on the *Billing Rules* form.

For more information, see *Billing with a Direct AR Invoice: General Information*.

Each revenue budget line is billed based on amount or quantity, depending on the option selected in the **Progress Billing Basis** column on the **Revenue Budget** tab of the *Projects* 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:

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

```
Pending Invoice Quantity = Revised Budgeted Quantity * ( Completed (%) / 100 )
- Draft Invoice Quantity - Actual Quantity
```

Project-related invoices, debit memos, and credit memos that have been created manually on the *Invoices and Memos* (AR301000) form are not included in pending invoice quantities and amounts.

You run billing for one project by clicking the **Run Billing** button on the form toolbar of the *Projects* form or process multiple projects on the *Run Project Billing* (PM503000) form. When you run the project billing, the system prepares a project invoice whose type depends on the state of the **Create Pro Forma Invoice on Billing** check box on the **Summary** tab of the *Projects* form as follows:

- If the check box is selected, the system generates a pro forma invoice with a positive or negative amount.
- If the check box is cleared, the system generates an accounts receivable invoice (if the billed amount is positive) or credit memo (if the billed amount is negative). For more information about credit memos, see *Project Invoice Correction: Credit Memos for Projects*.

The system creates a project invoice with the unit prices, amounts, and quantities copied from the **Unit Rate**, **Pending Invoice Amount** and **Pending Invoice Quantity** columns of the **Revenue Budget** tab of the *Projects* form for the corresponding revenue budget lines. If the project billing is performed by using the pro forma invoice workflow, the pro forma 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.

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

For more information, see *Grouping of Invoices: General Information*.

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*.

If you manually adjust the **Amount to Invoice** of a pro forma invoice line, the system automatically recalculates the **Total Completed (%)** in this line. 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.

When you release a pro forma invoice and the system creates the corresponding accounts receivable invoice, the system copies the values in the **Amount to Invoice** column from the **Progress Billing** tab of the *Pro Forma Invoices* form to the corresponding lines of the accounts receivable invoice on the **Details** tab of the *Invoices and Memos* (AR301000) form.

Billing Rules: 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. The following sections list the settings that you can specify for a billing rule step of the *Time and Material* type, and describes the process of billing a project for time and material by using a simple one-step billing rule.

Configuration of a Billing Rule Step

For a billing rule step of the *Time and Material* type, you can specify the following settings:

- The account group that is used as a filter to select the transactions for billing by the *Time and Material* billing steps. When the billing procedure is run, the system selects all the transactions that are due for billing and that have this account group. Normally, you use for billing the same account group or groups that you use for accumulating the unrecognized revenue.
- A formula to define the description of the invoice and a formula to define the description of each invoice line, to make the system compose these descriptions dynamically during the billing process.
- A formula to calculate the amount of the invoice lines created by the *Time and Material* billing steps, and another formula to calculate the quantity of these invoice lines. In these formulas, you can use fields and attributes from such 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 rate tables, which can be configured on the *Rate Tables* (PM206000) form; and those from sales price lists, which are defined on the *Sales Prices* (AR202000) form.

  > ⚠ If inclusive taxes are configured in the system, the amounts of project transactions are considered gross amounts—that is, already including the inclusive taxes. If the project transaction amounts that you enter in your system are net amounts (that is, it does not include an inclusive tax), you need to configure the line amount formula to include the `PMBudget.InclTaxAmount` value in the calculations.

- The source of the sales account and the source of the destination branch for each invoice line.

  The billing process uses the originating branch from the project settings on the *Projects* (PM301000) 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, which can be used during billing 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.
- Grouping criteria by date, employee, vendor, and inventory item for the invoice lines created by the *Time and Material* billing steps.

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. For more information, see *Billing with a Direct AR Invoice: General Information*.

If a project 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.

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. Then you assign the configured billing rule to project tasks on the **Tasks** tab of the *Projects* (PM301000) form.

If you configure multiple time and material steps for the same account group, only the last pro forma invoice line created based on these steps will be linked to the project transaction that has been used as a basis for billing.

You can run billing for one project by clicking the **Run Billing** button on the form toolbar of the *Projects* form or process multiple projects on the *Run Project Billing* (PM503000) form. When you run the project billing, the system prepares a project invoice whose type depends on the state of the **Create Pro Forma Invoice on Billing** check box on the **Summary** tab of the *Projects* form as follows:

- If the check box is selected, the system generates a pro forma invoice with a positive or negative amount.
- If the check box is cleared, the system generates an accounts receivable invoice (if the total billed amount is positive) or credit memo (if the total billed amount is negative). For more information about credit memos, see *Project Invoice Correction: Credit Memos for Projects*.

The system creates a project 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 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.

The transactions with the same date as the invoice date are billed if *Include Transactions with Billing Date* is selected as the **Billing Cutoff** on the *Projects Preferences* (PM101000) form; if *Include Only Transactions Before 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

For more information, see *Grouping of Invoices: General Information*.

If the status of a pro forma invoice is *On Hold*, you can change the **Amount to Invoice** values in the time and material lines of the pro forma invoice. When you release a pro forma invoice and the system creates the corresponding accounts receivable invoice or credit memo, the system copies the values in the **Amount to Invoice** column from the **Time and Material** tab of the *Pro Forma Invoices* form to the lines of the accounts receivable invoice (or credit memo) on the **Details** tab of the *Invoices and Memos* (AR301000) form. You cannot change the **Amount to Invoice** value in the lines of a pro forma invoice with the *Open* and *Closed* status.

If the *Construction* feature is in use, you may need to prepare an American Institute of Architects (AIA) report that includes time and material amounts from the prepared pro forma invoice. To do this, you include the time and material amounts to be billed in the progress billing amounts. For more information, see *Construction Reports: Time and Material Amounts in AIA Reports*.

Billing Rates: Rate Selection Rules

When a project transaction is billed or an allocation is run, the system finds the applicable rate—that is, the value of the *@Rate* parameter specified in the billing rule formula. This selection is based on the combination of the rate type assigned to the current step of a billing rule (or allocation rule) and the rate table that is assigned to the project task to which the billed or allocated transaction corresponds.

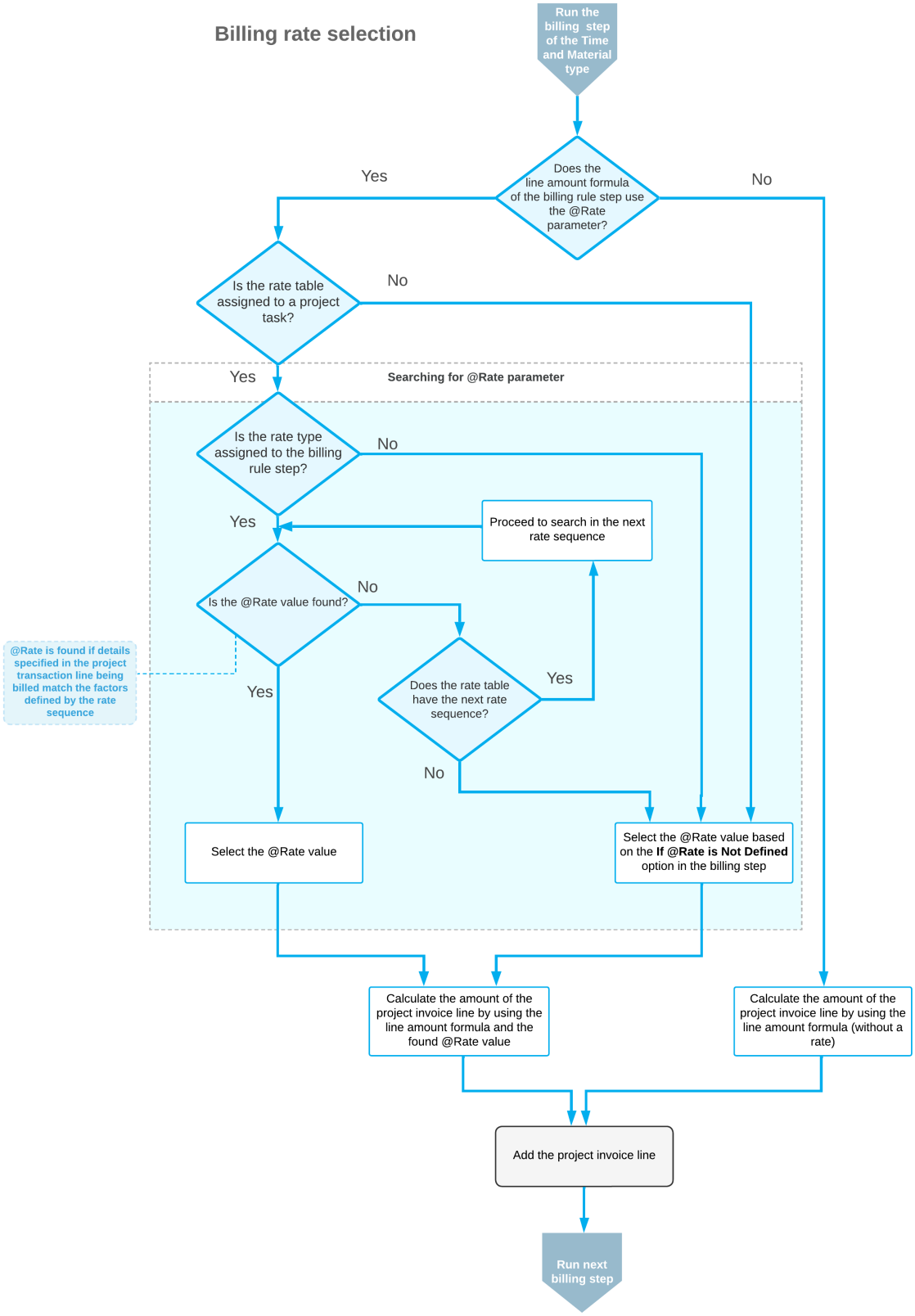
Each combination of rate table code, rate type, and rate code includes one rate sequence or multiple rate sequences, each of which defines billing rates based on a set of factors. The numeric identifiers of the sequences in the table define the order in which the system will search these sequences to find the applicable rate during the project billing or allocation process.

Starting with the first sequence defined in the table on the *Rate Lookup Rules* (PM205000) form, the system compares the settings specified in the project transaction to the factors defined by the rate sequence. If all the settings match, the system stops the search and uses the rate it has found as the value of the *@Rate* parameter in the formula. If any factor does not match, the system continues searching for the applicable billing rate in the next rate sequence until an applicable rate is found.

The system may not find an applicable rate in all sequences defined in the system for the combination of rate table code, rate type, and rate code. In this case, the system performs the action determined by the option selected in the **If @Rate Is Not Defined** box on the *Billing Rules* (PM207000) or *Allocation Rules* (PM207500) form for the step being performed. The system can do one of the following:

- Set the *@Rate* value to 0
- Set the *@Rate* value to 1
- Skip billing or allocating for the current project transaction
- Throw an error and stops the billing or allocation process

The following diagram shows how the system selects the value of the *@Rate* parameter if the account group specified in the project transaction is the same as the account group of the billing rule step.


Billing rate selection
Run the billing step of the Time and Material type
Does the line amount formula of the billing rule step use the @Rate parameter?
Yes
No
Is the rate table assigned to a project task?
No
Yes
Searching for @Rate parameter
Is the rate type assigned to the billing rule step?
No
Yes
Proceed to search in the next rate sequence
Is the @Rate value found?
No
@Rate is found if details specified in the project transaction line being billed match the factors defined by the rate sequence
Does the rate table have the next rate sequence?
Yes
Yes
No
Select the @Rate value
Select the @Rate value based on the If @Rate is Not Defined option in the billing step
Calculate the amount of the project invoice line by using the line amount formula and the found @Rate value
Calculate the amount of the project invoice line by using the line amount formula (without a rate)
Add the project invoice line
Run next billing step

Progress Billing: Mass Processing of Documents

This topic explains how to perform mass-processing operations related to progress billing, and how the system generates, changes, or works with documents as a result of the mass processing.

Mass-Billing Projects

You can initiate billing for multiple projects on the *Run Project Billing* (PM503000) form; this billing entails the creation of multiple invoices. A project is listed on the form only if the invoice date is after its next billing date, which is specified on the **Summary** tab of the *Projects* (PM301000) form.

To initiate billing for particular projects, you select the unlabeled check boxes in the rows of the projects to be processed in the table on this form, and click **Process** on the form toolbar. To instead initiate billing for all the listed projects, you click **Process All** on the form toolbar.

During processing, the system generates project invoices for the selected projects. Pro forma invoices will be created for only those projects that have the **Create Pro Forma Invoice on Billing** check box selected on the **Summary** tab of the *Projects* (PM301000) form; AR invoices will be created for projects for which this check box is cleared. The system creates project invoices with the date that is specified in the **Invoice Date** box in the Selection area of the form.

Mass-Releasing AR Invoices

Multiple accounts receivable invoices can be released at the same time on the *Release AR Documents* (AR501000) form. On this form, you select the unlabeled check boxes in the rows of the documents to be processed and click **Release** on the form toolbar to release the selected invoices; alternatively, you can click **Release All** to release all the invoices shown in the table.

Mass-Releasing Pro Forma Invoices

Pro forma invoices can be mass-released. To release multiple pro forma invoices at a time, you open the *Release Pro Forma Invoices* (PM506000) form, select the unlabeled check boxes in the rows of the pro forma invoices to be processed, and click **Release** on the form toolbar. To instead release all the listed pro forma invoices, you click **Release All** on the form toolbar.

Progress Billing: Related Reports and Forms

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

Reviewing the Actual Amounts of the Project

You can review the list of project transactions corresponding to a revenue budget line with a nonzero **Actual Amount** on the **Revenue 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 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.

Printing a Pro Forma Invoice

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.

Printing the Project Balance

While you are viewing a project on the *Projects* (PM301000) form, you can prepare a printable document showing the project balance at the project task level of detail; to do this, you click **Print Project Balance** on the More menu (under **Reports**). The system opens the printable document with the project balance on the *Project Balance* (PM621000) report. Then you can review the project balance, which is grouped by project tasks.

Time and Material Billing: Mass Processing

This topic explains how to perform mass-processing operations related to time and material billing, and how the system generates, changes, or works with documents as a result of the mass processing.

Mass-Billing Projects

You can initiate billing for multiple projects on the *Run Project Billing* (PM503000) form; this billing entails the creation of multiple invoices. A project is listed on the form only if the invoice date is after its next billing date, which is specified on the **Summary** tab of the *Projects* (PM301000) form.

To initiate billing for particular projects, you select the unlabeled check boxes in the rows of the projects to be processed in the table on this form, and click **Process** on the form toolbar. To instead initiate billing for all the listed projects, you click **Process All** on the form toolbar.

During processing, the system generates project invoices for the selected projects. Pro forma invoices will be created for only those projects that have the **Create Pro Forma Invoice on Billing** check box selected on the **Summary** tab of the *Projects* (PM301000) form; AR invoices will be created for projects for which this check box is cleared. The system creates project invoices with the date that is specified in the **Invoice Date** box in the Selection area of the form.

Mass-Releasing AR Invoices

Multiple accounts receivable invoices can be released at the same time on the *Release AR Documents* (AR501000) form. On this form, you select the unlabeled check boxes in the rows of the documents to be processed and click **Release** on the form toolbar to release the selected invoices; alternatively, you can click **Release All** to release all the invoices shown in the table.

Mass-Releasing Pro Forma Invoices

Pro forma invoices can be mass-released. To release multiple pro forma invoices at a time, you open the *Release Pro Forma Invoices* (PM506000) form, select the unlabeled check boxes in the rows of the pro forma invoices to be processed, and click **Release** on the form toolbar. To instead release all the listed pro forma invoices, you click **Release All** on the form toolbar.

Time and Material Billing: Related Report and Inquiry Forms

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

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 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.

Reviewing Unbilled 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

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.

Printing the Project Balance

While you are viewing a project on the *Projects* (PM301000) form, you can prepare a printable document showing the project balance at the project task level of detail; to do this, you click **Print Project Balance** on the More menu (under **Reports**). The system opens the printable document with the project balance on the *Project Balance* (PM621000) report. Then you can review the project balance, which is grouped by project tasks.

Appendix 3: Budgets and WIP Costs

This appendix provides additional materials for the lessons of Part 3.

Project Budget: Recalculation of the Project Balances

In rare cases, you may need to make the system refresh the project budget to be sure that the project balances match the corresponding transactions and that the documents and all project information is up to date. To do this, you recalculate the project budget.

You can run the recalculation of project balances on the following forms:

- On the *Projects* (PM301000) form: You can run recalculation for the selected project unless it has the *In Planning* status.
- On the *Recalculate Project Balances* (PM504000) form: You can mass-run recalculation for any number of selected projects with the *Active* or *Completed* status.

Applicable Scenarios

You run recalculation in the following cases:

- Project balances do not seem to match the total amounts of the corresponding project transactions. This may happen, for example, if project data has been modified through external tools or import scenarios. You need to bring the project budgets in line with the underlying project transactions.
- You have noticed that a project is not shown on the *Run Project Billing* (PM503000) form, even though it has project transactions pending billing.
- The draft invoice amounts and quantities in the project budget do not seem to match the values in corresponding pro forma invoices.
- The project values affected by change orders do not seem to match the values in corresponding documents.
- You have noticed that the inclusive taxes accumulated for revenue budget lines do not match the inclusive taxes in the corresponding accounts receivable documents.
- You have selected the **Internal Cost Commitment Tracking** check box on the *Projects Preferences* (PM101000) form or changed the mapping of accounts to account groups on the *Account Groups* (PM201000) form. Now you need to recalculate the existing commitments for the projects to make committed values match the quantities and amounts of the purchase orders and subcontracts.
- Project balances do not seem to match the total amounts and quantities of the corresponding purchase orders and subcontracts. This may happen, for example, if project data has been modified through external tools or import scenarios. You need to bring the committed values in line with the underlying commitments.
- You have noticed that the cost budget of the selected project does not show the lines that have been added to a project during the processing of the progress worksheets. Progress worksheets are available in the system if the *Construction* feature is enabled on the *Enable/Disable Features* (CS100000) form.
- You have imported the cost budget or the revenue budget for a project manually or by using the *Import by Scenario* (SM206036) form, and you need to restructure imported budgets according to the revenue budget level and cost budget level of the project.

Recalculation of the Actual Values of Projects

To recalculate the actual project budget values, you select the unlabeled check boxes in the rows of the projects to be processed on the *Recalculate Project Balances* (PM504000) form and then click **Process** on the form toolbar. Alternatively, you can click **Process All** to process all the projects shown in the table.

The system validates project balances and recalculates the values in the **Actual Quantity** and **Actual Amount** columns on the **Revenue Budget** and **Cost Budget** tabs of the *Projects* (PM301000) form.

Recalculation of the Unbilled Transactions

To recalculate project transaction information for a project, on the *Recalculate Project Balances* (PM504000) form, you need to select the **Recalculate Unbilled Summary** check box. You then select the unlabeled check box in a row with the project and click **Process** on the form toolbar. (Alternatively, you can click **Process All** to process all the projects shown in the table.)

The system validates project balance and recalculates the **Actual Quantity** and **Actual Amount** on the **Revenue Budget** and **Cost Budget** tabs of the *Projects* (PM301000) form, and also updates the list of unbilled transactions for the project. As a result, the project appears on the *Run Project Billing* form.

Recalculation of the Cost Budget Lines

During project budget recalculation, the system updates the cost budget lines of a project depending on the following settings:

- The **Cost Budget Update** system-wide setting on the *Projects Preferences* (PM101000) form, which can be *Detailed* or *Summary*.
- The **Cost Budget Level** setting specified for the particular project on the **Summary** tab of the *Projects* (PM301000) form. This setting determines the detail level of the cost budget for the project, which can be *Task*, *Task and Cost Code*, *Task and Item*, or *Task, Item, and Cost Code*.

Suppose that a project has the **Cost Budget Level** set to *Task and Item* on the *Projects* form. Also suppose that the cost budget of this project is based on cost transactions with multiple inventory items. The system recalculates the project budget as follows, depending on the **Cost Budget Update** option selected on the *Projects Preferences* form:

- *Detailed*: The system increases the level of detail of the project budget.

  Suppose that before you recalculate this project, on the **Cost Budget** tab of the *Projects* form, the project has a single line with the empty item code that represents all the cost transactions. When you recalculate this project, the system clears the values in this cost budget line and updates the cost budget with a separate line for each inventory item of the cost transactions. If some unprocessed cost transactions or progress worksheet lines are found for the project during the recalculation process, the system updates the cost budget line that has the same inventory item as in the cost transaction. If the cost budget has no line that has this inventory item, a new line with the inventory item is added.
- *Summary*: The system maintains the level of detail of the project budget and does not reduce it.

  Suppose that before you recalculate this project, on the **Cost Budget** tab of the *Projects* form, the project has a separate line for each inventory item of the cost transactions. If some unprocessed cost transactions are found for the project during the recalculation process, the system updates the cost budget line with the empty item code selected as the inventory item, regardless of the inventory item of the cost transaction. If the cost budget has no line with the empty item code, a new line with the empty item code is added.

For more information on the rules that the system uses to update the amounts and quantities in budget lines, see *Project Transactions: Update of the Project Budget Structure*.

Recalculation of the Revenue Budget Lines

During project budget recalculation, the system updates the revenue budget lines of a project depending on the following settings:

- The **Revenue Budget Update** setting on the *Projects Preferences* (PM101000) form, which can be *Detailed* or *Summary*.
- The **Revenue Budget Level** setting specified for each project on the **Summary** tab of the *Projects* (PM301000) form. This setting determines the detail level of the cost budget for the project, which can be *Task*, *Task and Cost Code*, *Task and Item*, or *Task, Item, and Cost Code*.

Suppose that a project has the **Revenue Budget Level** set to *Task and Item* on the *Projects* form. Also suppose that the revenue budget of this project is based on revenue transactions with multiple inventory items. The system recalculates the project budget as follows, depending on the **Revenue Budget Update** option selected on the *Projects Preferences* form:

- *Detailed*: The system increases the level of detail of the project budget.

  Suppose that before you recalculate this project, on the **Revenue Budget** tab of the *Projects* form, the project has a single line with the empty item code that represents all the revenue transactions. When you recalculate this project, the system removes this revenue budget line and updates the revenue budget with a separate line for each inventory item of the revenue transactions. If some unprocessed revenue transactions are found for the project during the recalculation process, the system updates the revenue budget line that has the same inventory item as in the revenue transaction. If the revenue budget has no line that has this inventory item, a new line with the inventory item is added.
- *Summary*: The system maintains the level of detail of the project budget and does not reduce it.

  Suppose that before you recalculate this project, on the **Revenue Budget** tab of the *Projects* form, the project has a separate line for each inventory item of the revenue transactions. When you recalculate this project, the system does not remove the revenue budget lines; it also does not update the revenue budget with a single line with the empty item code for all the revenue transactions. If some unprocessed revenue transactions are found for the project during the recalculation process, the system updates the revenue budget line with the empty item code selected as the inventory item, regardless of the inventory item of the revenue transaction. If the revenue budget has no line with the empty item code, a new line with the empty item code is added.

For more information on the rules that the system uses to update the amounts and quantities in budget lines, see *Project Transactions: Update of the Project Budget Structure*.

Recalculation of Change Orders

To recalculate budget values affected by change orders, you select the **Recalculate Change Orders** check box in the Selection area of the *Recalculate Project Balances* (PM504000) form. You then select the unlabeled check boxes in the rows of the projects to be processed and click **Process** on the form toolbar to process the selected projects. Alternatively, you can click **Process All** to process all the projects shown in the table.

The system validates the project balances and recalculates the following values on the **Revenue Budget** and **Cost Budget** tabs of the *Projects* (PM301000) form:

- **Budgeted CO Quantity**
- **Budgeted CO Amount**
- **Revised Budgeted Quantity**
- **Revised Budgeted Amount**

The recalculation of change orders does not involve the recalculation of the committed values that were changed with the change orders. To update the committed values, you need to rebuild commitments.

Rebuilding of Project Commitments

To rebuild commitments (purchase orders, project drop-ship orders, and subcontracts), you select the **Rebuild Commitments** check box in the Selection area of the *Recalculate Project Balances* (PM504000) form. You then select the unlabeled check boxes in the rows of the projects to be processed and click **Process** on the form toolbar to process the selected projects. Alternatively, you can click **Process All** to process all the projects shown in the table.

The system recreates commitments and recalculates the project balances. That is, it updates the following values on the **Cost Budget** tab of the *Projects* (PM301000) form:

- **Original Committed Quantity**
- **Original Committed Amount**
- **Committed CO Quantity**
- **Committed CO Amount**
- **Revised Committed Quantity**
- **Revised Committed Amount**
- **Committed Received Quantity**
- **Committed Invoiced Quantity**
- **Committed Invoiced Amount**
- **Committed Open Quantity**
- **Committed Open Amount**

Recalculation of Pro Forma Invoices

To recalculate pro forma invoices, you select the **Recalculate Draft Invoice Amount and Quantity** check box in the Selection area of the *Recalculate Project Balances* (PM504000) form. You then select the unlabeled check boxes in the rows of the projects to be processed and click **Process** on the form toolbar to process the selected projects. Alternatively, you can click **Process All** to process all the projects shown in the table.

The system validates the project balances and recalculates the **Draft Invoice Amount** and **Draft Invoice Quantity** on the **Revenue Budget** tab of the *Projects* (PM301000) form.

Recalculating Inclusive Taxes

To recalculate inclusive taxes, you select the **Recalculate Inclusive Taxes** check box in the Selection area of the *Recalculate Project Balances* (PM504000) form. You then select the unlabeled check boxes in the rows of the projects to be processed and click **Process** on the form toolbar to process the selected projects. Alternatively, you can click **Process All** to process all the projects shown in the table.

WIP Labor Costs in Fixed-Price Projects: Generated Transactions

When you allocate projects, the system creates allocation transactions based on the settings of the allocation rules associated with the project tasks. Depending on the settings of the allocation rules and project tasks, the system also can create reversing allocation transactions. These transactions are described in the following sections.

Allocation Transactions Generated on Allocation of a Project

When a project is allocated, the system generates a batch of the allocation transactions shown in the table below. The system assigns the *Allocation for <Project ID>* description to the generated batch.

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

- The debit account, which is specified in the **Account Origin** box on the **Allocation Settings** tab (**Debit Transaction** section) of the *Allocation Rules* (PM207500) form
- The credit account, which is specified in the **Account Origin** box on the **Allocation Settings** tab (**Credit Transaction** section) of the *Allocation Rules* form

Debit Account	Credit Account	Source of Account	Orig. Doc Type	Amount
Debit account	Credit account	Allocation rule	*Allocation*	Amount

You can review the created allocation transactions on the *Project Transaction Details* (PM401000) form. In the Selection area of this form, you select the project in the **Project** box. You can review allocation transactions in the table on the **Allocation Transactions** tab.

Reversing Allocation Transactions Generated on Billing of a Fixed-Price Project

When a fixed-price project is billed with a progress billing rule and the accounts receivable document is created, the system generates a batch of reversing allocation transactions shown in the following table, which prevents the allocation transactions from affecting the project balance. The reversing transactions copy the original allocation transactions and reverse the sign of the amount. The reversing batch is created with the *WIP Reversal* description and the *Balanced* status.

Debit Account	Credit Account	Source of Account	Orig. Doc Type	Amount
Debit account	Credit account	Allocation transaction	*WIP Reversal*	–(Amount)

You can review the created reversing allocation transactions on the *Project Transaction Details* (PM401000) form. In the Selection area of this form, you select the project in the **Project** box. You can review only allocation transactions on the **Allocation Transactions** tab. In the table on the tab, you can find the allocation transactions with the *WIP Reversal* type specified in the **Orig. Doc. Type** column.

WIP Labor Costs in Fixed-Price Projects: 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 related to the allocation process performed for a project.

> ⚠ 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 Allocation Transactions

You can review the list of all the corresponding allocation transactions of a project, including reversing allocation transactions, 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 review only allocation transactions on the **Allocation Transactions** tab. The *Allocation* type in the **Orig. Doc. Type** column corresponds to allocation transactions. The *WIP Reversal* type in the **Orig. Doc. Type** column corresponds to reversing allocation transactions.

The project transactions that have already been used as a source of allocation transactions have the check box selected in the **Allocated** column.

Printing Allocation Transactions

You can prepare the printable list of project transactions related to a particular project, including allocation transactions and reversing allocation transactions, by using the *Project Transactions* (PM633000) report.

The report shows the project transactions that the signed-in user has access rights to view.

Reviewing Project Balances

You can review the project budget broken down by account group on the **Balances** tab of the *Projects* (PM301000) form. To review the corresponding project transactions of an account group, including allocation transactions and reversing allocation transactions, 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.

WIP Labor Costs in Fixed-Price Projects: Mass-Processing of Documents

This topic explains how to allocate multiple projects, and how the system generates, changes, or works with projects as a result of the mass processing.

Mass-Allocating Projects

You can initiate allocating for multiple projects on the *Run Allocations by Projects* (PM502500) form; this allocation entails the creation of allocation transactions. On this form, you select the unlabeled check boxes in the rows of the projects to be processed in the table, and you click **Allocate** on the form toolbar. The system initiates allocation for the selected projects. Allocation transactions will be created for only those projects that have tasks with an associated allocation rule.

To initiate processing for all the projects listed in the table of the *Run Allocations by Projects* form, you click **Allocate All** on the form toolbar. The system initiates allocating for all the projects listed in the table.

Mass-Allocating Project Tasks

You can initiate allocating for multiple project tasks on the *Run Allocations by Tasks* (PM502000) form; this allocation entails the creation of allocation transactions. On this form, which displays only those project tasks that have an associated allocation rule, you select the unlabeled check boxes in the rows of the project tasks to be processed in the table, and you click **Allocate** on the form toolbar. The system initiates allocation for the selected project tasks.

To initiate processing for all the project tasks listed in the table of the *Run Allocations by Tasks* form, you click **Allocate All** on the form toolbar. The system initiates allocation for all the project tasks listed in the table.

Mass-Releasing Reversing Allocation Transaction

To mass-release project transactions, including reversing allocation transaction, you use the *Release Transactions* (PM501000) form. On this form, you select the unlabeled check boxes in the rows of the transactions to be released and click **Release** on the form toolbar to process the selected transactions; alternatively, you can click **Release All** to process all the transactions shown in the table.

Appendix 4: Cost Commitments

This appendix provides additional materials for the lessons of Part 4.

Committed Costs: 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 commitments.

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 the Commitments of a Project

You can review the list of a project's commitments on the *Commitments* (PM306000) form. In the Selection area of this form, you select the project; you can also filter the selected transactions by selecting a project task, an account group, and an inventory item.

The form displays the commitments associated with the branches to which your user has sufficient access rights.

Reviewing Commitments by Project Budget Line

You can review the commitments corresponding to a project budget line with a nonzero committed value on the **Cost Budget** tab of the *Projects* (PM301000) form. To review the corresponding commitments of a line, you click the line; then on the table toolbar, you click **View Commitments**, and the system opens the *Commitments* (PM306000) form.

Reviewing Commitments by Account Group

You can review the project budget broken down by account groups on the **Balances** tab of the *Projects* (PM301000) form. To review the commitments corresponding to an account group, you click a line; then on the table toolbar, you click **View Commitments**, and the system opens the *Commitments* (PM306000) form.

Reviewing Purchase Orders Related to a Project

You can review the list of purchase orders from which the project commitments originate on the **Commitments** tab of the *Projects* (PM301000) form.

Retrieving Committed Data for Analytical Reports

The commitment data is available in the analytical reports and aggregated by the following key fields of a project budget line:

- `Project ID`: The project
- `Project Task ID`: The project task
- `Account Group ID`: The account group

- `Inventory ID`: The inventory item

Committed Costs: Mass Processing of Documents

This topic explains how to perform mass-processing operations related to project commitments, and how the system generates, changes, or works with documents as a result of the mass processing.

Mass-Rebuilding Project Commitments

In some cases (for instance, if committed values of the project budget have been modified through external tools or import scenarios), you may need to rebuild commitments to make committed values match the quantities and amounts of the purchase orders.

To rebuild commitments, you use the *Recalculate Project Balances* (PM504000) form. On this form, you select the **Rebuild Commitments** check box in the Selection area. You also select the unlabeled check boxes in the rows of the projects to be processed and click **Process** on the form toolbar to process the selected projects; alternatively, you can click **Process All** to process all the projects shown in the table. For more information, see *Project Budget: Recalculation of the Project Balances*.

Appendix 5: Single-Tier Change Management

This appendix provides additional materials for the lessons of Part 5.

Single-Tier Change Management: Related Report and Forms

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

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 Change Orders by Project

You can review the list of change orders related to a particular project on the **Change Orders** tab of the *Projects* (PM301000) form.

Printing of a Change Order

You can print a change order with any status by clicking **Print** on the More menu of the *Change Orders* (PM308000) form. The system opens the printable form of the change order, which is project-specific and specified for the *CHANGE ORDER* mailing of the project on the **Mailing & Printing** tab of the *Projects* (PM301000) form. By default, the generated report is the *Change Order* (PM643000) report, which supports the printing of revenue budget lines, header-level and line-level notes, and the detailed description of the change order. You can review the change order and print it.

Single-Tier Change Management: Mass Processing of Documents

This topic explains how to perform mass-processing operations related to change orders, and how the system generates, changes, or works with documents as a result of the mass processing.

Mass-Recalculating Change Orders

In some cases (for instance, if the project budget has been adjusted with change orders that have been modified through external tools or import scenarios), you may need to validate the project balances to make change order quantities and amounts of the project budget match the values of the change orders.

To recalculate budget values affected by change orders, you use the *Recalculate Project Balances* (PM504000) form. On this form, you select the **Recalculate Change Orders** check box in the Selection area. You also select the unlabeled check boxes in the rows of the projects to be processed and click **Process** on the form toolbar to process the selected projects; alternatively, you can click **Process All** to process all the projects shown in the table. For more information, see *Project Budget: Recalculation of the Project Balances*.

Appendix 6: Time Tracking

This appendix provides additional materials for the lessons of Part 6.

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 *Labor Rates* (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 Cards* (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 **Expense Account Source** setting on the *Projects Preferences* (PM101000) form	The value in the time card line	The value in the time card line	Billable quantity * unit rate	0.00
Expense Accrual account defined by the **Expense Accrual Account Source** setting on the *Projects Preferences* 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 Cards* (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 Cards* (EP305000) form and clicking **View Transactions** on the form toolbar. The system opens the project transaction on the *Project Transactions* (PM304000) form.

Employee Time Billing: Mass Processing of Documents

This topic explains how to perform mass-processing operations related to employee time tracking, and how the system generates, changes, or works with documents as a result of the mass processing.

Mass-Releasing Time Activities

To mass-release time activities, you use the *Release Time Activities* (EP507020) form. On this form, you select the unlabeled check boxes in the rows of the documents to be released and click **Release** on the form toolbar to process the selected documents; alternatively, you can click **Release All** to process all the documents shown in the table.

Mass-Releasing Time Cards

To mass-release time cards, you use the *Release Time Cards* (EP505010) forms. On this form, you select the unlabeled check boxes in the rows of the documents to be released and click **Release** on the form toolbar to

process the selected documents; alternatively, you can click **Release All** to process all the documents shown in the table.