

## Project Accounting

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# P100 Project Implementation and Processing

## Training Guide

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# How to Use This Course

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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.

This course must be completed on Acumatica ERP 2021 R1. For this course, you will use an Acumatica ERP tenant with the *U100* dataset preloaded.

You perform the following general steps to complete the course:

1. You or your system administrator prepare an Acumatica ERP 2021 R1 Update 2 or later instance, as described in [How to Create a Tenant with the U100 Dataset](#).
2. In the prepared tenant with the *U100* dataset preloaded, you complete all the lessons.
3. At Partner University, you take the assessment test.
4. At Partner University, you complete the course survey to finish the course and get the Partner University certificate of course completion.

## What Is in This Guide

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



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

## What Is in a Lesson

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



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

## What Is in Additional Materials

In the **Additional Materials** chapter, 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 Are the Documentation Resources

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

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

## How to Create a Tenant with the *U100* Dataset

To add to an existing Acumatica ERP instance a tenant with the *U100* dataset, which is required for the completion of this course, and prepare the tenant for completing the activities, perform the following instructions:

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

The system uploads the snapshot to the **Snapshots** tab of the [Tenants](#) form.

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

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

## Licensing Information

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

# Company Story

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This topic explains the organizational structure and operational activity of the company with which you will work 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.
- Service and Equipment Sales Center: This branch is a service center with a small warehouse where juicers are stored. This branch assembles juicers, sells juicers, installs juicers, trains customers' employees to operate juicers, and provides juicer servicing.

## Operational Activity

The company has been operating starting in the *01-2020* financial period. In November 2020, 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. Because the company has grown, the equipment center has begun its operations in *01-2021*.

## Company Purchases

The company purchases fruits and spices from large fruit vendors for sale and for jam production. For producing jams and packing jams and fruits, the company purchases jars, labels, and paper bags from various vendors. For the internal needs of the main office and store, the company purchases stationery (printing paper, pens, and pencils), computers, and computer accessories from various vendors. The company also purchases juicers and juicer parts for sale from a large juicer vendor and either purchases the installation service for the juicers or provides the installation service on its own, depending on the complexity of the installation.

## Company Sales and Services

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

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

services. The branch performs one-time endeavors as well as complex projects with their own budgets.



# Part 1: Project Implementation

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## Lesson 1: Configuring Basic Project Accounting

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### Project Basic Configuration: General Information

The project accounting functionality in Acumatica ERP offers a new way of handling financial and management accounting in the company. By using projects, you can break corporate activity into separate units, each of which denotes a set of services provided to different customers, track the progress of works being performed for each individual project, and estimate profitability for the projects. In the process, you gain valuable insight into what is happening within the company.

This topic provides a general overview of the configuration steps that you have to perform before you can start using project accounting functionality in Acumatica ERP.

### Learning Objectives

In this chapter, you will learn how to perform the initial configuration for the project accounting functionality. In particular, you will do the following:

- Enable the needed system features
- Specify the minimum required configuration
- Learn the recommended settings that you can specify to make the system fit your business requirements

### Applicable Scenarios

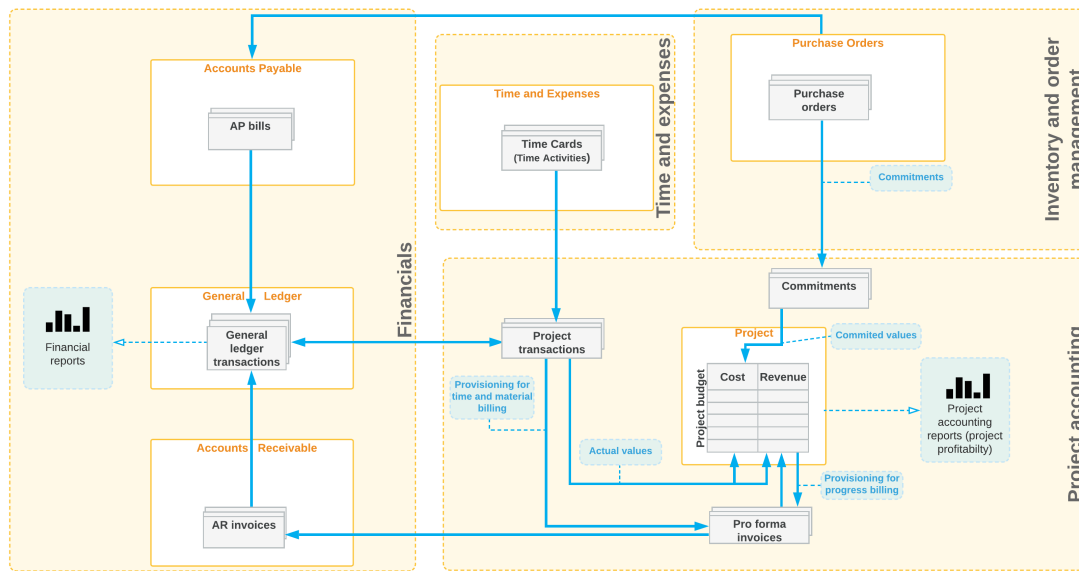
You perform the basic configuration of the project accounting functionality in any of the following cases:

- When you initially implement Acumatica ERP and the *Projects* feature is included in your license.
- When you have purchased the *Projects* feature, and you need to configure project accounting in the already-implemented system.

### Integration of Projects with Other System Areas

To track budgets, costs, and future revenues for projects, the project accounting functionality can be tightly integrated with other system areas: general ledger, accounts payable, accounts receivable, cash management, inventory and order management, customer management, and time and expenses. By using this integration, you can collect comprehensive information about transactions related to projects. The following diagram illustrates the integration of project accounting with other functional areas of Acumatica ERP.

## Integration of projects with other system areas



You specify the system areas in which you are going to make integration with projects possible in the **Visibility Settings** section on the *Projects Preferences* (PM101000) form. The active projects become visible in all the areas in which you want the ability to process documents or transactions related to particular projects; all related data entry forms get two additional elements—**Project** and **Task**. Each time you enter a document or transaction, or a particular document or transaction line, that relates to a specific active project, you select the appropriate project and task to associate this document or transaction (or this particular document or transaction line) with the project; the information from these documents and transactions is represented in the project and affect project budget.

## Tracking Non-Project Transactions

When you are initially configuring the project accounting functionality, you define the non-project code on the *Projects Preferences* (PM101000) form. You specify this code for specific documents or transactions (or their lines) to indicate that they are not associated with any project. By default, this code is *X*, but you can specify a different non-project code. If a particular transaction is not related to any project, you specify the non-project code in the document or transaction, or the document or transaction line. The information from the documents or document lines with the non-project code specified is not used in project accounting and does not update project balances.

## Workflow of the Project Accounting Implementation



Each particular feature may be subject to additional licensing; please consult the Acumatica ERP sales policy for details.

To prepare the system for project accounting, you perform the following general steps:

1. You configure basic company settings and implement the minimum general ledger, cash management, accounts payable, and accounts receivable functionality. For details, see *Acumatica ERP Implementation Guide*.

2. You perform basic configuration of inventory and order management and customer management areas if the *Inventory and Order Management* and *Customer Management* features are included in your license. For details, see [Order Management with Inventory Configuration: Implementation Activity](#) and [Configuring CRM Functionality: Implementation Activity](#).
3. If time tracking in projects is planned, you perform basic configuration of time reporting functionality. For an example of configuration, see [Time Tracking Configuration: General Information](#).
4. On the [Projects Preferences](#) (PO101000) form, you specify the necessary settings (and any optional settings) to be used in project accounting, including the non-project code, which you use to indicate that specific documents or transactions (or their lines) are not associated with any project. For an example of configuration, see [Project Basic Configuration: Implementation Activity](#).
5. On the [Account Groups](#) (PM201000) form, you define the account groups that will aggregate information about the GL transactions related to the projects. For an example of defining account groups, see [Account Groups: Implementation Activity](#).
6. On the [Billing Rules](#) (PM207000) form, you create the billing rules to be used for billing projects. For details, see the topics of the [Creating Billing Rules](#) chapter.
7. On the [Projects](#) (PM301000) form, you configure a project. For details on the project life cycle and project configuration, see the topics of the [Processing Projects](#) chapter.

## Project Basic Configuration: Implementation Activity

You perform the following implementation activity to prepare the system for creating and processing projects.

### Story

Suppose that you, as the implementation manager of the SweetLife Fruits & Jams company, need to configure the minimum required functionality to prepare the system for accounting for projects.

### System Preparation

Before you start configuring the basic project functionality, you perform the following instructions:

1. In a new tenant, prepare the company with the basic settings, as described in the [Company Without Branches: General Information](#).



You may practice in configuring a new company, or review the settings that have already been preconfigured in the U100 dataset.

2. Sign in to a company as a system administrator with the *gibbs* username.
3. On the [Enable/Disable Features](#) (CS100000) form, enable the *Projects* feature.

### Step: Reviewing Basic Project Accounting Functionality

To perform basic configuration of the project accounting functionality, proceed as follows:

1. Open the [Projects Preferences](#) (PM101000) form.

2. On the **General Settings** tab (**General Settings** section), make sure that *X* is selected in the **Non-Project Code** box. This is the code that will be used by default in all transactions and documents that are not related to any projects.
3. Make sure that *<N/A>* is selected in the **Empty Item Code** and select *HOUR* in the **Empty Item UOM** box. The system will insert this item ID and UOM, respectively, in project-related lines that are not associated with a specific item.
4. Make sure the **Automatically Post on Release** check box is selected.
5. Select the **Automatically Release Allocation** check box.
6. In the **Visibility Settings** section of the **General Settings** tab, make sure the check boxes are selected for all areas in which the projects will be used.
7. Save your changes to the form.

You have configured the basic project accounting functionality. Now you can proceed with creating account groups.

## Lesson 2: Creating Account Groups

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### Account Groups: General Information

An account group is an entity in Acumatica ERP that you map to a subset of general ledger accounts and then specify in project-related documents. Because they are mapped to general ledger accounts, account groups facilitate transfer of the project-related financial information between the general ledger transactions and project transactions.

#### Learning Objectives

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

- Prepare the system for the creation of account groups
- Create an account group and map accounts to this group
- Review the chart of accounts and find the account group associated with a particular GL account

#### Applicable Scenarios

You may need to create an account group in the following cases:

- When you are initially configuring project accounting functionality
- When you are going to track a particular type of expenses or another type of project balances separately

#### Types of Account Groups

You create account groups on the [Account Groups](#) (PM201000) form. An account group can belong to one of the following types: *Asset*, *Liability*, *Expense*, *Income*, or *Off-Balance*. An account group may include any number of general ledger accounts of particular types:

- An account group of the *Asset* or *Liability* type may include asset or liability accounts. Transactions posted to these account groups are displayed on the *Project Budget* (PM309000) form and on the **Balances** tab of the *Projects* (PM301000) form, but are not displayed on the **Revenue Budget** and **Cost Budget** tabs of the *Projects* form.
- An account group of the *Income* or *Expense* type may include accounts of any type (income, expense, asset, or liability). Transactions posted to these account groups are displayed on the *Project Budget* form, on the **Balances** tab of the *Projects* form, and on the **Revenue Budget** and **Cost Budget** tabs of the *Projects* form.
- An account group of the *Off-Balance* type may include accounts of any type (income, expense, asset, or liability).

You can use account groups of the *Off-Balance* type to collect and track for projects statistical and other information that is unrelated to finance. Account groups of the *Off-Balance* type are not mapped to any general ledger accounts; thus, the transactions posted to account groups of this type will not update the general ledger. For example, you might define an off-balance group for unrecognized revenue: You may want to see the amount in your project reporting, but you do not want to post to the general ledger until the actual billing is done and thus the revenue is recognized. As another example, you can create an off-balance group for recording all work hours spent by employees on the project if you want to know the total amount associated with the number of work hours spent, but you do not want to post those amounts to general ledger. In addition, you can select the **Expense** check box to track the amounts in the off-balance account group as expenses. The system will display the transactions posted to this account group on the *Project Budget* form and on the **Balances** and **Cost Budget** tabs of the *Projects* form.

## Recommendations for Creating Account Groups

Before you define account groups, you should identify the accounts that will be used in project-related transactions. We recommend that you consider the following rules and limitations as you plan the account groups you will create:

- Each general ledger account can be mapped to only one account group.
- Accounts receivable accounts (accounts debited by project billing) and accounts payable accounts (accounts credited by vendor bills) should not be included in account groups.
- Accounts that are linked to cash accounts (that is, accounts for which the **Cash Account** check box is selected on the *Chart of Accounts* (GL202500) form) should not be included in account groups.
- Allocation and billing rules select transactions by account groups. If transactions of two accounts should follow different allocation or billing rules or use different rates, these two accounts should be included in different account groups. If the transactions usually use the same rate, consider including their accounts in one group.

## Account Groups: Implementation Activity

In the following implementation activity, you will learn how to create account groups.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

## Story

Suppose that you, as an implementation manager, are configuring project accounting for SweetLife Fruits & Jams company. You need to create an account group for advertising expenses and map the general ledger account to which the expenses will be recorded to this group.

### System Preparation

To prepare to perform the instructions of the activity, launch the Acumatica ERP website, and sign in to a company with the U100 dataset preloaded as Kimberly Gibbs, a system administrator, by using the *gibbs* username and the *123* password.

### Step 1: Creating an Account Group

To create an account group, do the following:

1. On the form toolbar of the [Account Groups](#) (PM201000) form, click **Add New Record**.
2. In the **Account Group ID** box, type `ADVERTEXP`.  
Notice that the **Active** check box is selected by default.
3. In the **Type** box, select *Expense*.
4. In the **Description** box, type `Advertising Expenses`.
5. On the table toolbar of the **Accounts** tab, click **Add Row**, and in the row, select the *61000 - Advertising Expense* account.
6. Save the account group.

### Step 2: Reviewing the Chart of Accounts

To make sure that the account group has been configured correctly, do the following:

1. In the search box on the [Chart of Accounts](#) (GL202500) form, type `61000`.
2. In the **Account Group** column of the only row, notice that `ADVERTEXP` is specified (as shown in the following screenshot), which means that the account is mapped to this account group.

Chart of Accounts ☆

CUSTOMIZATION TOOLS ▾

61000

| Account | Account Class | Type    | Active                              | Description         | Control Account Module | Allow Manual Entry       | Post Option | Cash Account             | Account Group | Secured                  |
|---------|---------------|---------|-------------------------------------|---------------------|------------------------|--------------------------|-------------|--------------------------|---------------|--------------------------|
| 61000   | EXADVERT      | Expense | <input checked="" type="checkbox"/> | Advertising Expense |                        | <input type="checkbox"/> | Summary     | <input type="checkbox"/> | ADVERTEXP     | <input type="checkbox"/> |

**Figure: Account mapped to the account group**

You have configured the account group and mapped a general ledger account to this group.

## Lesson 3: Working with Fixed-Price Projects

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## Project Processing: General Information

A project in Acumatica ERP is a one-time endeavor with its own budget, costs, and revenues; the funding and deliverables of a project are usually finite. In the system, a project contains various specifications that affect project completion, such as the date range, customer, and resources (including employees and equipment).

### Learning Objectives

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

- Plan a project structure
- Create a project and specify its settings
- Set up project security
- Process a project during its life cycle

### Applicable Scenarios

You create a project to plan work to be performed for a customer, define budgets for the planned work, track the progress of completion of the planned work, bill the customers for the provided services, and track the costs and revenues of the provided services.

### Type of Projects

You can use projects for tracking activities involving customer interaction (external projects) and in-house work (internal projects). The key objective of external projects is balancing costs and income to make sure the organization remains profitable, while meeting project goals and maximizing customer satisfaction. The scope of internal projects is typically limited to the physical and organizational boundaries of your organization; these projects serve the needs of the organization and never produce any revenue.

Depending on which activities you are going to track within a project, you can assign it one of the following types:

- A fixed-price project, which is an external project in which services and products are provided to customers at a fixed price; the price of the project is defined at the beginning of the project and is not changed during its completion (unless any change orders are being processed for the project).
- A cost-plus project, which is an external project in which the prices are calculated as a percentage of the costs. The final price of the cost-plus project depends on the overall cost of fulfilling the project, and the costs may be billed with or without a premium.
- An internal project, which is used to track activities completed within your company. The scope of these projects is limited to the physical and organizational boundaries of an organization; these projects serve the needs of the organization and never produce any revenue. Internal projects have budgets, do not include billing settings, and are not associated with any customer.

### Project Settings

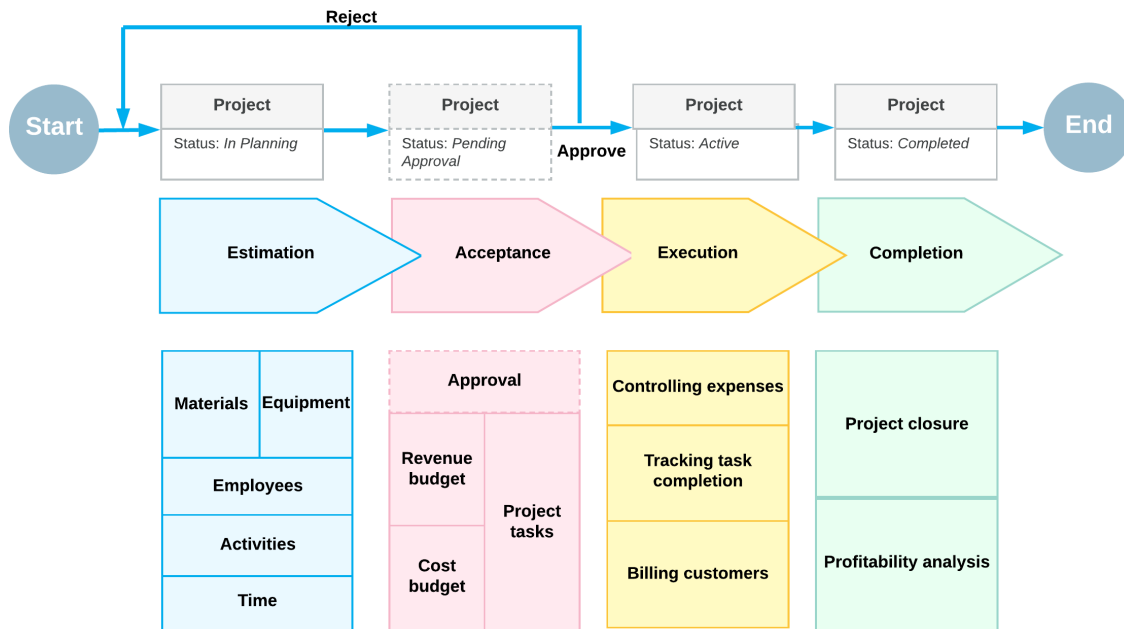
You create a new project and specify its settings on the [Projects](#) (PM301000) form. When you are manually adding a new project to the system, you enter the following information:

- General information: This information includes the description, start date, end date, and billing period. You also determine when the project is billed: on the date of the customer statement, at the end of each month, at the end of each quarter, or at the end of each year.
- Project tasks: You must define the project tasks of the project. A project task in a project is a separate work unit with its own life cycle, budget, cost, revenue, and billing rule. Budgeted, revised, and actual amounts in the project are tracked by account group balances, each of which is the total of all the corresponding amounts in the project tasks. That is, the project does not have any balances beyond those in the project tasks of the project.
- Employees: You specify the employees to be involved in the project. If needed, you can specify different labor classes for regular working hours and for overtime hours.
- Equipment: You can list the equipment to be used in the project. For a particular piece of equipment, you can override the default run, standby, and suspend rates.
- Budget: You specify the budget, which holds the estimated expenses and revenues for a project.
- Attributes: You can specify attribute values for the project if any attributes have been assigned to projects on the *Project Attributes* (PM202000) form and for project tasks if any attributes have been assigned to tasks.

## Project Processing: Project Life Cycle

In Acumatica ERP, a project is a one-time or recurring endeavor with a specific scope, time frame, and budget. From the project’s initiation to its completion, a project goes through the following stages and is assigned the statuses shown in the following diagram.

Understanding the project life cycle





Each stage is described in greater detail in the sections below.

## Project Estimation

During the project estimation stage, you specify project settings on the [Projects](#) (PM301000) form, define activities, estimate the time required for the completion of each project task, and populate the project with employees, resources, and equipment. Each project, once it has been created and saved in the system, is assigned the *In Planning* status.

A project with the *In Planning* status is not available for selection on data entry forms in other functional areas in which the project is visible. You can add new activities to projects and project tasks that have the *In Planning* status by using the [Projects](#) and [Project Tasks](#) (PM302000) forms. For instance, you can add an employee activity for planning budgets for project tasks. However, the transactions generated for completed activities (if any) cannot be released until the project is assigned the *Active* status.

## Project Acceptance

The acceptance stage includes reaching an agreement with all the stakeholders, including customers and employees, as well as estimating the budget for the project and the expenditures it will entail.

If the approval of projects is required in your system, the project is submitted for approval and is assigned the *Pending Approval* status once it is taken off hold. The project has this status until it is approved or rejected on the [Approvals](#) (EP503010) form by an assigned employee. If approved, the project is assigned the *Active* status. If rejected, the project is assigned the *In Planning* status and requires additional changes before it can be submitted for approval again. For more information on approvals, see [Approval of Projects and Project-Related Activities](#).

## Project Execution

During the execution stage, the project is in progress and project transactions can be posted to it. In this stage, the project retains the *Active* status. Project tasks are completed individually; the completion of a project task does not affect the completion of the project to which the task belongs.

Active projects and their project tasks become available for selection on the forms of the functional areas in which the projects are visible. When you create a project-related transaction or document, you need to specify the specific project and project task to indicate that this transaction or document must be tracked within the project; also, you can specify whether the transaction or document is billable for the project task. Transactions in which the non-project code is specified are not tracked in any project.

If any budget changes occur during the course of the project, the system preserves the initial budget amounts, and tracks the revised figures for the project budget.

## Project Completion

The project is considered completed when all its tasks are completed. Once the project is finished, the project accountant completes it by manually assigning it the *Completed* status, and analyzes the project profitability. Project transactions can no longer be posted to a project with the *Completed* status.



To simplify the tracking of the project completion percentage, you can create a separate dedicated task and use it exclusively to manually specify the project completion percentage, which you evaluate by using all the information available about the progress of project tasks and project-related transactions.

## Project Processing: To Create a Fixed-Price Project

The following activity will walk you through the process of initial creation of a simple fixed-price project.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### Story

Suppose that the Lake Cafe customer has ordered a juicer from the SweetLife Fruits & Jams company, along with two hours of site review and four hours of installation services. The work will start on *1/1/2021* and must be completed by *1/30/2021*. SweetLife's project accountant has decided to create a project to track costs and revenues for the performed work. The project will be completed in two phases: phase 1 the site review, and phase 2 will involve the sale and installation of the juicer. To track progress of each phase separately, the project accountant decided to define them as separate project tasks. Also, the project accountant will specify the revenue budget information for each project task and inventory item.

The project will be billed once, when both of the project tasks are completed. Also, the project accountant has decided to skip the creation of a pro forma invoices, because all amounts have already been budgeted and agreed upon with the customer, so the direct AR invoice will be created during billing process.

Acting as the project accountant, you will create the new project and specify all needed settings.

### Configuration Overview

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

- For the purposes of this activity, on the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the [Stock Items](#) (IN202500) form, the *JUICER10* stock item has been defined.
- On the [Non-Stock Items](#) (IN202000) form, the *SITEREVIEW* and *INSTALL* non-stock items have been defined.
- On the [Billing Rules](#) (PM207000) form, the *PROGRESS* billing rule has been defined. This rule is configured for gradually billing the projects at a fixed contract amount.

### Process Overview

On the [Projects](#) (PM301000) form, you will create a new project and specify its general settings on the **Summary** tab. Then on the **Tasks** tab, you will add the project tasks that will be performed during the completion of a project. On the **Revenue Budget** tab, you will define the planned revenue budget for the project.

### System Preparation


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

1. Launch the Acumatica ERP website, and sign in to a company with the *U100* dataset preloaded; you should sign in as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/1/2021*. If a different date is displayed, click the Business Date menu button, and select *1/1/2021* on the calendar.

## Step 1: Creating a Project and Specifying Its General Settings

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

1. On the form toolbar of the [Projects](#) (PM301000) form, click **Add New Record** to create a project, and specify the following settings in the Summary area:
  - **Project ID:** `INSTLAKE01`
  - **Customer:** `LAKECAFE - Lake Cafe`
  - **Description:** `Installation project for Lake Cafe`
2. On the **Summary** tab, specify the following settings:
  - **Revenue Budget Level:** *Task and Item*  
 You select this option to include more detail to the revenue budget structure. With this setting, you will be able to select an inventory item in a revenue budget line.
  - **Cost Budget Level:** *Task and Item*  
 You select this option to include more detail to the revenue budget structure. With this setting, you will be able to select an inventory item in a cost budget line.
  - **Start Date:** *1/1/2021*
  - **End Date:** *1/30/2021*
  - **Project Manager:** *Pam Brawner*
  - **Change Order Workflow:** `Cleared`  
 You clear this check box because for this simple fixed-price project no changes will be required.
  - **Billing Currency:** *USD* (selected automatically)
  - **Billing Period:** *On Demand*  
 You select the *On Demand* billing period to indicate that the billing can be performed at any time.
  - **Billing Rule:** *PROGRESS*  
 This predefined rule will be specified by default in all project tasks added to the project.

 For detail on configuring billing rule for billing by progress, refer to [Billing Rules: Progress Billing](#) and [Billing Rules: To Configure a Progress Billing Rule](#).

  - **Create Pro Forma On Billing:** `Cleared`

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

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

## Step 2: Adding Project Tasks

To add project tasks to the project, do the following:

1. On the **Tasks** tab, add to the project the two tasks listed in the following table by clicking **Add Row** on the table toolbar for each and specifying the listed identifier, task type, and description in the row.

| Task ID | Type                         | Description  |
|---------|------------------------------|--------------|
| PHASE1  | <i>Cost and Revenue Task</i> | Site review  |
| PHASE2  | <i>Cost and Revenue Task</i> | Installation |

Notice that the *PROGRESS* billing rule has been automatically specified for both added tasks.

2. On the table toolbar of the **Tasks** tab, click **Activate Tasks** to change the status of the added tasks from *In Planning* to *Active*.
3. Save your changes to the project.

## Step 3: Specifying the Project Revenue Budget

To specify the project revenue budget, do the following:

1. On the **Revenue Budget** tab, add each line of the project revenue budget that is listed in the following table by clicking **Add Row** and specifying the listed settings in the row.

| Project Task  | Inventory ID      | Account Group  | Original Budgeted Quantity | Unit Rate |
|---------------|-------------------|----------------|----------------------------|-----------|
| <i>PHASE1</i> | <i>SITEREVIEW</i> | <i>REVENUE</i> | 2.00                       | 50.00     |
| <i>PHASE2</i> | <i>JUICER10</i>   | <i>REVENUE</i> | 1.00                       | 1,500.00  |
| <i>PHASE2</i> | <i>INSTALL</i>    | <i>REVENUE</i> | 4.00                       | 100.00    |

2. Review the original and revised columns in the revenue budget lines, as shown in the following screenshot.

Projects  
INSTLAKE01 - Installation project for Lake Cafe

ACTIVATE PROJECT ACTIONS INQUIRIES REPORTS

Project ID: INSTLAKE01 - Installation project for L... Status: In Planning Actual Income: 0.00  
 Customer: LAKECAFE - Lake Cafe Actual Expenses: 0.00  
 Template: Margin: 0.00 % 0.00  
 Description: Installation project for Lake Cafe

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

Project Task: Pending Invoice Amount Total: 0.00

| Project Task | Inventory ID               | Account Group | Description                                     | Original Budgeted Quantity | UOM   | Unit Rate  | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Draft Invoices Amount | Actual Quantity | Actual Amount | Completed (%) |
|--------------|----------------------------|---------------|---|----------------------------|-------|------------|--------------------------|---------------------------|-------------------------|-----------------------|-----------------|---------------|---------------|
| PHASE1       | <a href="#">SITEREVIEW</a> | REVENUE       | Site review                                     | 2.00                       | HOUR  | 50.0000    | 100.00                   | 2.00                      | 100.00                  | 0.00                  | 0.00            | 0.00          | 0.00          |
| PHASE2       | <a href="#">INSTALL</a>    | REVENUE       | Installation of equipment at the customers'...  | 4.00                       | HOUR  | 100.0000   | 400.00                   | 4.00                      | 400.00                  | 0.00                  | 0.00            | 0.00          | 0.00          |
| PHASE2       | <a href="#">JUICER10</a>   | REVENUE       | Pro series juicer with a production rate of ... | 1.00                       | PIECE | 1,500.0000 | 1,500.00                 | 1.00                      | 1,500.00                | 0.00                  | 0.00            | 0.00          | 0.00          |

**Figure: Revenue budget of a fixed-price project**

For each budget line, the system automatically calculated the **Original Budgeted Amount** as the **Original Budgeted Quantity** multiplied by the **Unit Rate**. The system also filled in the **Revised Budgeted Quantity** and **Revised Budgeted Amount** columns with the values of **Original Budgeted Quantity** and **Original Budgeted Amount** columns, respectively.

**3. Save your changes to the project.**

You have not configured the cost budget for the project because you do not need to track if the project expenses are within the budgeted values. When you enter project transactions that represent the project expenses, the system will automatically populate the cost budget with the actual values.

You have finished configuring the project. Now you can complete the [Project Processing: To Process a Fixed-Price Project](#) activity to practice completing the project life cycle.

## Project Processing: To Process a Fixed-Price Project

The following activity will walk you through the life cycle of a fixed-price project.

### Story

Suppose that the Lake Cafe customer has ordered a juicer from the SweetLife Fruits & Jams company, along with the site review and installation services. SweetLife's project accountant has created a fixed-price project to account for this work. In the period from 1/1/2021 through 1/30/2021, the company employees have performed work related to the project tasks.

Acting as the project accountant, you need to support the project during the entire project life cycle.

### Configuration Overview

For the purposes of this activity, on the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.

### Process Overview

You will activate the project to indicate that it has been started. Then you will create project-related transactions on the [Project Transactions](#) (PM304000) form to record the provided services. You will bill the project on the [Projects](#) (PM301000) form and review the prepared AR invoice. Then you will close the project, and review the profitability report on the [Project Profitability](#) (PM624000) report form.

## System Preparation

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

1. Download the [INSTLAKE01\\_Project\\_Transactions](#) file to your computer.
2. Launch the Acumatica ERP website, and sign in to a company with the *U100* dataset preloaded; you should sign in as Pam Brawner by using the *brawner* username and the *123* password.
3. 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 *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
4. Create the *INSTLAKE01* project, as described in [Project Processing: To Create a Fixed-Price Project](#).

### Step 1: Activating the Project

To indicate that the *INSTLAKE01* project has been started, do the following:

1. On the [Projects](#) (PM301000) form, open the *INSTLAKE01* project, which you have created in [Project Processing: To Create a Fixed-Price Project](#).
2. On the form toolbar, click **Activate Project**. The system assigns the project the *Active* status.

### Step 2: Uploading Project Transactions

To upload and process the transactions of this project, do the following:

1. On the [Project Transactions](#) (PM304000) form, create a new transaction with *PM* selected as the **Module** in the Summary area.
2. In the **Description** box, type `The services for the INSTLAKE01 project.`
3. On the table toolbar, click **Load Records from File**, and upload the transactions from the [INSTLAKE01\\_Project\\_Transactions](#) file, you have downloaded. While you are uploading the transactions, leave the default column mapping.
4. Make sure that the **Total Amount** in the Summary area is *1,600.00*.
5. On the form toolbar, click **Save** to save the batch of project transactions, and then click **Release** to release it.
6. On the [Projects](#) (PM301000) form, open the *INSTLAKE01* project, and make sure that the **Actual Expenses** box in the Summary area now shows *1,600.00*. On the **Cost Budget** tab, notice that the system has updated the cost budget of the project—that is, three cost budget lines have been added. Also, the **Actual Quantity** and **Actual Amount** columns have been populated with the amounts from the released project transactions.

### Step 3: Billing the Project

To create an accounts receivable invoice for the project, do the following:

1. While you are still reviewing the *INSTLAKE01* project on the [Projects](#) (PM301000) form, on the **Revenue Budget** tab, specify *100.00* as the **Completed (%)** in each of three revenue budget lines to indicate that the project tasks have been fully completed.

The system calculates the **Pending Invoice Amount** of the revenue budget lines as \$100, \$400, and \$1,500. The **Pending Invoice Amount Total** on the table toolbar is \$2,000. Because the fixed-price project has a nonzero pending invoice amount, you can now bill the project.

2. Save your changes to the project.
3. On the form toolbar, click **Run Project Billing**. The system creates an AR invoice, which should look like the one shown in the following screenshot, and opens it on the *Invoices and Memos* (AR301000) form. The system create the invoice lines based on the revenue budget lines of the corresponding project with the amounts that equal the pending invoice amounts. The invoice total, which is \$2,000, equals the pending invoice total.

The screenshot shows the 'Invoices and Memos' form for 'Lake Cafe' with invoice number 000099. The 'Detail Total' is 2,000.00. Below the form is a table of invoice lines:

| Inventory ID | Transaction Descr.                               | Quantity | UOM   | Unit Price | Ext. Price | Discount Percent | Discount Amount | Amount   | Account | Description   | Project Task |
|--------------|--|----------|-------|------------|------------|------------------|-----------------|----------|---------|---------------|--------------|
| SITEREVIEW   | Site review                                      | 0.00     | HOUR  | 50.0000    | 100.00     | 0.000000         | 0.00            | 100.00   | 40000   | Sales Revenue | PHASE1       |
| INSTALL      | Installation of equipment at the customers' ...  | 0.00     | HOUR  | 100.0000   | 400.00     | 0.000000         | 0.00            | 400.00   | 40000   | Sales Revenue | PHASE2       |
| JUICER10     | Pro series juicer with a production rate of 1... | 0.00     | PIECE | 1,500.0000 | 1,500.00   | 0.000000         | 0.00            | 1,500.00 | 40000   | Sales Revenue | PHASE2       |

**Figure: The AR invoice created during the billing**

4. 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.
5. Return to the *Projects* form with the *INSTLAKE01* project opened, and press Esc to refresh the details. In the Summary area, make sure that the **Actual Income** box now shows *2,000.00*, which is the amount the customer has been billed.

### Step 4: Closing the Project

To complete the project and analyze its profitability, do the following:

1. While you are still reviewing the *INSTLAKE01* project on the *Projects* (PM301000) form, on the **Tasks** tab, specify the following settings for both lines in the table:
  - **Status:** *Completed*
  - **Completed (%)**: 100 (the system specifies this percentage automatically when you change the task's status to *Completed*)
  - **End Date:** *1/30/2021* (the system specifies this date automatically when you change the task's status to *Completed*)
2. On the form toolbar, click **Complete Project**. The system changes the status of the project in the **Status** box from **Active** to *Completed*.
3. Save your changes to the project.

4. On the form toolbar of the [Project Profitability](#) (PM624000) report form, click **Run Report**, and review line with the *INSTLAKE01* project. The calculated margin is \$400.

You have finished working with the project.

## Lesson 4: Configuring Project Tasks

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### Project Tasks: General Information

In Acumatica ERP, each project can consist of one project task or multiple project task. A project task is the smallest identifiable piece of work that is a part of the project, and you can select a billing rule for each project task to determine how it will be billed. In the following sections, you will find information about creating project tasks.

#### Learning Objectives

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

- Create a project task for a particular project
- Configure the rules of the project task completion
- Configure a project task to be billed separately from other project tasks
- Set a project task as a default for a project

#### Applicable Scenarios

You create a project task in the following cases:

- When you are configuring a new project from the beginning
- When you need to add a new project task to existing project

#### Project Task Settings

You create new project tasks in a project by adding a row for each task to the **Tasks** tab of the [Projects](#) (PM301000) form; you can then review the settings of the project task on the [Project Tasks](#) (PM302000) form. Each project task is linked to a particular project and has a unique identifier. Project tasks are always defined within the scope and limitations of a specific project; a particular project task may have the additional limitations within the scope of the project.



You can create new project tasks directly from the [Project Tasks](#) form by specifying the identifier of the project to which the project task relates, the identifier of the new project task, and the settings specific for the project task.

For a project task, you can define the following settings, which are specific to the task and do not extend to the project:

- **Date range:** You can narrow the date range of the task, as long as it remains within the start and end dates of the project. The start and end dates are specified for information purposes and do not affect any processes performed for this project task.



- Billing rule (and optional rate ): By default, the system assigns to the added project task the billing rule that is specified on the **Summary** tab of the *Projects* form for the project. Billing rules are defined on the *Billing Rules* (PM207000) form.

If complex billing rules have to be configured for billing the project task, you also need assign the appropriate rate table to the project task.

- Separate billing: You can select the **Bill Separately** check box on the **Summary** tab of the *Project Tasks* form to make the system create a separate invoice for the project task.
- Allocation rule: You can define the allocation rule for a particular project task.

By default, to a newly added project task the system assigns the default allocation rule of the project which is specified on the **Summary** tab of the *Projects* form.

- Method of calculating task completion percentage: You can define the project task to be completed manually or based on the budgeted quantity or amount.
- Visibility settings: The project task may be visible only in the parts of the system in which the associated project is visible. You can leave these default visibility settings, or apply additional visibility limitations for the project task.

A project task can have the *In Planning*, *Active* or *Canceled* status. The statuses of individual tasks do not affect the status of the corresponding project. The system uses the combination of the project task, account group, and optionally inventory item or cost code, as the project budget key by which the system aggregates the project-related data.

## Defining Default Project Tasks in Document and Transaction Lines

When you create a project-related document, you must specify a project task for each line where it is applicable. To speed up entry of project-related documents, you can select any of the project task as the default one for the project. The system will automatically specify this project task in the lines of documents when you select the project.

When you process the AR invoice or AP bill for the project, the system may automatically generate additional GL transaction lines—for instance, to include a discount or freight charge. To automatically associate these transaction lines with specific projects tasks, you need to map particular general ledger accounts to specific project tasks within the project in the **Default Task for GL Account** section on the **Settings** tab of the *Projects* (PM301000) form. In the automatically generated transaction lines posted to the GL account mapped to a project task, the system will specify this project task by default.

When you select a GL account mapped to a project task in the **Account** box in a line of a project-related AR invoice on the *Invoices and Memos* (AR301000) form, the system will automatically specify the mapped project task in the line. If the account is not mapped to any project task, the default project task (if it is configured in the project) is specified in the line.



The defined account mapping does not affect entry of project-related bills on the *Bills and Adjustments* (AP301000) form. In the bill lines, the system specifies the default task of the project (if it is configured on the **Tasks** tab of the *Projects* (PM301000) form).

## Project Tasks: Implementation Activity

In the following implementation activity, you will learn how to add a project task to an existing project.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

## Story

Suppose that the SweetLife Fruits & Jams company is managing a project for the HM's Bakery and Cafe customer, which has ordered the installation of two juicers. A project for this work is currently in progress; the installation of the juicers is 75% completed and is supposed to be completed by 1/30/2021.

Then suppose that the customer notifies you that its employees need training on operating the juicers; you need to add a project task for this activity to the project and add to the cost budget a cost budget line related to this task. You are planning to start training on 1/30/2021. You want to bill the customer separately for the conducted training, and to close the project task based on the budgeted quantity, which is 16 hours of training.

Acting as a SweetLife project accountant, you need to add a new project task for the employee training to the existing project, and specify the settings of the project task. Because the other project tasks are going to be completed soon, you also will set the newly added project task as the default task of the project, so that the system will populate this task automatically in all related documents in which a user will select this project.

## Process Overview

In this activity, you will add a new project task to the existing project on the [Projects](#) (PM301000) form, and specify the standard settings of the project task. Then you will enter specific settings for the project task on the [Project Tasks](#) (PM302000) form.

## Configuration Overview

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

- 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 *HMBAKERY15* project has been created.
- On the [Project Tasks](#) (PM302000) form, the *PHASE1* and *PHASE2* project tasks have been created for the *HMBAKERY2* project. For both tasks, in the **Task Properties** section of the **Summary** tab, **Completed (%)**, which represents the completion percentage, is 75%, and the **End Date** is 1/30/2021.
- On the [Non-Stock Items](#) (IN202000) form, the *TRAINING* non-stock item has been configured.

## System Preparation

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

1. Launch the Acumatica ERP website, and sign in to a company with the *U100* dataset preloaded; you should sign in as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to 1/30/2021. If a different date is displayed, click the

Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

### Step 1: Adding a Project Task to the Project

To add a new project task to a project, do the following:

1. On the *Projects* (PM301000) form, open the *HMBAKERY15* project.
2. On the **Tasks** tab, add a new row, and specify the following settings in the row:
  - **Task ID:** *TRAINING*
  - **Description:** *Employee training*
  - **Billing Rule:** *TM* (specified automatically)
  - **Status:** *Active*
  - **Start Date:** *1/30/2021*
  - **Default:** Selected
3. Save your changes.

### Step 2: Configuring Advanced Settings for the Project Task

To review the newly added project task and specify advanced settings for it, do the following:

1. On the *Project Tasks* (PM302000) form, select *HMBAKERY15* as the **Project ID** and *TRAINING* as the **Task ID**.
2. On the **Summary** tab, in the **Completion Method** box, select *Budgeted Quantity*.
3. In the **Billing and Allocation Settings** section, select the **Bill Separately** check box to make the system create a separate invoice for this project task during billing the project.
4. Save your changes.

### Step 3: Adding the Related Cost Budget Line

To add the costs related to conducting a training to the budget, do the following:

1. On the *Projects* (PM301000) form, open the *HMBAKERY15* project.
2. On the **Cost Budget** tab, add a line with the following settings:
  - **Project Task:** *TRAINING* (selected automatically as the default project task)
  - **Inventory ID:** *TRAINING*
  - **Account Group:** *LABOR*
  - **Description:** *Training for employees*
  - **Original Budgeted Quantity:** 16
  - **UOM:** *HOURLY*

- **Unit Rate:** 40
- **Auto-Completed (%):** Selected

3. Save your changes to the project.

You have added a new project task to the project, configured the project task settings, and budgeted the new project task.

## Testing of Settings

To make sure that all settings have been specified correctly, perform the following steps:

1. On the form toolbar of the [Project Transactions](#) (PM304000) form, click **Add New Record** to create a new project transaction.
2. In the Summary area, make sure that *PM* is selected in the **Module** box, and enter *An 8-hour training session* as the **Description**.
3. Add a new line with the following settings:
  - **Project:** *HMBAKERY15*
  - **Project Task:** *TRAINING* (selected automatically as the default project task)
  - **Cost Code:** *00-000*
  - **Account Group:** *LABOR*
  - **Inventory ID:** *TRAINING*
  - **UOM:** *HOOR*



The unit of measure must be the same as in the cost budget line.

- **Quantity:** 8.00
  - **Billable:** Selected
  - **Unit Rate:** 45.00
4. Make sure that the **Total Amount** in the Summary area is *360.00*, and save the project transaction.
  5. On the form toolbar, click **Release** to release the project transaction.
  6. On the [Projects](#) (PM301000) form, open the *HMBAKERY15* project.
  7. On the **Cost Budget** tab, review the cost budget line with the *TRAINING* project task. Notice that **Actual Amount** in this line is now *360.00* and the **Actual Quantity** is *8*, meaning that the project transaction that you have processed has affected the cost budget (see the following screenshot).

Projects  
**HMBAKERY15 - Installing juicers**

← → + - | COMPLETE PROJECT RUN PROJECT BILLING ACTIONS INQUIRIES REPORTS

Project ID: HMBAKERY15 - Installing juicers Status: Active Actual Income: 0.00  
 Customer: HMBAKERY - HM's Bakery & Cafe Actual Expenses: 360.00  
 Template: Margin: -360.00 %: 0.00  
 Description: Installing juicers

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

Project Task:   Group by Task

VIEW COMMITMENT DETAILS VIEW TRANSACTIONS

| Project Task | Inventory ID | Account Group | Description                               | Original Budgeted Quantity | UOM   | Unit Rate  | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Actual Quantity | Actual Amount |
|--------------|--------------|---------------|---|----------------------------|-------|------------|--------------------------|---------------------------|-------------------------|-----------------|---------------|
| PHASE1       | JUICER15     | MATERIAL      | Commercial juicer with a production ...   | 1.00                       | PIECE | 2,000.0000 | 2,000.00                 | 1.00                      | 2,000.00                | 0.00            | 0.00          |
| PHASE1       | INSTALL      | SUBCON        | Installation of equipment at the custo... | 4.00                       | HOUR  | 80.0000    | 320.00                   | 4.00                      | 320.00                  | 0.00            | 0.00          |
| PHASE2       | JUICER15     | MATERIAL      | Commercial juicer with a production ...   | 1.00                       | PIECE | 2,000.0000 | 2,000.00                 | 1.00                      | 2,000.00                | 0.00            | 0.00          |
| PHASE2       | INSTALL      | SUBCON        | Installation of equipment at the custo... | 4.00                       | HOUR  | 80.0000    | 320.00                   | 4.00                      | 320.00                  | 0.00            | 0.00          |
| TRAINING     | TRAINING     | LABOR         | Training for employees                    | 16.00                      | HOUR  | 40.0000    | 640.00                   | 16.00                     | 640.00                  | 8.00            | 360.00        |

**Figure: The cost budget line affected by the project transaction**

- On the **Tasks** tab, review the **Completed (%)** box in the line with the *TRAINING* task, and notice that 50% of the task has been completed.

You have added a new project task to the existing project and processed a transaction that updates the cost budget line with this project task.

# Part 2: Capturing Costs for Projects

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## Lesson 5: Capturing Costs for Projects

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### Project Transactions: General Information

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

### Learning Objectives

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

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

### Applicable Scenarios

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

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

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

### Creation of Project Transactions

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

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

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

## Project Budget Update

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

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

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

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

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

## Creation of GL Transactions Related to Projects

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

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

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

- **Project:** The project associated with the GL transaction
- **Project Task:** The project task associated with the GL transaction
- **Inventory ID:** The inventory item associated with the GL transaction

If no item is associated with the GL transaction, the system uses the empty item code, which is <N/A> by default and specified on the [Projects Preferences](#) (PM101000) form.

- **Debit Account:** The account of the GL transaction
- **Account Group:** The account group to which the account of the GL transaction is mapped on the [Account Groups](#) form
- **Credit Account:** Empty
- **Amount:** The debit amount of the GL transaction, if the account of the GL transaction is debited, or the credit amount of the GL transaction with the negative sign, if the account of the GL transaction is credited
- **GL Batch Nbr.:** The batch number of the GL transaction



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

## Project Transactions: Process Activity

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



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### Story

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

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

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

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



## Configuration Overview

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

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

## Process Overview

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

## System Preparation

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

1. Launch the Acumatica ERP website, and sign in to a company with the *U100* dataset preloaded. You should sign in as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* 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 General Ledger Transactions

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

1. On the form toolbar of the [Journal Transactions](#) (GL301000) form, click **Add New Record** to create a new batch of general ledger transactions, and in the Summary area, make sure *GL* is selected as the **Module**.
2. In the **Description** box, specify *A training session for the TOMYUM1 project*.
3. On the table toolbar, click **Add Row** to add the first row, which represents your training expenses within the first phase of the project, and specify the following settings in the row:
  - **Account:** *54100 - Project Labor Expense*
  - **Project/Contract:** *TOMYUM1*
  - **Project Task:** *PHASE1*

- **Cost Code:** 00-000
  - **Debit Amount:** 320.00
  - **Transaction Description:** 8 hours of training for the customer's employee
4. Add the second row, which represents the non-project (travel) expenses, and specify the following settings in the row:
- **Account:** 81000 - Other Expenses
  - **Project:** X (selected automatically)
- This transaction will not affect the project budget of the *TOMYUM1* project.
- **Cost Code:** 00-000
  - **Debit Amount:** 50.00
  - **Credit Amount:** 0.00
  - **Transaction Description:** Travel expenses
5. Add the third row, which balances the batch of transactions, and specify the following settings in the row:
- **Account:** 23015 - Accrued Expenses
  - **Project:** X (selected automatically)
  - **Cost Code:** 00-000
  - **Credit Amount:** 370.00
6. On the form toolbar, click **Remove Hold** to assign the batch the *Balanced* status, and then click **Release** to release the batch.

When you release the batch of general ledger transactions, for the general ledger transaction with the specified project and project task, the system creates the corresponding project transaction. In the created project transaction, the system specifies the account group to which the account of the general ledger transaction is mapped.

7. On the [Project Transaction Details](#) (PM401000) form, in the Summary area, select *TOMYUM1* as the **Project**. In the table, review the project transaction that has been created based on the GL transaction that you have processed earlier. Notice the following:
- The system has created only one project transaction, because only one corresponding general ledger transaction has the specified project and project task. The reference number of the corresponding batch of general ledger transactions is shown in the **GL Batch Nbr.** column.
  - The **Debit Account** is 54100 (*Project Labor Expense*).
  - The **Debit Account Group** of the project transaction is *LABOR*.

The system selected the *LABOR* account group as the debit account group of the transaction because the 54100 - *Project Labor Expense* account is mapped to this account group.

8. On the *Projects* (PM301000) form, open the *TOMYUM1* project, and on the **Cost Budget** tab, review the cost budget line, which was created based on the batch of general ledger transactions you have just released. Notice that the **Account Group** of the budget line is *LABOR*.
9. Click the cost budget line, and on the table toolbar, click **View Transactions** to review the project transaction that corresponds to the selected line. On the *Project Transaction Details* form, which the system opens in a pop-up window, notice that the project transaction is the transaction that you reviewed in Instruction 7.

## Step 2: Creating a Project Transaction Without Posting to the General Ledger

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

1. On the *Project Transactions* (PM304000) form, create a new project transaction, and in the Summary area, make sure *PM* is selected as the **Module**.
2. Enter A 4-hour training session as the **Description**.
3. In the table, add a new row and specify the following settings:
  - **Project:** *TOMYUM1*
  - **Project Task:** *PHASE2*
  - **Cost Code:** *00-000*
  - **Account Group:** *LABOR*
  - **Inventory ID:** *TRAINING*
  - **Quantity:** 4.00
  - **Billable:** Cleared



With this check box cleared, the system also will not use this transaction for billing.

- **Amount:** 160.00

You leave the **Debit Account** and **Credit Account** columns empty, so that the corresponding general ledger transaction is not created.

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

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

Project Transactions  
PM PM00000043 - A 4-hour training session

PM  
Ref Number: PM00000043  
Status: Released  
Description: A 4-hour training session

Orig Doc Type: \_\_\_\_\_  
Orig Doc Nbr: \_\_\_\_\_

Total Quantity: 4.00  
Total Billable Quantity: 0.00  
Total Amount: 160.00

DOCUMENT DETAILS COMPLIANCE

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

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

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

You have captured costs for the project.

## Lesson 6: Purchasing Materials and Services for Projects

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### Purchasing Materials and Services for Projects: General Information

In Acumatica ERP, you can purchase materials and services for projects using purchase orders so that these purchases affect the cost budget of the projects. You can also receive the purchased materials to a warehouse.

#### Learning Objectives

You will learn how to do the following:

- Create a purchase order with materials and services for a project
- Prepare a purchase receipt for the purchase order
- Enter the accounts payable bill for the purchase order

#### Applicable Scenarios

You process a purchase order for a project if the purchase includes stock items or if processing purchases in your company supposes using purchase orders. This purchase process typically includes entering a purchase order, processing the purchase receipt when the stock items are received to inventory, and preparing a bill to the vendor. As a result of processing a purchase, the actual values of the project budget are updated with the cost of purchased items, which you may need in one of the following cases:

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

- To control the project profitability

## Creating Purchase Orders for Projects

A purchasing manager purchases materials and services for projects using purchase orders of the *Normal* type. On the **Details** tab of the [Purchase Orders](#) (PO301000) form, to associate a purchase order line with a project, the manager specifies the project and a project task. It is possible to process purchases for several projects with a single purchase order.

The processing of a purchase order line depends on its type. When you select an inventory item in a purchase order line, the system assigns the line one of the following statuses depending on the selected item:

- *Goods for IN*: A stock item
- *Non-Stock*: A non-stock item that is configured in the way that the system requires receipt for it
- *Service*: A non-stock item that is configured in the way that the system does not require receipt for it



If you purchase some material from a vendor directly to a customer and do not need to receive the material to your warehouse, you can create non-stock items that do not require receipt to represent these materials in the system. When you purchase such materials with a purchase order, you do not need to create a purchase receipt for them.

## Receiving Materials and Services

To receive inventory items to a warehouse, a purchase manager clicks **Actions > Enter PO Receipt** on the form toolbar of the [Purchase Orders](#) (PO301000) form to create a purchase receipt for the selected purchase order. The system automatically adds purchase order lines of the *Goods for IN* and *Non-Stock* types to the created purchase receipt and opens it on the [Purchase Receipts](#) (PO302000) form. When the purchase receipt is released and the corresponding inventory receipt is released on the [Receipts](#) (IN301000) form, the system updates the corresponding budget lines of the project with the same project task, account group (by the inventory or expense account), and inventory item on the **Cost Budget** tab of the [Projects](#) (PM301000) form. The system updates the **Actual Quantity** and **Actual Amount** of these cost budget lines with the received quantity and amount.

For more information on purchasing materials, see [Standard Inventory Purchases: General Information](#). For more information on purchasing non-stock items with receipts, see [Purchases of Non-Stock Items and Services with Receipts: General Information](#).

## Billing Purchase Orders

A purchase manager initiates the creation of an accounts payable bill for the purchase order selected on the [Purchase Orders](#) (PO301000) form by clicking **Actions > Enter AP Bill** on the form toolbar and processes the AP bill on the [Bills and Adjustments](#) (AP301000) form.

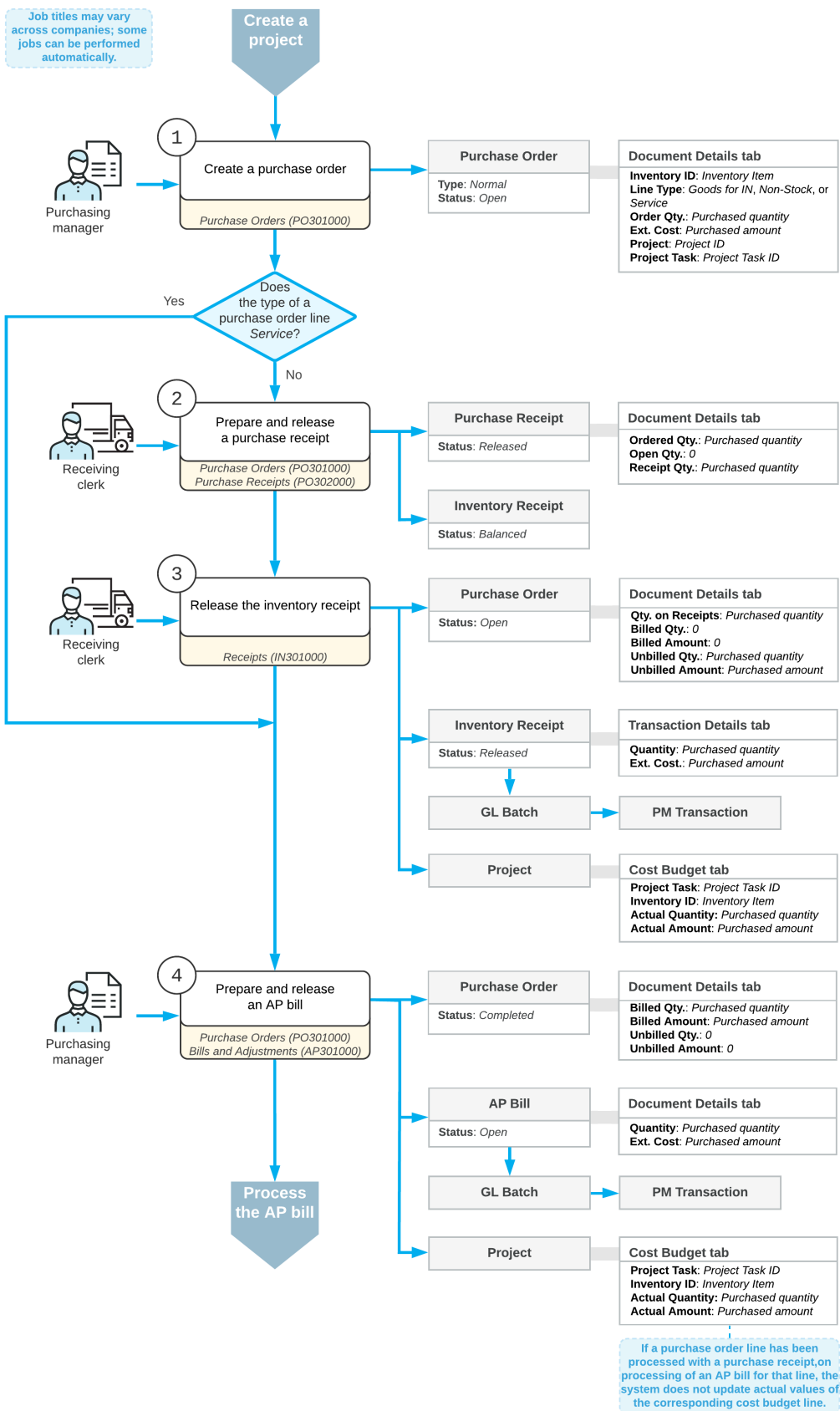
When the bill is released, for the purchase order lines of the *Service* type, the system updates the budget lines of the project with the same project task, account group (by the expense account), and inventory item on the **Cost Budget** tab of the [Projects](#) (PM301000) form. The system updates the **Actual Quantity** and **Actual Amount** of these cost budget lines with the billed quantity and amount.

For more information on purchasing services, see [Purchases of Services Without Receipts: General Information](#).

## **Workflow of Purchasing Materials and Services for Projects**

The following diagram illustrates the workflow of purchasing materials and services for projects using purchase orders.

### Processing purchases on a project with a purchase order



## Purchasing Materials and Services for Projects: Process Activity

The following activity will walk you through the process of purchasing materials and services for a project from a subcontractor with purchase orders.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### Story

Suppose that the HM's Bakery and Cafe customer has ordered two juicers, along with the four hours of the installation service from the SweetLife Fruits & Jams company. The SweetLife company contracted the Squeeze Inc. vendor to provide the juicers and perform the installation. SweetLife's project manager has created the project. Acting as SweetLife's purchase manager, you need to purchase the materials and services from the vendor. When the vendor delivers the juicers to company's warehouse, you will process a purchase receipt for the juicers. When the vendor provides the installation service, you will process an account payable bill from the vendor for the delivered juicers and provided service.

### Configuration Overview

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

- 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 [Projects](#) (PM301000) form, the *HMBAKERY2* project has been created and the *INSTALL* project task has been created for the project. This task is the default project task.
- On the [Warehouses](#) (IN204000) form, the *EQUIPHOUSE* warehouse has been created and the *HMBAKERY2* location has been created for the *INSTALL* task of the *HMBAKERY2* project.
- On the [Posting Classes](#) (IN206000) form, the *PMSTOCK* posting class has been created. On the **GL Accounts** tab, the *12110 - Project Inventory* account has been selected in the **Inventory/Accrual Account** box.
- On the [Stock Items](#) (IN202500) form, the *JUICER10C* stock item has been configured. On the **General Settings** tab (**Item Defaults** section), the *PMSTOCK* posting class has been selected in the **Posting Class** box. On the **Price/Cost Info** tab (**Cost Statistic** section), the **Last Cost** of the item has been set to *1500.00*.
- On the [Non-Stock Items](#) (IN202000) form, the *INSTALL* non-stock item of the *Service* type has been configured. On the **General Settings** tab (**Item Defaults** section), the **Require Receipt** check box has been cleared. On the **Price/Cost Information** tab (**Standard Cost** section), the **Current Cost** of the item has been set to *80.00*. On the **GL Accounts** tab, the *54200 - Project Subcontract Expense* account has been selected in the **Expense Account** box.



- On the *Account Groups* (PM201000) form, the *SUBCON* and *MATERIAL* account groups have been created. The *54200 - Project Subcontract Expense* account has been mapped to the *SUBCON* account group and the *12110 - Project Inventory* account has been mapped to the *MATERIAL* account group.
- On the *Vendors* (AP303000) form, the *SQUEEZO* vendor has been created.

## Process Overview

You will create a purchase order for the project specifying the project and project task on the *Purchase Orders* (PO301000) form. Then you will then create a purchase receipt and release it on the *Purchase Receipts* (PO302000) form. You will bill the purchase order on the *Purchase Orders* (PO301000) and then release the bill on the *Bills and Adjustments* (AP301000) form. Finally, you will also review the project balances on the *Projects* (PM301000) form.

## 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 as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* 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 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*
  - **Date:** *1/30/2021*
  - **Description:** *Purchase for HM's Bakery & Cafe*
2. On the **Document 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. | Unit Cost   | Project          | Cost Code     |
|------------------|------------|-------------|------------------|---------------|
| <i>JUICER10C</i> | 2.00       | <i>1500</i> | <i>HMBAKERY2</i> | <i>00-000</i> |
| <i>INSTALL</i>   | 4.00       |             | <i>HMBAKERY2</i> | <i>00-000</i> |

The system automatically selects the *INSTALL* project task for each line when you select the *HMBAKERY2* project because this task is the default project task of the project.

In the Summary area, make sure that the **Order Total** value, which is the sum of the **Ext. Cost** of two lines (*3000.00* and *320.00*), is *3320.00*.

3. Save the purchase order.

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

## Step 2: Receiving the Purchased Materials to a Warehouse

To create a purchase receipt for the purchased materials, do the following:

1. While remaining on the *Purchase Orders* (PO301000) form, on the form toolbar, click **Enter PO Receipt**.

The system creates a purchase receipt with the *Balanced* status for two *JUICER10C* items and opens it on the *Purchase Receipts* (PO302000) form. Service items do not require receipt and are not added to the created document.

2. On the form toolbar click **Release** to release the purchase receipt.

The system creates and releases an inventory receipt transaction based on the purchase receipt; on release of this transaction, the items are issued from the inventory, and the actual values in the project budget are updated. The purchase receipt is assigned the *Released* status.

3. On the *Projects* (PM301000) form, open the *HMBAKERY2* project.

On the **Cost Budget** tab, review the actual values of the cost budget. Notice that the **Actual Quantity** and **Actual Amount** of the line with the *JUICER10C* item equal to 2 and 3000.00, respectively. Also notice that the actual values of the line with the *INSTALL* item are still equal to zero.

4. To review the project transaction and general ledger transaction that has been created on release of the inventory receipt, do the following:
  - a. In the table, click the cost budget line with the *JUICER10C* item.
  - b. On the table toolbar, click **View Transactions**.
  - c. On the *Project Transaction Details* (PM401000) form, which the system opens in a pop-up window, review the project transaction that the system created on release of the inventory receipt.
  - d. Click the link in the **GL Batch** column and on the *Journal Transactions* (GL301000) form, which opens in a pop-up window, review created general ledger transactions. Notice that the system debited the *12110 - Project Inventory* account for 3000.00. This GL transaction has the project and project task specified and thus updates the project actual amounts in the corresponding cost budget line.

## Step 3: Creating a Bill for the Purchase Order

To bill the purchase order, do the following:

1. On the *Purchase Orders* (PO301000) form, open the purchase order that you have created earlier in this activity.
2. On the form toolbar, click **Actions > 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. Make sure that both purchase order lines have been added to the bill.

3. On the form toolbar, click **Remove Hold** to assign the AP bill the *Balanced* status, and then click **Release** to release the bill.

4. On the *Projects* (PM301000) form, open the *HMBAKERY2* project.

On the **Cost Budget** tab, review the actual values of the cost budget. Notice that the **Actual Quantity** and **Actual Amount** of the line with the *INSTALL* item has been updated and now equal to 4 and 320.00, respectively (see the following screenshot). Also notice that the actual expenses of the project in the Summary area equal to 3320.00.

Projects

SAVE & CLOSE    RUN PROJECT BILLING    CREATE CHANGE ORDER    ACTIONS    INQUIRIES    REPORTS

Project ID: HMBAKERY2    Status: Active    Actual Income: 0.00  
 Customer: HMBAKERY - HM's Bakery & Cafe    Hold    Actual Expenses: 3,320.00  
 Template:    Margin: -3,320.00    %: 0.00  
 Description: Juicers with the installation

SUMMARY    TASKS    REVENUE BUDGET    **COST BUDGET**    BALANCES    INVOICES    CHANGE ORDERS    ACTIVITY HISTORY    EMPLOYEES    EQUIPMENT

Project Task:    Group by Task

VIEW TRANSACTIONS    All Records

| Project Task | Inventory ID | Account Group | Description                  | Original Budgeted Quantity | UOM   | Unit Rate  | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Actual Quantity | Actual Amount | Performance (%) |
|--------------|--------------|---------------|------------------------------|----------------------------|-------|------------|--------------------------|---------------------------|-------------------------|-----------------|---------------|-----------------|
| INSTALL      | JUICER10C    | MATERIAL      | Pro series citrus juicer ... | 2.00                       | PIECE | 1,500.0000 | 3,000.00                 | 2.00                      | 3,000.00                | 2.00            | 3,000.00      | 100.00          |
| INSTALL      | INSTALL      | SUBCON        | Installation of equipmen...  | 4.00                       | HOUR  | 80.0000    | 320.00                   | 4.00                      | 320.00                  | 4.00            | 320.00        | 100.00          |

**Figure: Actual values of the budget updated by the purchase**

You have completed processing of purchase of materials and services for the project.

## Lesson 7: Purchasing Services for Projects

### Purchasing Services for Projects: General Information

In Acumatica ERP, you can purchase services for projects using accounts payable bills so that these purchases affect the cost budget of the projects.

#### Learning Objectives

You will learn how to purchase services for a project using an accounts payable bill.

#### Applicable Scenarios

You process a purchase of services for a project with accounts payable bills if the *Inventory and Order Management* feature is not included in your license or if you want to simplify the process of purchasing services. This updates the actual values of the project budget with the cost of purchased services that you may need in one of the following cases:

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

## Purchasing Services for Projects

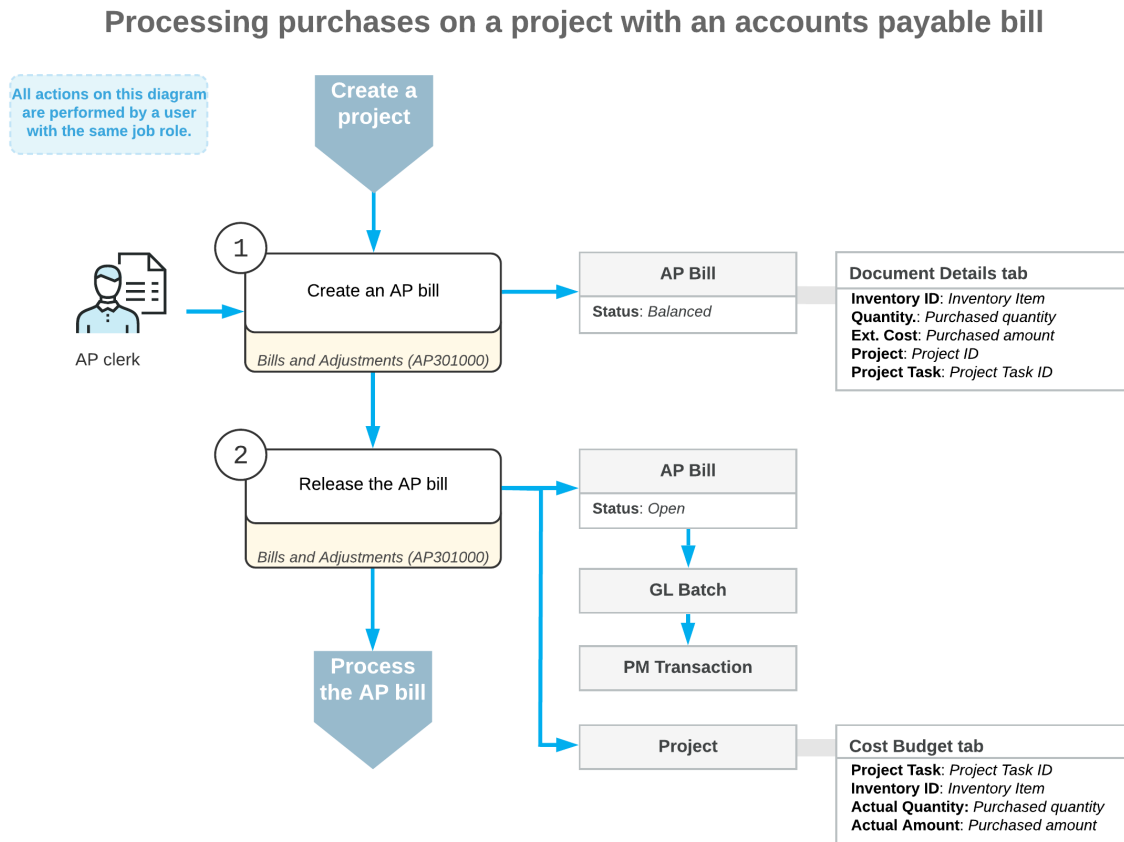
An AP clerk purchases services—non-stock items that are configured in the way that the system does not require receipt for them—for projects using accounts payable bills. On the **Document Details** tab of the *Bills and Adjustments* (AP301000) form, to associate a bill line with a non-stock item with a project, the clerk specifies the project and a project task. It is possible to purchase services for several projects with a single AP bill.

When the account payable bill with lines related to a project is released, the system updates the budget lines of the project with the same project task, account group (by the expense account), and inventory item on the **Cost Budget** tab of the *Projects* (PM301000) form. The system updates the **Actual Quantity** and **Actual Amount** of these cost budget lines with the billed quantity and amount.

For more information on processing accounts payable bills, see [AP Bills: General Info](#).

## Workflow of Purchasing Services for Projects

The following diagram illustrates the workflow of purchasing services for projects using accounts payable bills.



## Purchasing Services for Projects: Process Activity

The following activity will walk you through the process of purchasing services for a project from a subcontractor with accounts payable bills.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

## Story

Suppose that the HM's Bakery and Cafe customer has ordered the installation service for previously bought juicers from the SweetLife Fruits & Jams company. The SweetLife company has contracted the Squeezo Inc. vendor to provide six hours of the installation. SweetLife's project manager has created the project. Because the *Inventory and Order Management* feature is not included in SweetLife's license, acting as SweetLife's AP clerk, you will process the purchase with an accounts payable bill.

## Configuration Overview

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

- 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 *HMBAKERY14* 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 of the *Service* type has been configured. On the **General Settings** tab (**Item Defaults** section), the **Require Receipt** check box has been cleared. On the **Price/Cost Information** tab (**Standard Cost** section), the **Current Cost** of the item has been set to *80.00*. On the **GL Accounts** tab, the *54200 - Project Subcontract Expense* account has been selected in the **Expense Account** box.
- On the [Account Groups](#) (PM201000) form, the *SUBCON* account group has been created and the *54200 - Project Subcontract Expense* account has been mapped to the account group.
- On the [Vendors](#) (AP303000) form, the *SQUEEZO* vendor has been created.

## Process Overview

You will create a bill on the [Bills and Adjustments](#) (AP301000) form, specify the project and project task in the bill lines. Then you will release the bill. Finally, you will review the project balances on the [Projects](#) (PM301000) form.

## 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 as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* 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 Bill for the Project

To create an accounts payable bill for the project, do the following:

1. On the [Bills and Adjustments](#) (AP301000) form, create a bill, and specify the following settings in the Summary area:
  - **Vendor:** *SQUEEZO*
  - **Date:** *1/30/2021*
  - **Description:** *Services for HM's Bakery & Cafe*
2. On the **Document Details** tab, click **Add Row** on the table toolbar, and add a row with the following settings:
  - **Inventory ID:** *INSTALL*
  - **Quantity:** *6.00*
  - **Project:** *HMBAKERY14*
  - **Project Task:** *INSTALL* (selected by default)
  - **Cost Code:** *00-000*

The system selects *54200 - Project Subcontract Expense* as the **Account** of the bill line, because this is the expense account of the selected item.

3. On the form toolbar, click **Remove Hold** to assign the bill the *Balanced* status, and then click **Release** to release the bill.
4. On the [Project Transaction Details](#) (PM401000) form, in the Summary area, select *HMBAKERY14* as the **Project**, and make sure the **Account Group** and **Project Task** boxes are cleared. Review the project transaction that has been created based on the released accounts payable bill. In the **GL Batch Nbr.** column, notice the number of the corresponding batch of general ledger transactions that the system generated on release of the AP bill.
5. On the [Projects](#) form, open the *HMBAKERY14* project and review the cost budget on the **Cost Budget** tab. Notice that the **Actual Quantity** and **Actual Amount** of the corresponding budget line have been updated (*6* and *480.00*, respectively), as shown in the following screenshot.

| *Project Task | *Inventory ID | *Account Group | Description                               | Original Budgeted Quantity | UOM  | Unit Rate | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Actual Quantity | Actual Amount |
|---------------|---------------|----------------|---|----------------------------|------|-----------|--------------------------|---------------------------|-------------------------|-----------------|---------------|
| INSTALL       | INSTALL       | SUBCON         | Installation of equipment at the custo... | 6.00                       | HOUR | 80.0000   | 480.00                   | 6.00                      | 480.00                  | 6.00            | 480.00        |

**Figure: Cost budget updated after processing the bill**

You have completed processing of purchase of services for the project.

## Part 3: Project Billing

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### Lesson 8: Billing Projects with the Direct Creation of AR Invoices

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By default, Acumatica ERP provides draft invoice capabilities for each newly created project. That gives you the ability to edit and correct invoices before creating AR documents without affecting the accounts receivable. To simplify and speed up the billing process, you can configure a project for the direct creation of AR documents.

#### Learning Objectives

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

- Create a project and specify its settings
- Configure the direct creation of AR documents for the project
- Bill the project with the direct creation of an AR invoice

#### Applicable Scenarios

You bill a project with the direct creation of accounts receivable invoices if you do not want to use draft invoice capabilities because you expect that you will not need to modify the invoices.

#### Project Processing: To Create a Cost-Plus Project

The following activity will walk you through the process of configuring a simple cost-plus project from its initial creation.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

#### Story

Suppose that the Lake Cafe customer has contacted the SweetLife Fruits & Jams company and ordered training of its employees on operating the juicer it purchased from SweetLife. The training sessions will start on *1/1/2021* and must be completed by *1/30/2021*. The project accountant has analyzed the requirements and decided to create a small cost-plus project (with only a single task for the training of employees); the expected project profitability is 20%. Because the number of training sessions may be changed during the project completion by the customer's request, the project will be billed once when all training sessions have been provided. The project accountant has decided to skip the creation of pro forma invoices, because the price of the provided services has already been agreed upon with the customer.

Acting as the project accountant, you will create the new project and specify needed settings.

## Configuration Overview

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

- On the *Enable/Disable Features* (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the *Non-Stock Items* (IN202000) form, the *TRAINING* non-stock item has been defined.
- On the *Billing Rules* (PM207000) form, the *TM* billing rule has been defined. This rule is configured to calculate the line amount as the project transaction line amount multiplied by 1.25.
- On the *Account Groups* (PM201000) form, the *LABOR* account group has been defined.

## Process Overview

On the *Projects* (PM301000) form, you will create a new project and specify its general settings on the **Summary** tab. Then on the **Tasks** tab, you will add the project task that will be performed during the completion of the project. On the **Cost Budget** tab, you will define the budget for the project.

## System Preparation

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

1. Launch the Acumatica ERP website, and sign in to a company with the *U100* dataset preloaded; you should sign in as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* 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 and Specifying Its General Settings

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

1. On the *Projects* (PM301000) form, create a project, and specify the following settings in the Summary area:
  - **Project ID:** `INSTLAKE02`
  - **Customer:** `LAKECAFE - Lake Cafe`
  - **Description:** `Training project for Lake Cafe`
2. On the **Summary** tab, specify the following settings:
  - **Revenue Budget Level:** *Task and Item*  
 You select this option to include more detail to the revenue budget structure. With this setting, you will be able to select an inventory item in a revenue budget line.
  - **Cost Budget Level:** *Task and Item*  
 You select this option to include more detail to the revenue budget structure. With this setting, you will be able to select an inventory item in a cost budget line.



- **Start Date:** *1/1/2021*
- **End Date:** *1/30/2021*
- **Project Manager:** *Pam Brawner*
- **Change Order Workflow:** Cleared

You clear this check box because for this simple cost-plus project no changes will be required.

- **Billing Currency:** *USD* (selected automatically)
- **Billing Period:** *On Demand*

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

- **Billing Rule:** *TM*

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



For detail on configuring billing rule for billing by time and material, refer to [Billing Rules: Time and Material Billing](#) and [Billing Rules: To Configure a Time and Material Rule](#).

- **Create Pro Forma On Billing:** Cleared

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

3. Save your changes to the project (which currently has the *In Planning* status in the Summary area).

## Step 2: Adding Project Tasks

To add project tasks to the project, do the following:

1. On the **Tasks** tab, click **Add Row** on the table toolbar, and add the project task with the following settings:
  - **Task ID:** *TRAINING*
  - **Type:** *Cost and Revenue Task*
  - **Description:** *Training on juicer usage*
  - **Status:** *Active*

Notice that the *TM* billing rule has been automatically specified for the task.

2. Save your changes to the project.

## Step 3: Specifying the Project Cost Budget

To configure the project cost budget, do the following:

1. On the **Cost Budget** tab, click **Add Row** and specify the following settings in the added row:

- **Project Task:** *TRAINING*
- **Inventory ID:** *TRAINING*
- **Account Group:** *LABOR* (selected automatically)
- **Original Budgeted Quantity:** 16
- **UOM:** *HOURLY*
- **Unit Rate:** 40

The system automatically calculates the **Original Budgeted Amount** for the cost budget line (\$640) as the **Original Budgeted Quantity** multiplied by the **Unit Rate**.

## 2. Save your changes to the project.

You have not configured the revenue budget for the project because you have not agreed with the customer on the number of training sessions and this number may be changed during the project completion at the customer's request. When you bill the project based on the incurred expenses, the system automatically populates the revenue budget with the actual values.

You have finished configuring the project. Now you can complete the [Project Processing: To Process a Cost-Plus Project](#) activity to practice completing the project life cycle.

## Project Processing: To Process a Cost-Plus Project

The following activity will walk you through the life cycle of a cost-plus project.

### Story

Suppose that the Lake Cafe customer has ordered training of employees from the SweetLife Fruits & Jams company. SweetLife's project accountant has created a cost-plus project to account for the provided services. Twenty hours of training sessions have been conducted in the period from *1/1/2021* through *1/30/2021*.

Acting as the project accountant, you need to support the project during the entire project life cycle.

### Configuration Overview

For the purposes of this activity, on the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.

### Process Overview

You will activate the project to indicate that it has been started. Then you will create project-related transactions on the [Project Transactions](#) (PM304000) form to record the provided services. You will run project billing for the project on the [Projects](#) (PM301000) form and review the prepared AR invoice. Then you will complete the project, and review the profitability report on the [Project Profitability](#) (PM624000) report form.

### System Preparation

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

1. Download the [INSTLAKE02\\_Project\\_Transactions](#) file to your computer.

2. Launch the Acumatica ERP website, and sign in to a company with the *U100* dataset preloaded; you should sign in as Pam Brawner by using the *brawner* username and the *123* password.
3. 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 *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
4. Create the *INSTLAKE02* project, as described in [Project Processing: To Create a Cost-Plus Project](#).

### Step 1: Activating the Project

To indicate that the *INSTLAKE02* project has been started, do the following:

1. On the [Projects](#) (PM301000) form, open the *INSTLAKE02* project, which you have created in [Project Processing: To Create a Cost-Plus Project](#).
2. On the form toolbar, click **Activate Project**. The system assigns the project the *Active* status.

### Step 2: Uploading Project Transactions

To upload and process the transactions of this project, do the following:

1. On the form toolbar of the [Project Transactions](#) (PM304000) form, click **Add New Record** to create a new transaction and make sure that *PM* is selected as the **Module** in the Summary area.
2. In the **Description** box, type `The conducted training for the INSTLAKE02 project.`
3. On the table toolbar of the **Document Details** tab, click **Load Records from File**, and upload the transactions from the [INSTLAKE02\\_Project\\_Transactions](#) file, which you have downloaded. While you are uploading the transactions, leave the default column mapping.
4. Make sure that the **Total Quantity** and **Total Amount** in the Summary area are *20* and *800.00*, respectively.
5. On the form toolbar, click **Save** to save the batch of project transactions, and then click **Release** to release it.
6. On the [Projects](#) (PM301000) form, open the *INSTLAKE02* project, and make sure that the **Actual Expenses** box in the Summary area now shows *800.00*.
7. Open the **Cost Budget** tab and review the cost budget line that have been updated on release of the project transaction. The initially planned quantity and amount (*16* and *640.00*) are now shown as the **Original Budgeted Quantity** and **Original Budgeted Amounts**, while the **Actual Quantity** and **Actual Amount** columns have been populated with the amounts from the released project transactions (*20* and *800*).

### Step 3: Billing a Project

To create an accounts receivable invoice for the project, do the following:

1. While you are still reviewing the *INSTLAKE02* project on the [Projects](#) (PM301000) form, on the form toolbar, click **Run Project Billing**. The system creates an AR invoice, which should look like the one shown in the following screenshot, and opens it on the [Invoices and Memos](#) (AR301000) form.

Because the *TM* billing rule specified for the project task defines the line amount as the project transaction line amount multiplied by 1.25, the customer is billed in the amount of \$1000.

Invoices and Memos

Invoice 000100 - Lake Cafe

REMOVE HOLD ACTIONS INQUIRIES REPORTS

Type: Invoice Customer: LAKECAFE - Lake Cafe Detail Total: 1,000.00  
 Reference Nbr.: 000100 Location: MAIN - Primary Location Discount Total: 0.00  
 Status: On Hold Terms: 30D - 30 Days VAT Taxable T... 0.00  
 Date: 1/30/2021 Due Date: 3/1/2021 Apply Retainage VAT Exempt T... 0.00  
 Post Period: 01-2021 Cash Discoun... 3/1/2021 Pay by Line Tax Total: 0.00  
 Customer Ord... Project/Contract: INSTLAKE02 - Training project for Lake C Balance: 1,000.00  
 Cash Discount: 0.00

Description: Invoice for INSTLAKE02

DOCUMENT DETAILS FINANCIAL DETAILS ADDRESS DETAILS TAX DETAILS APPROVAL DETAILS APPLICATIONS COMPLIANCE

VIEW DEFERRALS

| Inventory ID | Transaction Descr.                             | Quantity | UOM  | Unit Price | Ext. Price | Discount Percent | Discount Amount | Amount   |
|--------------|--|----------|------|------------|------------|------------------|-----------------|----------|
| TRAINING     | Training on juicer usage (at customer's place) | 20.00    | HOUR | 50.0000    | 1,000.00   | 0.000000         | 0.00            | 1,000.00 |

Figure: The AR invoice created during the billing

- On the form toolbar, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.
- Return to the *Projects* form with the *INSTLAKE02* project opened, and press Esc to refresh the form. Notice that the **Actual Income** box in the Summary area now shows *1,000.00*, which is the amount the customer has been billed. The calculated margin for the project is 20%, as has been planned.
- On the table toolbar of the **Revenue Budget** tab, review the revenue line with the *TRAINING* task and the **Actual Amount** equal to \$1,000 that has been added to the project budget on release of the project transaction related to the AR invoice.

Projects INSTLAKE02 - Training project for Lake Cafe NOTE

COMPLETE PROJECT RUN PROJECT BILLING ACTIONS INQUIRIES REPORTS

Project ID: INSTLAKE02 - Training project for Lak Status: Active Actual Income: 1,000.00  
 Customer: LAKECAFE - Lake Cafe Actual Expenses: 800.00  
 Template: Margin: 200.00 %: 20.00  
 Description: Training project for Lake Cafe

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

Project Task: Group by Task Pending Invoice Amount Total: 0.00

VIEW TRANSACTIONS

| Project Task | Inventory ID | Account Group | Description                                    | Original Budgeted Quantity | UOM  | Unit Rate | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Draft Invoices Amount | Actual Quantity | Actual Amount |
|--------------|--------------|---------------|--|----------------------------|------|-----------|--------------------------|---------------------------|-------------------------|-----------------------|-----------------|---------------|
| TRAINING     | TRAINING     | REVENUE       | Training on juicer usage (at customer's pla... | 0.00                       | HOUR | 0.0000    | 0.00                     | 0.00                      | 0.00                    | 0.00                  | 20.00           | 1,000.00      |

Figure: Revenue budget line added to the project

Step 4: Completing the Project

To complete the project, do the following:

- While you are still reviewing the *INSTLAKE02* project on the *Projects* (PM301000) form, on the **Tasks** tab, specify the following settings in the table row:
  - Status:** *Completed*

- **Completed (%):** 100 (the system specifies this percentage automatically when you change the task's status to *Completed*)
  - **End Date:** 1/30/2021 (the system specifies the business date automatically when you change the task's status to *Completed*)
2. Save your changes to the project.
  3. On the form toolbar, click **Complete Project**. The system assigns the project the *Completed* status.

You have finished working with the project.

## Lesson 9: Billing Projects with Pro Forma Invoices

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### Pro Forma Invoice: General Information

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

Once all the necessary changes have been applied to the pro forma invoice, it can be released. When you release the pro forma invoice, the system creates an accounts receivable invoice with all the information copied from the pro forma invoice. With this process, you minimize corrections that directly affect accounts receivable.

### Learning Objectives

In this chapter, you will learn how to:

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

### Applicable Scenarios

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

## Creation of Pro Forma Invoices

A pro forma invoice can be created only through the process of billing a particular project (and assigned a reference number only automatically). You cannot manually enter new pro forma invoices on the *Pro Forma Invoices* (PM307000) form.

The system creates a pro forma invoice when you click **Run Project Billing** on the form toolbar of the *Projects* (PM301000) form if the **Create Pro Forma on Billing** check box is selected on the **Summary** tab (**Billing and Allocation Settings** section) of the form. You can turn on or turn off the pro forma invoice workflow for a project at any stage of the project execution by selecting or clearing this check box, respectively. If the pro forma invoice workflow for a project is turned off, the system creates an accounts receivable invoice when you bill the project.

For a pro forma invoice created for a project, the system records billable lines on the following tabs of the *Pro Forma Invoices* form:

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

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

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

- The amounts in the **Pending Invoice Amount** column, which the system has used to create progress billing lines of the pro forma invoice, are cleared.
- The amounts in the **Draft Invoices Amount** column are increased with the amount to invoice of the corresponding progress billing lines and time and material lines of the pro forma invoice.

A pro forma invoice with any status can be printed and emailed to the customer. To print the pro forma invoice, you click **Reports > Print Pro Forma Invoice** on the form toolbar of the *Pro Forma Invoices* form. To email the pro forma invoice, you click **Actions > Email Pro Forma Invoice** on the form toolbar of the form.

## Release of Pro Forma Invoices

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

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

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

- A pro forma invoice can be released only after the accounts receivable invoice of the preceding pro forma invoice has been released.

The document details of an unreleased accounts receivable document that originates from a pro forma invoice are displayed in read-only mode on the **Document Details** tab of the *Invoices and Memos* (AR301000) form. You can edit only a salesperson in the **Salesperson ID** column. To make a correction to the accounts receivable document, you need to delete this document and start over from the pro forma invoice.



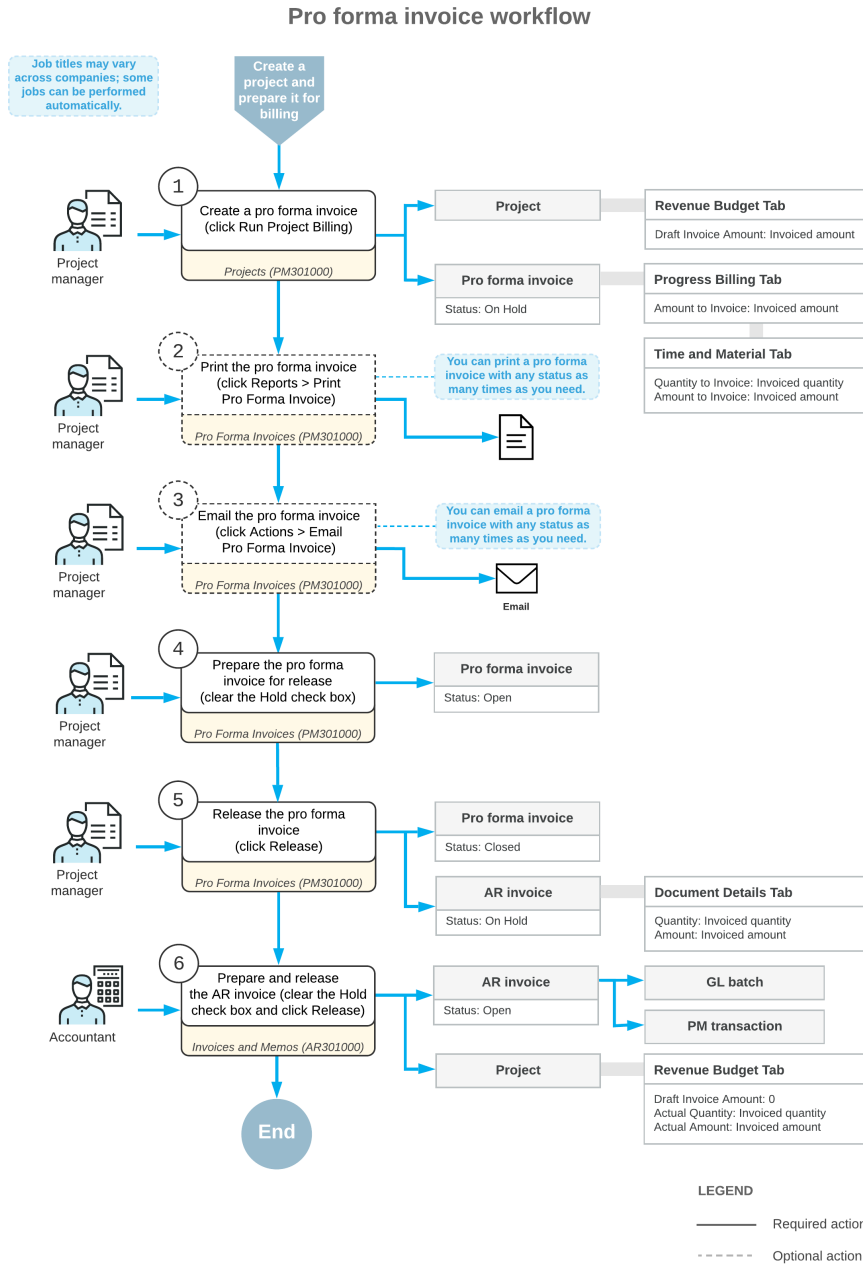
While you are working with a particular accounts receivable invoice on the *Invoices and Memos* form, you can review the pro forma invoice that was used for creating this accounts receivable invoice. To do this, you click **Inquiries > View Pro Forma** on the form toolbar of the *Invoices and Memos* form. (This menu command becomes available on the **Inquiries** menu if the invoice being viewed has originated from a pro forma invoice.)

As a result of the release of the accounts receivable invoice, the general ledger transactions are recorded, and the revenue budget of the corresponding project is changed as follows on **Revenue Budget** tab of the *Projects* form:

- The **Actual Quantity** of the corresponding revenue budget line is increased by the line quantity of the released accounts receivable invoice if *Task and Item* is the **Revenue Budget Level** of the project; otherwise, the **Actual Quantity** is zero.
- The **Actual Amount** of the corresponding revenue budget line is increased by the line amount of the released accounts receivable invoice.
- The **Draft Invoices Amount** of the corresponding revenue budget line is decreased by the line amount of the released accounts receivable invoice.

## Workflow of Pro Forma Invoices

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



## Pro Forma Invoice: To Process a Pro Forma Invoice for a Project

In this activity, you will learn about the workflow of a pro forma invoice. You will generate a pro forma invoice, print the invoice, and send it by email. After you receive the customer's approval, the pro forma invoice will become ready for releasing and you will be able to create the accounts receivable invoice.





The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

## Story

Suppose that the HM's Bakery and Cafe customer has ordered juicers from the SweetLife Fruits & Jams company, along with the following services: site review, installation, and employee training on operating the juicers. SweetLife's project accountant has created a project that should be billed on demand as the juicers are installed and all the services are provided. Before the invoice is sent to the customer for payment, the customer has requested a pro forma invoice to be submitted for acceptance. The site review has taken place, the juicers have been delivered and installed, and SweetLife's consultant has provided the training. The project accountant has entered project transactions and updated the progress of the project.

Acting as the project accountant, you will bill the customer *1/30/2021*, print the pro forma invoice, and email the invoice to the customer for approval. You will release the pro forma invoice when the customer accepted it. You will then release the associated accounts receivable invoice.

## Configuration Overview

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

- For the purposes of this activity, on the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the [Projects](#) (PM301000) form, the *HMBAKERY5* project has been created and the *PHASE1*, *PHASE2*, *PHASE3*, *PHASE4*, and *PHASE5* project tasks have been created for the project. The revenue budget level of the project is *Task and Item*. On the **Summary** tab (**Billing and Allocation Settings** section), the **Create Pro Forma on Billing** check box has been selected for the project. With this setting, the system creates a pro forma invoice for the project when you run project billing.
- On the [Project Transactions](#) (PM304000) form, the *PM00000008* batch of project transactions related to the project has been created and released.

## Process Overview

On the [Projects](#) (PM301000) form, you will initiate the creation of a pro forma invoice for the project. Then you will review the created pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form. You will then print the pro forma invoice, email the invoice, and release it on the same form. On the [Invoices and Memos](#) (AR301000) form, you will release the accounts receivable invoice created based on the pro forma invoice.

## 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 as project accountant by using the *brawler* 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 *1/30/2021*. If a different date is displayed, click the

Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

3. On the *Projects Preferences* (PM101000) form, on the **General Settings** tab (**General Settings** section), make sure *Detailed* is selected in the **Revenue Budget Update** box.

## Step 1: Creating and Processing a Pro Forma Invoice

To prepare and process a pro forma invoice for the project, do the following:

1. On the *Projects* (PM301000) form, open the *HMBAKERY5* project.
2. On the **Cost Budget** tab, review the cost budget of the project. Notice that the **Actual Amount** of each line equals the original budgeted amount, which means the corresponding project transaction has been created and released.



You can review the transactions that correspond to each cost budget line on the *Project Transaction Details* (PM401000) form, which opens in a pop-up window if you click the line and then click **View Transactions** on the table toolbar. The transactions have the **Billable** check box selected and the **Billed** check box cleared, which means the transactions are ready for billing and have not been billed yet.

3. On the **Revenue Budget** tab, review the revenue budget lines of the project. Notice that the **Pending Invoice Amount** of the revenue budget lines is nonzero.

In the table selection area, notice that the **Pending Invoice Amount Total** is equal to *2,700.00*. You can bill the project for this amount.

4. On the form toolbar, click **Run Project Billing**.

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


5. On the **Progress Billing** tab, review the invoice lines that have been created based on the revenue budget lines of the project. Make sure the pro forma invoice includes five progress lines. The **Progress Billing Total** in the Summary area must be equal *2,700*.
6. To review how the creation of the pro forma invoice has affected the revenue budget of the project, do the following:
  - a. In the Summary area, right of the **Project** box, click the **Edit** button.

The system opens the *Projects* form in a pop-up window with the *HMBAKERY5* project selected.

- b. On the **Revenue Budget** tab, notice that amounts from the **Pending Invoice Amount** column have been moved to the **Draft Invoices Amount** column, and now the **Pending Invoice Amount** of all the revenue budget lines is zero.

In the table selection area, notice that the **Pending Invoice Amount Total** is also equal to zero.

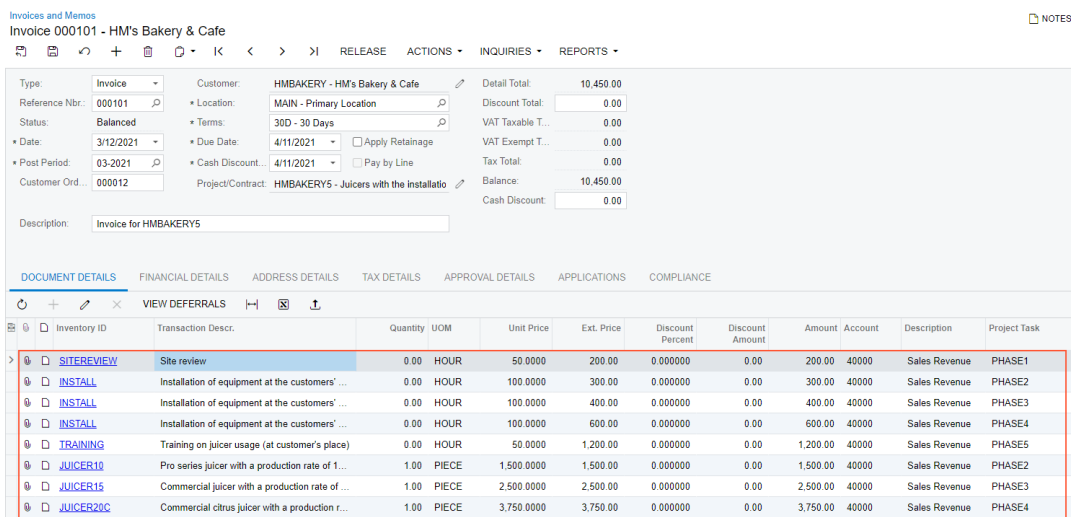
- c. Close the pop-up window.
7. On the **Time and Material** tab of the *Pro Forma Invoices* form (to which you return), review the invoice lines that have been created based on the transactions prepared for billing. Make sure the pro forma invoice includes three time and material lines. The **Time and Material Total** in the Summary area must be equal to *7,750*.

 You can review the transactions that correspond to each line in the **Transaction Details** dialog box, which opens if you click the line and then click **View Transaction Details** on the table toolbar.

8. On the form toolbar, click **Reports > Print Pro Forma Invoice** to generate the printable version of the pro forma invoice. The system navigates to the *Pro Forma Invoice* (PM642000) report and opens the printable version of the invoice.
9. Go back to the *Pro Forma Invoices* form, open the invoice you created, and on the form toolbar, click **Actions > Email Pro Forma Invoice** to send the invoice as an email to the customer.

The system creates an email by using the notification template defined for the project on the **Mailing Settings** tab of the *Projects* form, attaches the printed report, and sends the email to the customer by using the email address specified on the **Address Details** tab of the *Pro Forma Invoices* form, which is copied from the project from the **Bill-To** section on the **Summary** tab of the *Projects* form.

10. On the form toolbar, click **Remove Hold** to assign the pro forma invoice the *Open* status.
11. On the form toolbar, 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.
12. On the **Financial Details** tab, right of the **AR Ref. Nbr.** box, click the **Edit** button to open the accounts receivable invoice that was created.
13. On the *Invoices and Memos* (AR301000) form, which the system opens in a pop-up window, notice that you cannot edit the lines on the **Document Details** tab. (You can edit only the corresponding pro forma invoice.) Notice that all progress billing and time and material lines of the pro forma invoice has been copied to the accounts receivable invoice, as the following screenshot illustrates.



| Inventory ID | Transaction Descr.                               | Quantity | UOM   | Unit Price | Ext. Price | Discount Percent | Discount Amount | Amount   | Account | Description   | Project Task |
|--------------|--|----------|-------|------------|------------|------------------|-----------------|----------|---------|---------------|--------------|
| SITEREVIEW   | Site review                                      | 0.00     | HOUR  | 50.0000    | 200.00     | 0.000000         | 0.00            | 200.00   | 40000   | Sales Revenue | PHASE1       |
| INSTALL      | Installation of equipment at the customers' ...  | 0.00     | HOUR  | 100.0000   | 300.00     | 0.000000         | 0.00            | 300.00   | 40000   | Sales Revenue | PHASE2       |
| INSTALL      | Installation of equipment at the customers' ...  | 0.00     | HOUR  | 100.0000   | 400.00     | 0.000000         | 0.00            | 400.00   | 40000   | Sales Revenue | PHASE3       |
| INSTALL      | Installation of equipment at the customers' ...  | 0.00     | HOUR  | 100.0000   | 600.00     | 0.000000         | 0.00            | 600.00   | 40000   | Sales Revenue | PHASE4       |
| TRAINING     | Training on juicer usage (at customer's place)   | 0.00     | HOUR  | 50.0000    | 1,200.00   | 0.000000         | 0.00            | 1,200.00 | 40000   | Sales Revenue | PHASE5       |
| JUICER10     | Pro series juicer with a production rate of 1... | 1.00     | PIECE | 1,500.0000 | 1,500.00   | 0.000000         | 0.00            | 1,500.00 | 40000   | Sales Revenue | PHASE2       |
| JUICER15     | Commercial juicer with a production rate of ...  | 1.00     | PIECE | 2,500.0000 | 2,500.00   | 0.000000         | 0.00            | 2,500.00 | 40000   | Sales Revenue | PHASE3       |
| JUICER20C    | Commercial citrus juicer with a production r...  | 1.00     | PIECE | 3,750.0000 | 3,750.00   | 0.000000         | 0.00            | 3,750.00 | 40000   | Sales Revenue | PHASE4       |

**Figure: The AR invoice prepared from the pro forma invoice**

14. On the form toolbar, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.
15. To review the batch of general ledger transactions that the system created on release of the accounts receivable invoice, do the following:

- a. On the **Financial Details** tab, click the link in the **Batch Nbr.** box.
- b. On the [Journal Transactions](#) (GL301000) form, which opens in a pop-up window, review created general ledger transactions.

Notice that eight transactions have the project and project task specified. For these GL transactions, the system created the corresponding project transactions. For the transactions with the X project specified (the non-project code), the system created no project transactions.

- c. Close the pop-up window.
16. Again open the accounts receivable invoice that you have prepared on the [Invoices and Memos](#) form, and on the form toolbar, click **Inquiries > View Project Transactions** to review the corresponding project transactions.
  17. On the [Project Transaction Details](#) form, which opens in a pop-up window review the project transactions related to the AR invoice. Notice that eight transactions have *Invoice* in the **Orig. Doc. Type** column and the reference number of the accounts receivable invoice you have released in the **Orig. Doc. Nbr.** column. These transactions also have the reference number of the general ledger batch you have just reviewed in the **GL Batch Nbr.** column.
  18. On the [Projects](#) form, open the *HMBAKERY5* project, and review the **Invoices** tab. Notice that in the only line, the reference numbers of the prepared pro forma invoice and the corresponding accounts receivable invoice are shown in the **Pro Forma Reference Nbr.** and **AR Reference Nbr.** box, respectively. The total billed amount in the **AR Doc. Orig. Amount** is equal to \$10,450.
  19. On the **Revenue Budget** tab, review the **Actual Amount** of revenue budget lines, which was updated on release of the AR invoice. Also, review the new revenue budget lines created based on the billed project transactions: notice that the lines now has actual values and budgeted values in these lines still equal zero.

You have finished processing the pro forma invoice and the AR invoice for the project.

## Project Billing: General Information

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

### Learning Objectives

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

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

## Applicable Scenarios

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

## Billing Process Preparation

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

- For the *Time and Material* steps of the billing rules of project tasks, the system selects all the outstanding allocated project transactions and generates an invoice for the customer based on these transactions and the billing rule.
- For the *Progress Billing* steps of the billing rules of project tasks whose processing does not involve allocations, the system generates an invoice with the billable project revenue, meaning the revenue budget lines with a nonzero **Pending Invoice Amount** listed on the **Revenue Budget** tab of the [Projects](#) (PM301000) form.

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

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

## Projects Pending Billing

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

- A revenue budget line with a nonzero **Pending Invoice Amount** on the **Revenue Budget** tab of the [Projects](#) form; the amount may be positive or negative.
- An amount postponed to the next billing from a pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form for which the corresponding accounts receivable invoice is released.

- A project task for which a recurring billing item is defined on the **Recurring Billing** tab of the *Project Tasks* (PM302000) form.
- An unbilled transaction that is ready to be billed on the invoice date—that is, the date of the transaction is not later than the invoice date. Transactions with a date the same as the invoice date are billed if *Include Trans. created on billing date* is selected in the **Billing Cut-off Date** box on the *Projects Preferences* (PM101000) form; if *Exclude Trans. created on billing date* is selected instead, the system skips the transactions with a date on the billing date.

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

## Billing Procedure

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

# Lesson 10: Billing Projects for Progress

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You run billing for the project to prepare an invoice for the customer. You can bill the customer based on the current progress of the project.

## Learning Objectives

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

- Configure a progress billing rule
- Update the project progress to make it ready to be billed
- Run project billing for the project
- Process the documents that have been generated during the project billing
- Review how the project's actual amounts are updated with the billed amounts

## 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, including the billing type, which can be *Time and Material* or *Progress Billing*.

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 for 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. The progress billing can be performed for only a project that is pending billing—that is, the project has at least one revenue budget line with the billable project revenue, which is a nonzero **Pending Invoice Amount** on the **Revenue Budget** tab of the *Projects* (PM301000) form, including a negative amount.

To bill a project task by its progress, you need to create a billing rule on the *Billing Rules* (PM207000) form and configure a step of the *Progress Billing* type in this rule. Then you assign the configured billing rule to project tasks on the **Tasks** tab of the *Projects* form.

During the project life cycle, you 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 calculates the **Pending Invoice Amount** by using the following formula:

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

Alternatively, you can specify the **Pending Invoice Amount** directly in the revenue budget line; the system will calculate the **Completed (%)** value accordingly.

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

The system creates an invoice with the amounts copied from the **Pending Invoice Amount** column of the **Revenue Budget** tab of the *Projects* form for the corresponding revenue budget lines. Once an invoice is prepared, the **Draft Invoices Amount** of the revenue budget lines is updated with the amount for which the invoice has been prepared, and the **Pending Invoice Amount** becomes zero. In the revenue budget lines that are billed by a billing rule that includes a single step of the *Progress Billing* type, the **Actual Quantity** is always zero.

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

- The invoice group of the steps of the billing rules to which the project tasks refer

- The customer
- The customer location
- The **Bill Separately** setting of each project task defined on the [Project Tasks](#) (PM302000) form

If the project billing is performed by using the pro forma invoice workflow, the invoice lines that are produced by the progress billing steps are shown in the prepared pro forma invoice on the **Progress Billing** tab of the [Pro Forma Invoices](#) (PM307000) form. If you manually adjust the **Amount to Invoice** of a pro forma invoice line, the system automatically recalculates the **Total Completed (%)**—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.



If a project task is billed by a billing rule that has no *Progress Billing* step, when the value in the **Completed (%)** column is updated on the **Revenue Budget** tab of the [Projects](#) form, the system does not recalculate the **Pending Invoice Amount** column for the revenue budget line, and the system ignores any pending invoice amount of these lines during the billing process.

## Billing Rules: To Configure a Progress Billing Rule

The following implementation activity will walk you through the process of configuring a progress billing rule.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### Story

Suppose that you, as the project accountant of the SweetLife Fruits & Jams company, need to configure a billing rule to be used for billing a customer based on the progress of a project that your company completes for the customer.

### Configuration Overview

For the purposes of this activity, on the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.

### Process Overview

You will configure a billing rule for progress billing on the [Billing Rules](#) (PM207000) form.

### System Preparation

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 *browner* username and the *123* password.



## Step 1: Configuring a Billing Rule

To configure a billing rule to be used for progress billing, perform the following instructions:

1. On the form toolbar of the *Billing Rules* (PM207000) form, click **Add New Record** to create a new billing rule.
2. In the Summary area, specify `PRGRULE` as the **Billing Rule ID** and `Billing projects by progress` as the **Description**.
3. In the left pane, add a row for the billing rule step, and specify the following settings in the row:
  - **Active:** Selected
  - **Step ID:** 10
  - **Description:** `Billing by progress`
4. In the right pane, specify the following settings for the step (which is selected in the left pane):
  - **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]`  

The system uses this formula to define the description of the invoice line created based on the billing step. The `PMBudget.Description` data field stores the description of a project budget line.
  - **Use Sales Account from:** *Account Group*  

The system uses as the sales account the default account of the account group of a revenue budget line of a project.
  - **Create Lines with Zero Amount:** Cleared  

You clear this check box to add to the created invoice only the lines with non-zero amount.
5. Save the billing rule you have created.

You have configured the billing rule that can be used for billing a fixed-price project based on its progress. To bill a project by using this rule, you need to assign the rule to the project tasks. To review how a project is billed when you use a progress billing rule, complete the [Project Billing: To Bill a Project by Progress](#) activity.

## Project Billing: To Bill a Project by Progress

The following activity will walk you through the process of billing a project by its progress.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

## Story

Suppose that the HM's Bakery and Cafe customer has ordered 20 hours of new-employee training on operating juicers from the SweetLife Fruits & Jams company. SweetLife's project accountant has created a project to handle the tracking and billing of the provided services; the project should be billed on demand as the services are provided. Before each invoice is sent to the customer for payment, the customer has requested that a pro forma invoice be submitted for acceptance.

Then suppose that on *1/30/2021*, SweetLife's consultant has provided five hours of the training. As the project accountant, you need to update the progress of the project and bill the customer for the provided training. You need to update the progress on the project and bill the customer.

## Configuration Overview

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

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the [Billing Rules](#) (PM207000) form, the *PROGRESS* billing rule has been configured.
- On the [Customers](#) (AR303000) form, the *HMBAKERY* customer has been created.
- On the [Projects](#) (PM301000) form, the *HMBAKERY3* project has been created. On the **Tasks** tab, the *TRAINING* project task has been added, and the *PROGRESS* billing rule is specified for this task. Also, on the **Summary** tab, the **Create Pro Forma on Billing** check box is selected, indicating that a pro forma invoice is created when the project is billed, and the **Billing Period** is set to *On Demand*.

## Process Overview

You will update the progress of the project on the [Projects](#) (PM301000) form to indicate that services have been provided partially. Then you will run project billing and review the prepared pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form. After that, you will release the pro forma invoice, which causes the corresponding accounts receivable invoice to be created. After you review and release the AR invoice on the [Invoices and Memos](#) (AR301000) form, you will review the project and make sure that the project balances have been updated.

## 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 *brawler* 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 *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

## Step 1: To Run Project Billing

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

1. On the [Projects](#) (PM301000) form, open the *HMBAKERY3* project.
2. On the **Revenue Budget** tab, specify 25.00 as the **Completed (%)** in the only revenue budget line to indicate that 25 percent of the project task has been completed (5 hours of 20). The system calculates the **Pending Invoice Amount** as \$250. Because the project has a nonzero **Pending Invoice Amount** in the revenue budget line, you can now bill the project.
3. Save your changes to the project.
4. On the form toolbar, click **Run Project Billing**.

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

## Step 2: To Process a Pro Forma Invoice and the Corresponding AR Invoice

To process the pro forma invoice that was prepared when you billed the project, do the following:

1. While you are still reviewing the prepared pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form, on the **Progress Billing** tab, review the only line. The system has added this line based on the corresponding revenue budget line of the project of the [Projects](#) form. The **Amount to Invoice** in the only progress billing line and the **Progress Billing Total** of the invoice are \$250.
2. 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 (and assigns it the *Closed* status), and creates a corresponding accounts receivable invoice based on the pro forma invoice.
3. On the **Financial Details** tab, right of the **AR Ref. Nbr.** box, click the **Edit** button to open the accounts receivable invoice that has been created on the [Invoices and Memos](#) (AR301000) form.
4. On the form toolbar, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.

## Step 3: To Review the Updated Project Details

To review how the project billing has affected the project budget, do the following:

1. On the [Projects](#) form, open the *HMBAKERY3* project.
2. On the **Revenue Budget** tab, review the only revenue budget line. Notice that the **Pending Invoice Amount** is now zero, and the **Actual Amount** is \$250, as shown in the following screenshot. Also notice that **Actual Income** in the Summary area has also been updated and is now equal \$250.

| Project Task | Account Group | Description              | Original Budgeted Quantity | UOM  | Unit Rate | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Draft Invoices Amount | Actual Quantity | Actual Amount | Completed (%) | Pending Invoice Amount |
|--------------|---------------|--------------------------|----------------------------|------|-----------|--------------------------|---------------------------|-------------------------|-----------------------|-----------------|---------------|---------------|------------------------|
| TRAINING     | REVENUE       | A training for employees | 20.00                      | HOUR | 50.0000   | 1,000.00                 | 20.00                     | 1,000.00                | 0.00                  | 0.00            | 250.00        | 25.00         | 0.00                   |

**Figure: The revenue budget of the project**

## Lesson 11: Billing Projects for Time and Material

You run billing for the project to prepare an invoice for the customer. You can bill the customer for the time and material spent on the project.

### Learning Objectives

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

- Configure a time and material billing rule
- Make sure that the project is ready to be billed
- Run project billing for the project
- Process the documents that have been generated during the project billing
- Review how the project's actual amounts are updated with the billed amounts

### 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, including the billing type, which can be *Time and Material* or *Progress Billing*.

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 progress 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 define 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 have the particular 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.

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

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

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

The system creates an invoice based on the unbilled project transactions with amounts calculated by 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 the date that is later than the billing date. The transactions with the same date as the invoice date are billed if *Include Trans. created on billing date* is selected as the **Billing Cut-off Date** on the [Projects Preferences](#) (PM101000) form; if *Exclude Trans. created on billing date* is selected, the system skips the transactions with the same date as the invoice date.

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

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

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

## Billing Rules: To Configure a Time and Material Rule

The following implementation activity will walk you through the process of configuring a time and material billing rule.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### Story

Suppose that you, as the project accountant of the SweetLife Fruits & Jams company, need to configure a billing rule to be used for billing customers for the materials that have been spent on providing services as part of the project, and for the time that has been spent by SweetLife's employees performing work for the project.

### Configuration Overview

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

- 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 following account groups have been configured:
  - The *MATERIAL* account group of the expense type, which aggregates the amounts posted to the *50000 – GOGS – Inventory* account
  - The *LABOR* account group of the expense type, which aggregates the amounts posted to the *54100 – Project Labor Expense* account.

### Process Overview

You will create a billing rule for time and material billing on the [Billing Rules](#) (PM207000) form, and add to this rule two steps for billing different account groups.

### System Preparation

Before you start configuring a billing rule, you need to launch the Acumatica ERP website and sign in to a company with the *U100* dataset preloaded. To sign in as a project accountant, use the *brawler* username and the *123* password.

## Step 1: Configuring a Billing Rule and Adding a Step

To configure a billing rule to be used for time and material billing and to then add a step for billing for materials, perform the following instructions:

1. On the form toolbar of the *Billing Rules* (PM207000) form, click **Add New Record** to create a new billing rule.
2. In the Summary area, specify `MATTIME` as the **Billing Rule ID** and `Billing rule for materials with markup` as the **Description**.
3. In the left pane, 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 (which is selected in the left pane because it is the only step):

- **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.

- **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 1.25.

- **Line Description Formula:** `= [PMTran.Description]`
- **Use Sales Account from:** *Inventory Item*
- **Create Lines with Zero Amount and Quantity:** Cleared

You clear this check box to add to the created invoice only the lines with non-zero amount and quantity.

5. Save your changes.

## Step 2: Adding One More Step to the Billing Rule

To add and configure a step for billing for labor, do the following:

1. While you are still viewing the *MATTIME* billing rule on the *Billing Rules* (PM207000) form, In the left pane, add a row for the second step of the billing rule, and specify the following in the row:

- **Active:** Selected
  - **Step ID:** 20
  - **Description:** Billing for employee time
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 expenses for employee labor.

- **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 1.25.

- **Line Description Formula:** `= [PMTran.Description]`
- **Use Sales Account from:** *Inventory Item*
- **Create Lines with Zero Amount and Quantity:** Cleared

3. Save the created billing rule.

You have configured the billing rule that can be used for billing the cost-plus project for the time and material spent on the services related to the project. To bill a project by using this rule, you need to assign the rule to the project tasks. To review how a project is billed when you use a time and material billing rule, complete the [Project Billing: To Bill a Project for Time and Material](#) activity.

## Project Billing: To Bill a Project for Time and Material

The following activity will walk you through the process of billing a project for time and material.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### 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 employee training on operating the juicer. SweetLife's project accountant has created the project to handle the tracking and billing of the juicer and the provided services. Then the project accountant has entered a project transaction to record the delivery and installation of the juicer, and eight hours of training have been provided by SweetLife



consultants. Acting as the project accountant, you need to bill the customer for the project so that the billing includes the materials used and the work time spent on the project.

## Configuration Overview

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

- For the purposes of this activity, on the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the [Billing Rules](#) (PM207000) form, the *TM* billing rule has been configured. The billing rule includes three steps, each billing a particular account group (*MATERIAL*, *LABOR*, and *SUBCON*); for each group, the amount to be invoiced is calculated by multiplying the project transaction amount by 1.25.
- On the [Customers](#) (AR303000) form, the *HMBAKERY* customer has been defined. On the [Projects](#) (PM301000) form, the *HMBAKERY4* project has been created for this customer, and the *PHASE1* and *PHASE2* tasks have been added to the project. On the **Tasks** tab, the *TM* billing rule has been specified for both project tasks. Also, on the **Summary** tab, the **Create Pro Forma on Billing** check box is selected, indicating that a pro forma invoice is created when the project is billed.
- On the [Project Transactions](#) (PM304000) form, the *PM00000007* batch of project transactions related to the project has been created and released to record the services provided for the project.

## Process Overview

You will run the project billing on the [Projects](#) (PM301000) form, which causes the system to create a pro forma invoice. On the [Pro Forma Invoices](#) (PM307000) form, you will review the lines that have been added to this pro forma invoice and release it. Then you will review the corresponding accounts receivable invoice and release it on the [Invoices and Memos](#) (AR301000) form, and review how this affects the project's actual values.

## 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 as project accountant by using the *browner* 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 *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

## Step 1: Billing the Project and Processing the Related Documents

To bill the project, do the following:

1. In the Selection area on the [Project Transaction Details](#) (PM401000) form, select *HMBAKERY4* as the **Project**. In the table, the system lists the related project transactions:
  - The *JUICER15* line in the amount of \$2000
  - The *TRAINING* line in the amount of \$320
  - Two lines with the *INSTALL* item: the line related to the *PHASE1* project task in the amount of \$80, and the line related to the *PHASE2* project task in the amount of \$240

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

2. On the [Projects](#) (PM301000) form, open the *HMBAKERY4* project. In the Summary area, notice that the actual expenses of the project are \$2,640 (which is the total of the processed project transactions), while the actual income of the project is \$0 because the project has not been billed yet.
3. On the form toolbar, click **Run Project Billing**. The system creates a pro forma invoice and opens it on the [Pro Forma Invoices](#) (PM307000) form.
4. On the **Time and Material** tab of the form, review the lines that the system has created based on the project transactions. The pro forma invoice includes three lines:
  - The *JUICER15* line with the billed amount of \$2,500
  - The *TRAINING* line with the billed amount of \$400
  - The *INSTALL* line (which aggregates two project transactions) in the amount of \$400
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 (and assigns it the *Closed* status) and creates a corresponding accounts receivable invoice based on the pro forma invoice.
6. On the **Financial Details** tab, right of the **AR Ref. Nbr.** box, click the **Edit** button to open the accounts receivable invoice that has been created on the [Invoices and Memos](#) (AR301000) form.
7. On the form toolbar, 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 Selection area, select *HMBAKERY4* 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 the negative amount). 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 time and material billing now have the **Billed** check box selected, indicating that these transactions have been billed.
2. On the [Projects](#) (PM301000) form, open the *HMBAKERY4* project. In the Summary area, notice that the actual income is now \$3300. 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. On the **Balances** tab (see the following screenshot), review the project income and expenses aggregated by account groups.

Projects  
HMLAKERY4 - A juicer with the installation and training for employees

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

\* Project ID: HMLAKERY4 - A juicer with the install Status: Active Actual Income: 3,300.00  
 Customer: HMLAKERY - HM's Bakery & Cafe Actual Expenses: 2,640.00  
 Template: Margin: 660.00 % 20.00  
 \* Description: A juicer with the installation and training for employees

SUMMARY TASKS REVENUE BUDGET COST BUDGET **BALANCES** COMMITMENTS INVOICES CHANGE ORDERS UNION LOCALS ACTIVITY HISTORY EMPLOYEES EQUIPM

VIEW TRANSACTIONS VIEW COMMITMENT DETAILS

| Account Group         | Description         | Original Budgeted Amount | Revised Budgeted Amount | Original Committed Amount | Revised Committed Amount | Committed Invoiced Amount | Actual Amount   | Committed Open Amount | Actual + Open Committed Amount | Variance Amount  | Performance (%) |
|-----------------------|---------------------|--------------------------|-------------------------|---------------------------|--------------------------|---------------------------|-----------------|-----------------------|--------------------------------|------------------|-----------------|
| <b>Income</b>         |                     |                          |                         |                           |                          |                           |                 |                       |                                |                  |                 |
| REVENUE               | Project Revenue     | 0.00                     | 0.00                    | 0.00                      | 0.00                     | 0.00                      | 3,300.00        | 0.00                  | 3,300.00                       | -3,300.00        | 0.00            |
| <b>Income Totals</b>  |                     | <b>0.00</b>              | <b>0.00</b>             | <b>0.00</b>               | <b>0.00</b>              | <b>0.00</b>               | <b>3,300.00</b> | <b>0.00</b>           | <b>3,300.00</b>                | <b>-3,300.00</b> | <b>0.00</b>     |
| <b>Expense</b>        |                     |                          |                         |                           |                          |                           |                 |                       |                                |                  |                 |
| LABOR                 | Project Labor       | 320.00                   | 320.00                  | 0.00                      | 0.00                     | 0.00                      | 320.00          | 0.00                  | 320.00                         | 0.00             | 100.00          |
| MATERIAL              | Project Material    | 2,000.00                 | 2,000.00                | 0.00                      | 0.00                     | 0.00                      | 2,000.00        | 0.00                  | 2,000.00                       | 0.00             | 100.00          |
| SUBCON                | Project Subcontract | 320.00                   | 320.00                  | 0.00                      | 0.00                     | 0.00                      | 320.00          | 0.00                  | 320.00                         | 0.00             | 100.00          |
| <b>Expense Totals</b> |                     | <b>2,640.00</b>          | <b>2,640.00</b>         | <b>0.00</b>               | <b>0.00</b>              | <b>0.00</b>               | <b>2,640.00</b> | <b>0.00</b>           | <b>2,640.00</b>                | <b>0.00</b>      | <b>100.00</b>   |

**Figure: The project balances after project billing**

## Lesson 12: Tracking New Expenses in Projects

In Acumatica ERP, billing rules are used to calculate the amounts being billed to customers. When you bill customers for the time and material spent on the project, the billing rule or rules specified for the project tasks must support the processing of each type of expense tracked in the project budget.

### Learning Objectives

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

- Add a time and material step to a billing rule to process a new type of expenses
- Use item prices in billing rules

### Applicable Scenarios

You modify billing rules if your company starts providing new services while billing customers for the time and material.

## Billing Rules: To Modify a Billing Rule to Track New Expenses

The following activity will walk you through the process of modifying a billing rule by adding a new step, so that you can bill a new type of expenses within projects.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### Story

Suppose that the West BBQ Restaurant customer has contacted the SweetLife Fruits & Jams company and requested a maintenance service for a juicer. This is a new type of service that the company has

not previously provided for any customer. SweetLife's employee has visited the customer and provided two hours of the new maintenance service.

Acting as the project accountant of SweetLife, you need to update the billing rule used in the project to track the new type of expenses and bill the customer for the provided services.

## Configuration Overview

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

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to support the project accounting functionality.
- On the [Billing Rules](#) (PM207000) form, the *STANDARD* billing rule has been created.
- On the [Account Groups](#) (PM201000) form, the *MAINTSERV* account group has been created.
- On the [Chart of Accounts](#) (GL202500) form, the *54500 - Maintenance Expense* expense account has been created. The account has been mapped to the *MAINTSERV* account group.
- On the [Non-Stock Items](#) (IN202000) form, the *MAINTSERV* inventory item has been created. The *54500 - Maintenance Expense* account has been selected as the expense account of the item and the default price has been set to \$80.
- On the [Customers](#) (AR303000) form, the *WESTBBQ* customer has been configured.

## Process Overview

On the [Billing Rules](#) (PM207000) form, you will add a new step to the billing rule; for the step, you will configure processing transactions related to the new maintenance service. Then you will create a new project on the [Projects](#) (PM301000) form that includes a task for the maintenance service and uses the updated billing rule. You will also create project transactions on the [Project Transactions](#) (PM304000) form to record the provided maintenance work and update the actual project values. Finally, you will bill a project and review the prepared pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form.

## System Preparation

To prepare to perform the instructions of the activity, launch the Acumatica ERP website, and sign in to a company with the U100 dataset preloaded as Pam Brawler, a project manager, by using the *brawler* username and the *123* password.

### Step 1: Modifying a Billing Rule

To add to an existing billing rule a billing step to bill maintenance expenses with a fixed margin coefficient of 1.2, do the following:

1. On the [Billing Rules](#) (PM207000) form, open the *STANDARD* billing rule.
2. In the left pane, add a row, and specify the following settings for it:
  - **Active:** Selected
  - **Step ID:** 40
  - **Description:** Maintenance cost plus markup
3. In the right pane, specify the following settings for the step selected in the left pane:

- **Billing Type:** *Time and Material*
- **Account Group:** *MAINTSERV*

In this step of the billing rule, the system processes a project transaction that debits accounts mapped to the *MAINTSERV* account group.

- **If @Rate is not defined:** *Set @Rate to 0*
- **Invoice Description Formula:** `= 'Invoice for ' + [PMProject.ContractCD]`
- **Line Quantity Formula:** `= [PMTran.BillableQty]`

The system uses the quantity of the project transaction as the quantity of each invoice line.

- **Line Amount Formula:** `= [PMTran.BillableQty] * 1.2 * @Price`

The invoiced amount is calculated as the billable quantity of the project transaction multiplied by the price of the related inventory item with the markup.

- **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*
- **Create Lines with Zero Amount and Quantity:** *Cleared*

#### 4. Save your changes to the billing rule.

### Step 2: Creating a Project

To create a project that represents the maintenance work SweetLife will do for the West BBQ Restaurant customer, do the following:

1. On the [Projects](#) (PM301000) form, click **Add New Record** on the form toolbar, and specify the following settings in the Summary area:
  - **Project ID:** `WESTBBQ`
  - **Customer:** `WESTBBQ - West BBQ Restaurant`
  - **Description:** `Maintenanceservice for a juicer`
2. On the **Summary** tab, specify the following settings:
  - **Cost Budget Level:** *Task and Item*
  - **Change Order Workflow:** *Cleared*
  - **Billing Period:** *On Demand*
  - **Create Pro Forma on Billing:** *Selected*
3. To add a task to the new project, on the table toolbar of the **Tasks** tab, click **Add Row** on the table toolbar, and specify the following settings in the new row:

- **Task ID:** SERVICE
- **Description:** Maintenance service for a juicer
- **Billing Rule:** STANDARD

This is the billing rule you have modified in the previous step.

- **Status:** Active

4. Save the project.

5. On the form toolbar, click **Activate Project**. The system assigns the project the *Active* status.

### Step 3: Creating and Processing a Project Transaction

To update the actual values of the project, create and process a project transaction for two hours of maintenance work by doing the following:

1. On the [Project Transactions](#) (PM304000) form, create a new transaction, and in the Summary area, specify *PM* as the **Module** and *Maintenance service for WESTBBQ* as the **Description**.
2. In the table on the **Document Details** tab, click **Add Row** on the table toolbar, and specify the following settings in the row:
  - **Project:** WESTBBQ
  - **Project Task:** SERVICE
  - **Cost Code:** 00-000
  - **Account Group:** MAINTSERV
  - **Inventory ID:** MAINTSERV
  - **Quantity:** 2
  - **Unit Rate:** 80.00
3. On the form toolbar, click **Save**, and then click **Release**.
4. On the [Projects](#) (PM301000) form, open the WESTBBQ project, and on the **Cost Budget** tab, notice that a line with the cost of the provided maintenance service has appeared with an **Actual Amount** of \$160.

### Step 4: Billing the Project and Reviewing the Billed Amount

To bill the project and review the document prepared for the customer, do the following:

1. While you are still reviewing the WESTBBQ project on the [Projects](#) (PM301000) form, on the form toolbar, click **Run Project Billing**.

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

2. On the **Time and Material** tab, review the invoice line that the system has created for the project transaction that you processed in the previous step. The **Billed Amount**, which is calculated by using the line amount formula you have specified for the new step of the billing rule, is \$192,

which is the project transaction quantity (2) multiplied by the default price of the inventory item (\$80) and then multiplied by 1.2.

3. On the form toolbar, click **Remove Hold** to assign the pro forma invoice the *Open* status, and then click **Release**. The system closes the pro forma invoice (which is now assigned the *Closed* status), and creates an accounts receivable invoice based on the pro forma invoice.
4. On the **Financial Details** tab, right of the **AR Ref. Nbr.** box, click the **Edit** button to open the accounts receivable invoice that the system created on the *Invoices and Memos* (AR301000) form.
5. On the form toolbar, click **Remove Hold** to assign the invoice the *Balanced* status, and then click **Release** to release the accounts receivable invoice.
6. On the *Projects* (PM301000) form, open and review the *WESTBBQ* project, as shown in the following screenshot. Notice that in the Summary area, the **Actual Income** box now shows \$192, which is the total amount of the invoice that you have processed. The **Actual Expense** box shows the amount of the project transaction that you have processed earlier (\$160).

| Account Group  | Description           | Original Budgeted Amount | Revised Budgeted Amount | Original Committed Amount | Revised Committed Amount | Committed Invoiced Amount | Actual Amount | Committed Open Amount | Actual + Open Committed Amount | Variance Amount | Performance (%) |
|----------------|-----------------------|--------------------------|-------------------------|---------------------------|--------------------------|---------------------------|---------------|-----------------------|--------------------------------|-----------------|-----------------|
| <b>Income</b>  |                       |                          |                         |                           |                          |                           |               |                       |                                |                 |                 |
| REVENUE        | Project Revenue       | 0.00                     | 0.00                    | 0.00                      | 0.00                     | 0.00                      | 192.00        | 0.00                  | 192.00                         | -192.00         | 0.00            |
|                | <b>Income Totals</b>  | <b>0.00</b>              | <b>0.00</b>             | <b>0.00</b>               | <b>0.00</b>              | <b>0.00</b>               | <b>192.00</b> | <b>0.00</b>           | <b>192.00</b>                  | <b>-192.00</b>  | <b>0.00</b>     |
| <b>Expense</b> |                       |                          |                         |                           |                          |                           |               |                       |                                |                 |                 |
| MAINTS...      | Maintenance Service   | 0.00                     | 0.00                    | 0.00                      | 0.00                     | 0.00                      | 160.00        | 0.00                  | 160.00                         | -160.00         | 0.00            |
|                | <b>Expense Totals</b> | <b>0.00</b>              | <b>0.00</b>             | <b>0.00</b>               | <b>0.00</b>              | <b>0.00</b>               | <b>160.00</b> | <b>0.00</b>           | <b>160.00</b>                  | <b>-160.00</b>  | <b>0.00</b>     |

**Figure: Updated project balances**

You have updated the project billing rule and performed billing the project for time and material using this rule.

## Lesson 13: Grouping Invoices

### Grouping Invoices: General Information

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

#### Learning Objectives

You will learn how to:

- Configure project billing to create a single invoice for the project or to create multiple separate invoices
- Bill the project with different billing rules assigned to the project tasks

- Bill a project task separately from the other tasks of the project
- Bill project transactions that are associated with particular account groups separately from the other

## Applicable Scenarios

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

## Grouping Invoices

During the billing process, the system groups the billable amounts into invoices based on the following settings of project tasks specified on the **Summary** tab (**Billing and Allocation Settings** section) of the *Project Tasks* (PM302000) form and settings of billing rules specified on the *Billing Rules* (PM207000) form:

- The customer of a project task selected in the **Customer** box
- The customer's location of a project task selected in the **Location** box
- The originating branch the logic of which retrieval is described below
- The **Bill Separately** check box of a project task
- The **Invoice Group** of the billing rule, which is specified for a project task in the **Billing Rule** box

The system selects the originating branch for an invoice created during project billing by using the following priority:

- For a pro forma invoice, the project branch specified in the **Branch** box on the **Summary** tab (**Billing and Allocation Settings** section) of the *Projects* (PM301000) form, if any. For an accounts receivable invoice, the system ignores the project branch.
- The shipping branch of the location selected in the project task, which is specified in the **Shipping Branch** box on the **General Info** tab (**Location Settings** section) of the *Customer Locations* (PM303020) form, if any. (Therefore a number of invoices with different originating branches can be created for the same project if the project branch is not defined.)
- The shipping branch of the default location of the customer specified for the project task, if any.
- The current branch selected in the company and branch selection menu.

By default with no additional settings, the system creates a single invoice for a project even if the project tasks have different billing rules assigned.

The system creates a separate invoice for a project task that has the selected **Bill Separately** check box in the **Billing and Allocation Settings** section on the **Summary** tab of the *Project Tasks* (PM302000) form.

The system also creates a separate invoice for all the billing steps of billing rules for which the same **Invoice Group** is specified on the *Billing Rules* (PM207000) form. That is, if some tasks of a project have a billing rule or multiple billing rules with billing steps that have the same invoice group, during the project billing, the system creates a separate invoice for all the invoice lines created with these billing steps.



## Grouping Invoices: Process Activity

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



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

### Story

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

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

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

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

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

### Configuration Overview

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

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

### Process Overview

To bill a time and material project, you first will review and configure project invoices with the billing rule on the [Billing Rules](#) (PM207000) form and with the project tasks on the [Projects](#) (PM301000) form.

Then you will bill the project on the [Projects](#) form. Finally, you will review the created pro forma invoice on the [Pro Forma Invoices](#) (PM307000) form.

## System Preparation

Before you begin performing the steps of this activity, perform the following instructions to prepare the system:

1. Launch the Acumatica ERP website, and sign in to a company with the U100 dataset preloaded as project accountant by using the *browner* 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 *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.

### Step 1: Billing a Project with Multiple Billing Rules

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

1. On the [Projects](#) (PM301000) form, open the *TOMYUM9* project.
2. On the **Cost Budget** tab, review the cost budget of the project.
3. On the **Tasks** tab, in the line with the *PHASE2* task, change billing rule in the **Billing Rule** box to *TM*. When you bill the project, the system will use this billing rule to process unbilled transactions associated with this project task.
4. Save your changes to the project.
5. On the form toolbar, click **Run Project Billing**.

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

6. On the **Time and Material** tab, review the invoice lines and notice that lines related to all the project tasks are in the same invoice, even though the project tasks have different billing rules assigned. You need to reconfigure the billing to prepare separate pro forma invoice for training task.
7. Delete the pro forma invoice, so you can bill this project again when you change the configuration of project billing.

### Step 2: Billing Project Tasks Separately

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

1. On the [Projects](#) (PM301000) form, open the *TOMYUM9* project.
2. On the **Tasks** tab, do the following to add a needed table column to those displayed on the tab:
  - a. In the table, click the Column Configuration button, the leftmost icon among the column headers. The system opens the **Column Configuration** dialog box in a pop-up window.
  - b. In the **Available Columns** list of the dialog box, click the **Bill Separately** column.
  - c. Click the Add Column button (the right arrow icon between the lists) to add the column to the **Selected Columns** list.

- d. Click **OK** to apply your changes to the list of columns and close the dialog box.
3. In the row with the *PHASE3* task, select the check box in the **Bill Separately** column to bill the task with a separate invoice.
4. Save your changes to the project.
5. On the form toolbar, click **Run Project Billing** and review the generated invoices on the **Invoices** tab.

The system created two pro forma invoices. One invoice includes the transactions related to the *PHASE3* project task, and the other invoice includes the transactions related to the other project tasks.

6. Open and review each created pro forma invoice as follows:
  - a. On the **Invoices** tab, click the link in the **Pro Forma Reference Nbr.** column to open the pro forma invoice.
  - b. On the **Time and Material** tab of the *Pro Forma Invoices* (PM307000) form, which the system opens in a pop-up window, review the lines of the invoice.

Notice that the invoice with the total amount of \$4,750 has lines related to the *PHASE1* and *PHASE2* tasks, whereas the invoice with the total amount of \$400 has a line related to only the *PHASE3* task.

- c. Delete the pro forma invoice and return to the *Projects* form with the *TOMYUM9* project.

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

### Step 3: Grouping Invoices by Steps of Billing Rules

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

1. On the *Billing Rules* (PM207000) form, open the *TM* billing rule.
2. In the left pane, enter *MATERIAL* in the **Invoice Group** column of the *10 - Material cost plus markup* step.

This step of the billing rule is used for time and material billing of transactions associated with the *MATERIAL* account group.

3. Save your changes to the billing rule.
4. Open the *COMBINED* billing rule.
5. In the left pane, enter *MATERIAL* in the **Invoice Group** column of the *20 - Material cost plus markup* step.

This step of the billing rule is used for time and material billing of transactions associated with the *MATERIAL* account group.

6. Save your changes to the billing rule.

When you bill the project by using these billing rules, the system will group invoice lines created with the steps of the billing rules with the *MATERIAL* account group in a separate invoice.

7. On the *Projects* (PM301000) form, open the *TOMYUM9* project.
8. On the form toolbar, click **Run Project Billing**.

The system creates three pro forma invoices. The system has created one more separate invoice based on unbilled transactions with the *MATERIAL* account group using the steps of the billing rules with the *MATERIAL* invoice group.

9. Open and review each created pro forma invoice as follows:
  - a. On the **Invoices** tab, click the link in the **Pro Forma Reference Nbr.** column to open the pro forma invoice.
  - b. On the **Time and Material** tab of the *Pro Forma Invoices* (PM307000) form, which the system opens in a pop-up window, review the lines of the invoice.

Notice that the invoice with the total amount of \$4,000 includes two lines with juicers related to the *MATERIAL* account group, the invoice with the total amount of \$750 includes four lines related to the *PHASE1* and *PHASE2* tasks except the lines with juicers, and the invoice with the total amount of \$400 includes one line related to the *PHASE3* task.

- c. Close the pop-up window with the form and return to the *Projects* form with the *TOMYUM9* project.

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

# Part 4: Budget and Balances

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## Project Budget: General Information

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The project budget is used to provide both a financial plan and cost constraints for a project. That is, you define the amount of money and resources to be spent on the project. Then you can control the actual project costs against the costs in the original and revised budgets. As a project progresses, you can continuously track budget execution and either adjust expenditures or revise the budget.

### Learning Objectives

In this chapter, you will learn how to:

- Configure the revenue budget and the cost budget for a project
- Update actual values of the project budget
- Review project balances
- Lock original budgeted values and make changes to the locked budget
- Control whether AP bills, purchase orders, and change orders created for a project exceed the project budget
- Restructure the budget before and after billing

### Applicable Scenarios

You configure the project budget in one of the following cases:

- If you want to plan the revenue of a project and track its completion
- If you want to plan and control the amount of money and resources spent on a project
- If you want to configure a fixed-price project that is billed for progress

### Budget Planning

You plan a project budget during the estimation stage of the project, before any project transaction occurs. To estimate the project income, you populate the revenue budget of the project. To estimate the resources to be spent on the project, you populate the cost budget. During the execution stage of the project, when you process project transaction and bill the project, actual values of the project budget are updated so you can control the project execution and compare the actual values against the budget ones.

On the **Revenue Budget** and **Cost Budget** tabs of the [Projects](#) (PM302000) form, you can add, revise, and delete budget lines. Each budget line is defined by the combination of the following settings, including the project, that are unique within the project:

- A project task, which identifies a step or activity within the project.
- An account group, which determines the category of the revenue or expenses that you expect to incur during the project execution.

- A particular inventory item (that is, a resource) needed to complete the task. If you do not need to associate the budget line with a particular item but the budget level is configured to include the item, you can select the empty item code (N/A) as the inventory item.

The level of details of revenue budget lines and cost budget lines—that is, whether you need to specify the inventory item or not, depends on the option selected in the **Revenue Budget Level** and **Cost Budget Level** boxes on the **Summary** tab (**Project Properties** section) of the *Projects* form, respectively.

Other information that you can specify in a budget line includes the original budgeted quantity of the selected inventory item, the unit rate, and the original budgeted amount, which is calculated automatically as the original budgeted quantity multiplied by unit rate if you have not specified a value manually.

The revised budgeted quantity and amount are initially equal to the original budgeted values. If during the estimation, acceptance, or execution stages of the project you need to revise the budget and want to keep the original budgeted amounts and quantities unchanged so that you can later analyze the accuracy of your original estimates, you can adjust the revised budgeted quantities and amounts, which are initially equal to the original budgeted values.

## Budget Tracking

As a project is being processed, you create project-related documents such as AP bills, purchase orders, or AR invoices. This causes the creation of project transactions. When these transactions are posted, the system updates the **Actual Quantity** and **Actual Amount** on the **Revenue Budget** and **Cost Budget** tabs of the *Projects* (PM302000) form.



The system also updates the project budget when a change order line is released, a commitment line is saved, a pro forma invoice line is saved, an accounts receivable invoice line is saved, and a new change request line is saved or linked to a change order.

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

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

You track the **Actual Amount** of project budget lines and compare this amount with the **Revised Budgeted Amount** when reviewing the budget. In the **Performance (%)** column, the system estimates the percentage of the actual amount to the revised budgeted amount. For a revenue budget line, this percent shows the progress of completion of your financial plan. The fully performed budget line has the performance of 100%. For a cost budget line, the percent shows how much expenses you have incurred against the planned amount. You use this column to track the performance by the following budget attributes:

- A project budget line on the **Revenue Budget** and **Cost Budget** tabs

- A project task on the **Revenue Budget** and **Cost Budget** tabs if the **Group by Task** check box is selected on the table toolbar
- An account group on the **Balances** tab

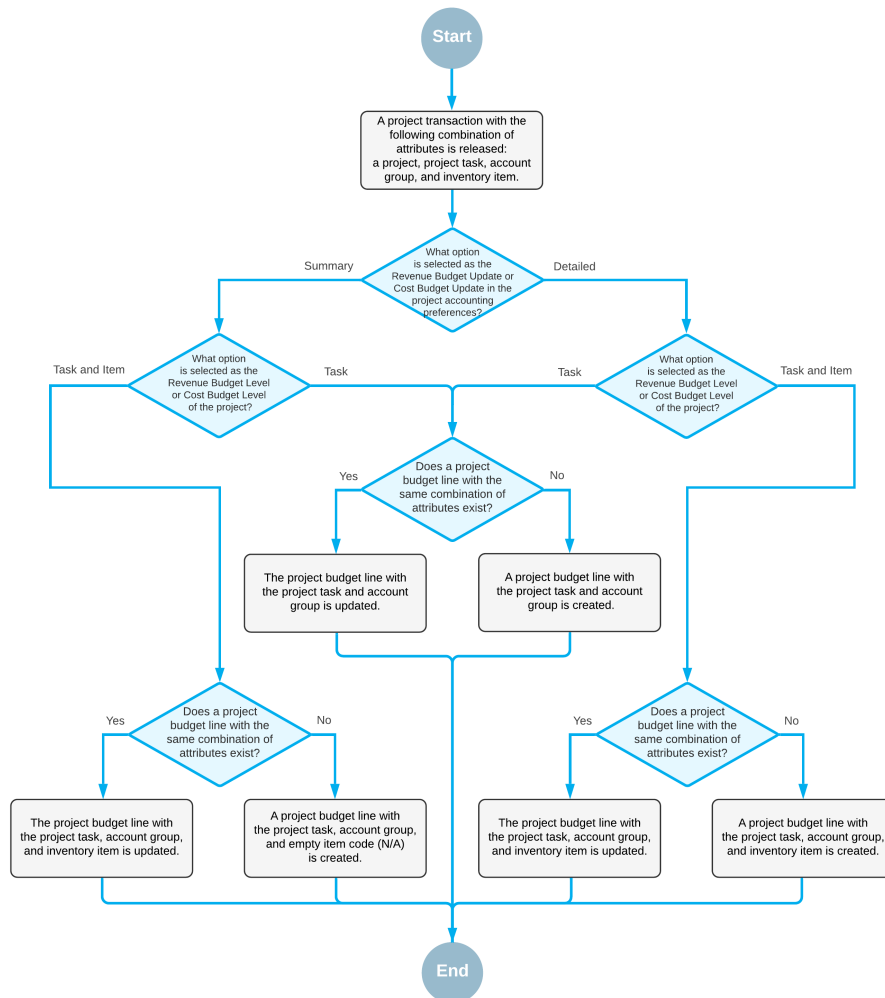
Similarly as the actual amount, you can compare the actual quantity of project budget lines with the revised

Similarly to the actual amount, you can compare the actual quantity of project budget lines with the revised budgeted quantity to control how the project execution fits the planned quantity. The actual quantity is updated only if the UOM is specified in the budget line and if the system can convert the UOM of the corresponding project transaction to the UOM of the budget line by using the list of unit conversions defined on the *Units of Measure* (CS203100) form.

### Update of the Project Budget by Released Transactions

The following diagram illustrates how the system updates the project budget on the release of a project transaction depending on the settings of the budget level and the budget update.

Update of the project budget on the release of a project transaction



## Lesson 14: Configuring the Project Budget

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### Project Budget: To Configure and Update the Budget

In this activity, you will learn how to configure the project budget, updated actual values of the project budget, and review project performance.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

#### Story

Suppose that the Thai Food Restaurant customer has ordered a juicer along with the site review and installation services from the SweetLife Fruits & Jams company. SweetLife's project accountant has created a project to handle the tracking and billing of the provided materials and services.

Acting as the project accountant, you will configure the revenue budget for the project to plan the expected revenue and the cost budget to plan the materials and services to be spent on the project. Then, when the juicer is delivered and the services are provided, you will enter project transactions to capture project costs and will check if the expenses within the budget values. You will then bill the project and compare the project income with the budgeted values.

#### Configuration Overview

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

- On the [Enable/Disable Features](#) (CS100000) form, the *Project Accounting* feature has been enabled to provide support for the project accounting functionality.
- On the [Projects](#) (PM301000) form, the *TOMYUM5* project has been created and the *INSTALL* project task has been created for the project and configured as the default task. Also, *Task* is selected as the **Revenue Budget Level** of the project and *Task and Item* is selected as the **Cost Budget Level** of the project.
- On the [Account Groups](#) (PM201000) form, the *REVENUE*, *SUBCON*, *LABOR*, and *MATERIAL* account groups have been created.
- On the [Non-Stock Items](#) (IN202000) form, the *SITEREVIEW*, *INSTALL* and *TRAINING* non-stock items have been configured.
- On the [Stock Items](#) (IN202500) form, the *JUICER15* stock item has been configured.

#### Process Overview

In this activity, you will configure the project budget with on the [Projects](#) (PM301000) form. You will then and release project transactions on the [Project Transactions](#) (PM304000) form that will update the actual values of the project budget. You will then bill the project on the [Projects](#) (PM301000) form and release the created accounts receivable invoice on the [Invoices and Memos](#) (AR301000) form.



## System Preparation

Before you begin performing the steps of this activity, perform the following instructions to prepare the system:

1. Download the [TOMYUM5\\_Project\\_Transactions](#) file to your computer.
2. Launch the Acumatica ERP website, and sign in to a company with the U100 dataset preloaded as Pam Brawner by using the *brawner* username and the *123* password.
3. 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 *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
4. On the [Projects Preferences](#) (PM101000) form, specify the following settings on the **General Settings** tab (**General Settings** section):
  - **Revenue Budget Update:** *Summary*
  - **Cost Budget Update:** *Detailed*
5. Save your changes to the project accounting preferences.

### Step 1: Configuring the Project Budget

To specify the revenue and cost budgets for the project, do the following:

1. On the [Projects](#) (PM301000) form, open the *TOMYUM5* project, and on the **Summary** tab (**Project Properties** section), notice that the **Revenue Budget Level** of the project is *Task* and the **Cost Budget Level** of the project is *Task and Item*.
2. On the **Revenue Budget** tab, add a row, and specify the following settings:
  - **Project Task:** *INSTALL* (selected automatically as the default project task)
  - **Account Group:** *REVENUE*
  - **Original Budgeted Amount:** *3,000.00*

The added line represents the price of the juicer, the site review, and the installation service.

Notice that because of the selected revenue budget level, the revenue budget does not include inventory items and you cannot add another line with the same project task and account group to the revenue budget.

3. On the **Cost Budget** tab, specify the settings shown in the following table in the three cost budget lines you add.

**Table:**

| Project Task   | Inventory ID      | Original Budgeted Quantity | Unit Rate |
|----------------|-------------------|----------------------------|-----------|
| <i>INSTALL</i> | <i>JUICER15</i>   | 1.00                       | 2000.00   |
| <i>INSTALL</i> | <i>SITEREVIEW</i> | 2.00                       | 40.00     |

| Project Task | Inventory ID | Original Budgeted Quantity | Unit Rate |
|--------------|--------------|----------------------------|-----------|
| INSTALL      | INSTALL      | 4.00                       | 80.00     |

When you select an inventory item in a budget line, the system automatically selects an account group for the line based on the expense account of the non-stock item or the COGS account of the stock item that is mapped to the account group.

Notice that because of the selected cost budget level you must specify an inventory item in a cost budget line. You cannot add another line with the same budget key (project task, inventory item, and account group) to the cost budget of the project.

4. In the table selection area, select the **Group by Task** check box. In the table, the only line to which the system grouped budget lines. The **Original Budgeted Amount** of the line with the *INSTALL* project task should be equal to *2,400.00*.
5. Save your changes to the project.

## Step 2: Uploading Project Transactions

To upload and process the transactions to update actual values of the cost budget of the project, do the following:

1. On the form toolbar of the [Project Transactions](#) (PM304000) form, click **Add New Record** to create a new transaction and make sure *PM* is selected as the **Module** in the Summary area.
2. In the **Description** box, specify `The juicer with the installation for the TOMYUM5 project.`
3. On the table toolbar of the **Document Details** tab, click **Load Records from File**, and upload the transactions from the [TOMYUM5\\_Project\\_Transactions](#) file, which you have downloaded. While you are uploading the lines, leave the default column mapping.

The system uploads four lines with the project transactions. In these lines, notice that the quantity of the provided services is less than you have budgeted—that is, an hour of the site review instead of two hours and three hours of the installation instead of four hours. Also notice that an extra line for two hours of training (which have not initially been budgeted), have been added.

4. In the Summary area, make sure that the **Total Amount** of the uploaded transactions is *2,360.00*.
5. On the form toolbar, click **Save** to save the batch of project transactions, and then click **Release** to release it.
6. On the [Projects](#) (PM301000) form, open the *TOMYUM5* project, and in the Summary area, notice that the **Actual Expenses** box shows *2,360.00*, which is the total amount of the released transactions.

On the **Cost Budget** tab, review the cost budget of the project. Notice that the system has created a new budget line with the *TRAINING* item because the *Detailed* level of the cost budget update is specified in the project accounting preferences. The system has also updated the **Actual Quantity** and **Actual Amount** of the budget lines based on the released transactions (see the following screenshot). You can compare revised budgeted values with actual ones and track the performance by budget line in the **Performance (%)** column.

Projects  
TOMYUM5 - Juicer with the installation

← → ↺ + ↻ ⌂ < > | COMPLETE PROJECT RUN PROJECT BILLING ACTIONS INQUIRIES REPORTS

Project ID: TOMYUM5 - Juicer with the installation Status: Active Actual Income: 0.00  
 Customer: TOMYUM - Thai Food Restaurant Actual Expenses: 2,360.00  
 Template: Margin: -2,360.00 %: 0.00  
 Description: Juicer with the installation

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

Project Task:   Group by Task

| Project Task | Inventory ID | Account Group | Description                                | Original Budgeted Quantity | UOM   | Unit Rate  | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Actual Quantity | Actual Amount |
|--------------|--------------|---------------|--|----------------------------|-------|------------|--------------------------|---------------------------|-------------------------|-----------------|---------------|
| INSTALL      | SITEREVIEW   | LABOR         | Site review                                | 2.00                       | HOUR  | 40.0000    | 80.00                    | 2.00                      | 80.00                   | 1.00            | 40.00         |
| INSTALL      | TRAINING     | LABOR         | Training on juicer usage (at custome...    | 0.00                       | HOUR  | 0.0000     | 0.00                     | 0.00                      | 0.00                    | 2.00            | 80.00         |
| INSTALL      | JUCER15      | MATERIAL      | Commercial juicer with a production ...    | 1.00                       | PIECE | 2,000.0000 | 2,000.00                 | 1.00                      | 2,000.00                | 1.00            | 2,000.00      |
| INSTALL      | INSTALL      | SUBCON        | Installation of equipment at the custo ... | 4.00                       | HOUR  | 80.0000    | 320.00                   | 4.00                      | 320.00                  | 3.00            | 240.00        |

**Figure: The cost budget of the project updated by released transactions**

7. While remaining on the **Cost Budget** tab, in the table selection area, select the **Group by Task** check box and review totals by project task. The revised budgeted amount for the project task is 2,400, while the actual amount is 2,360.

### Step 3: Billing the Project

To bill a project and process the invoice, do the following:

1. While you are still reviewing the *TOMYUM5* project on the *Projects* (PM301000) form, on the form toolbar, click **Run Project Billing**.

The system creates an accounts receivable invoice and opens it on the *Invoices and Memos* (AR301000) form.

Notice that the **Detail Total** in the Summary area is 2,950.00.

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. Return to the *Projects* form with the *TOMYUM5* project opened, press Esc to refresh the form, and in the Summary area, notice that the **Actual Income** box shows 2,950.00, which is the total amount of the released invoice. The system also calculates the project **Margin** as the difference of actual income and expenses (\$590).

On the **Revenue Budget** tab, review the revenue budget of the project. Notice that the system has updated the **Actual Amount** of the revenue budget line based on the released invoice.

4. On the **Balances** tab, review the project budget by account group, as shown in the following screenshot. You can track the performance by account group as well as by income and expense totals in the **Performance (%)** column.

Projects  
TOMYUM5 - Juicer with the installation

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

\* Project ID: TOMYUM5 - Juicer with the installation Status: Active Actual Income: 2,950.00  
 Customer: TOMYUM - Thai Food Restaurant Actual Expenses: 2,360.00  
 Template: Margin: 590.00 %: 20.00  
 \* Description: Juicer with the installation

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

VIEW TRANSACTIONS VIEW COMMITMENT DETAILS

| Account Group  | Description         | Original Budgeted Amount | Revised Budgeted Amount | Original Committed Amount | Revised Committed Amount | Committed Invoiced Amount | Actual Amount | Committed Open Amount | Actual + Open Committed Amount | Variance Amount | Performance (%) |
|----------------|---------------------|--------------------------|-------------------------|---------------------------|--------------------------|---------------------------|---------------|-----------------------|--------------------------------|-----------------|-----------------|
| <b>Income</b>  |                     |                          |                         |                           |                          |                           |               |                       |                                |                 |                 |
| REVENUE        | Project Revenue     | 3,000.00                 | 3,000.00                | 0.00                      | 0.00                     | 0.00                      | 2,950.00      | 0.00                  | 2,950.00                       | 50.00           | 98.33           |
|                | Income Totals       | 3,000.00                 | 3,000.00                | 0.00                      | 0.00                     | 0.00                      | 2,950.00      | 0.00                  | 2,950.00                       | 50.00           | 98.33           |
| <b>Expense</b> |                     |                          |                         |                           |                          |                           |               |                       |                                |                 |                 |
| LABOR          | Project Labor       | 80.00                    | 80.00                   | 0.00                      | 0.00                     | 0.00                      | 120.00        | 0.00                  | 120.00                         | -40.00          | 150.00          |
| MATERIAL       | Project Material    | 2,000.00                 | 2,000.00                | 0.00                      | 0.00                     | 0.00                      | 2,000.00      | 0.00                  | 2,000.00                       | 0.00            | 100.00          |
| SUBCON         | Project Subcontract | 320.00                   | 320.00                  | 0.00                      | 0.00                     | 0.00                      | 240.00        | 0.00                  | 240.00                         | 80.00           | 75.00           |
|                | Expense Totals      | 2,400.00                 | 2,400.00                | 0.00                      | 0.00                     | 0.00                      | 2,360.00      | 0.00                  | 2,360.00                       | 40.00           | 98.33           |

**Figure: Project budget balances divided by account groups**

You have finished working with the project budget.

## Lesson 15: Reviewing Project Balances

### Project Budget: To Review Project Balances

In this activity, you will review project balances by using Acumatica ERP reports and forms.



The following activity is based on the *U100* dataset. If you are using another dataset, or if any system settings have been changed in *U100*, these changes can affect the workflow of the activity and the results of the processing. To avoid any issues, restore the *U100* dataset to its initial state.

#### Story

Suppose that the HM's Bakery and Cafe customer has ordered juicers, along with the following services: site review, installation, and employee training on operating the juicers from the SweetLife Fruits & Jams company. SweetLife's project accountant has created a project to handle the tracking and billing of the provided materials and services. The juicers have been delivered. The installation has been performed by Squeezeo Inc. Then, SweetLife's consultant has provided the training. The project accountant of SweetLife has created purchase orders, entered project transactions, and partially billed the customer.

When the project accountant has got a sick leave, another SweetLife's project accountant continues working on the project. The first accountant has no possibility to hand over the project to the new accountant. Acting as the new project accountant, you need to review the project balances to become familiar with the project and gather all the information about performed work.

#### Configuration Overview

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

- 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 *HMBAKERY6* project has been created and the *PHASE1*, *PHASE2*, *PHASE3*, and *PHASE4* project tasks have been created for the project.
- On the [Purchase Orders](#) (PO301000) form, the *000020* and *000021* purchase orders (which are related to the project) have been created and billed.
- On the [Project Transactions](#) (PM304000) form, the *PM00000009*, *PM00000010*, and *PM00000011* batches of project transactions related to the project have been created and released.

Project transactions related to the *PHASE1*, *PHASE2*, and *PHASE4* tasks of the project have been billed—that is, a pro forma invoice and the corresponding accounts receivable invoice have been created and released on the [Pro Forma Invoices](#) (PM307000) form and the [Invoices and Memos](#) (AR301000) form, respectively. Also, on the [Pro Forma Invoices](#) form, a pro forma invoice for project transactions related to the *PHASE3* task has been created.

## Process Overview

You will review project budgets and balances on the [Projects](#) (PM301000) form, from which you navigate to the [Project Balance](#) (PM621000) report to view the project balances in a ready-to-print format. You will review project transactions on the [Project Transaction Details](#) (PM401000) form and project commitments on the [Commitments](#) (PM306000) form. You will then review project balances broken down by account group on the [Budget Summary by Account Group](#) (PMPV0010) form.

## 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 as Pam Brawner by using the *brawner* username and the *123* password.
2. In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2021*. If a different date is displayed, click the Business Date menu button, and select *1/30/2021* on the calendar. For simplicity, in this activity, you will create and process all documents in the system on this business date.
3. On the [Projects Preferences](#) (PM101000) form, on the **General Settings** tab (**General Settings** section), select the **Internal Cost Commitment Tracking** check box, and save your changes to the project accounting preferences. This exposes the committed values of the budget, which you will need during the process of the budget review.

## Step 1: Reviewing the Project Balances

To review project reports, do the following:

1. On the [Projects](#) (PM301000) form, open the *HMBAKERY6* project.

In the Summary area, notice that the actual income is \$5,700 and the actual expenses are \$8,000.

2. On the **Revenue Budget** tab, pay attention to the values in the **Actual Amount** and **Draft Invoices Amount** columns, as shown in the following screenshot.

The lines with the *PHASE1*, *PHASE2*, and *PHASE4* tasks have nonzero actual amounts (\$1,850, \$2,950, and \$900, respectively), which means the work performed within these tasks have been

billed. You can compare the actual amount and the revised budgeted amount of the lines to estimate the completion of the revenue budget.

The line with the *PHASE3* task has a nonzero draft invoice amount (\$4,300), which means a pro forma invoice has been already prepared for this line but the corresponding AR invoice has not been created or has not been released yet.

Projects  
HMBAKERY6 - Juicers with the installation and training for employees

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

Project ID: HMBAKERY6 - Juicers with the install. Status: Active Actual Income: 5,700.00  
 Customer: HMBAKERY - HM's Bakery & Cafe Actual Expenses: 8,000.00  
 Template: Margin: -2,300.00 %: -40.35  
 Description: Juicers with the installation and training for employees


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

Project Task: Pending Invoice Amount Total: 0.00

VIEW TRANSACTIONS

| Project Task | Account Group | Description                       | Original Budgeted Quantity | UOM  | Unit Rate | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Draft Invoices Amount | Actual Quantity | Actual Amount | Completed (%) | Pending Invoice Amount |
|--------------|---------------|-----------------------------------|----------------------------|------|-----------|--------------------------|---------------------------|-------------------------|-----------------------|-----------------|---------------|---------------|------------------------|
| PHASE1       | REVENUE       | Installation of the first juicer  | 0.00                       | HOUR | 0.0000    | 1,850.00                 | 0.00                      | 1,850.00                | 0.00                  | 4.00            | 1,850.00      | 0.00          | 0.00                   |
| PHASE2       | REVENUE       | Installation of the second juicer | 0.00                       | HOUR | 0.0000    | 2,950.00                 | 0.00                      | 2,950.00                | 0.00                  | 5.00            | 2,950.00      | 0.00          | 0.00                   |
| PHASE3       | REVENUE       | Installation of the third juicer  | 0.00                       | HOUR | 0.0000    | 4,300.00                 | 0.00                      | 4,300.00                | 4,300.00              | 0.00            | 0.00          | 0.00          | 0.00                   |
| PHASE4       | REVENUE       | Training                          | 0.00                       | HOUR | 0.0000    | 1,200.00                 | 0.00                      | 1,200.00                | 0.00                  | 18.00           | 900.00        | 0.00          | 0.00                   |

**Figure: Revenue budget lines with actual and revised values**

 To review the list of project transactions that correspond to a revenue budget line, you can click the line, and on the table toolbar, click **View Transactions**. The system shows the transactions on the *Project Transaction Details* (PM401000) form.

3. On the **Invoices** tab, review the invoices created for the project. Notice that the second pro forma invoice has not been released yet and has no related accounts receivable invoice.
4. On the **Cost Budget** tab, pay attention to the values in the **Revised Budgeted Amount**, **Revised Committed Amount** and **Actual Amount** columns, as shown in the following screenshot. Notice the following:
  - The line with the *TRAINING* inventory item is the only line with the actual amount less than the revised budgeted amount, which means that the planned training has not been provided fully.
  - The rest lines have the actual amount equals to the revised budgeted amount and the performance is 100%, which means that all the budgeted materials and services have been provided.
  - The lines with the *INSTALL* inventory item have nonzero committed values, which means these lines have related purchase orders. The **Revised Committed Amount** shows the amount of the purchase (\$320 in Phase 2 and \$400 in Phase 3). The **Committed Invoiced Amount** amount shows the amount on the purchase that has been already billed.

Projects  
HMBAKERY6 - Juicers with the installation and training for employees

Project ID: HMBAKERY6 - Juicers with the install. Status: Active Actual Income: 5,700.00  
 Customer: HMBAKERY - HM's Bakery & Cafe Actual Expenses: 8,000.00  
 Template: Margin: -2,300.00 % -40.35  
 Description: Juicers with the installation and training for employees

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

Project Task:   Group by Task

| Project Task | Inventory ID | Account Group | Description                           | Original Budgeted Quantity | UOM   | Unit Rate  | Original Budgeted Amount | Revised Budgeted Quantity | Revised Budgeted Amount | Actual Quantity | Actual Amount | Original Committed Quantity | Original Committed Amount | Revised Committed Quantity | Revised Committed Amount |
|--------------|--------------|---------------|---------------------------------------|----------------------------|-------|------------|--------------------------|---------------------------|-------------------------|-----------------|---------------|-----------------------------|---------------------------|----------------------------|--------------------------|
| PHASE1       | SITEREVIEW   | LABOR         | Site review                           | 1.00                       | HOUR  | 40 000.00  | 40.00                    | 1.00                      | 40.00                   | 1.00            | 40.00         | 0.00                        | 0.00                      | 0.00                       | 0.00                     |
| PHASE1       | JUICER10     | MATERIAL      | Pro series juicer with a productio... | 1.00                       | PIECE | 1,200.0000 | 1,200.00                 | 1.00                      | 1,200.00                | 1.00            | 1,200.00      | 0.00                        | 0.00                      | 0.00                       | 0.00                     |
| PHASE1       | INSTALL      | SUBCON        | Installation of equipment at the c... | 3.00                       | HOUR  | 80 000.00  | 240.00                   | 3.00                      | 240.00                  | 3.00            | 240.00        | 3.00                        | 240.00                    | 3.00                       | 240.00                   |
| PHASE2       | SITEREVIEW   | LABOR         | Site review                           | 1.00                       | HOUR  | 40 000.00  | 40.00                    | 1.00                      | 40.00                   | 1.00            | 40.00         | 0.00                        | 0.00                      | 0.00                       | 0.00                     |
| PHASE2       | JUICER15     | MATERIAL      | Commercial juicer with a produc...    | 1.00                       | PIECE | 2,000.0000 | 2,000.00                 | 1.00                      | 2,000.00                | 1.00            | 2,000.00      | 0.00                        | 0.00                      | 0.00                       | 0.00                     |
| PHASE2       | INSTALL      | SUBCON        | Installation of equipment at the c... | 4.00                       | HOUR  | 80 000.00  | 320.00                   | 4.00                      | 320.00                  | 4.00            | 320.00        | 4.00                        | 320.00                    | 4.00                       | 320.00                   |
| PHASE3       | SITEREVIEW   | LABOR         | Site review                           | 1.00                       | HOUR  | 40 000.00  | 40.00                    | 1.00                      | 40.00                   | 1.00            | 40.00         | 0.00                        | 0.00                      | 0.00                       | 0.00                     |
| PHASE3       | JUICER20C    | MATERIAL      | Commercial citrus juicer with a p...  | 1.00                       | PIECE | 3,000.0000 | 3,000.00                 | 1.00                      | 3,000.00                | 1.00            | 3,000.00      | 0.00                        | 0.00                      | 0.00                       | 0.00                     |
| PHASE3       | INSTALL      | SUBCON        | Installation of equipment at the c... | 5.00                       | HOUR  | 80 000.00  | 400.00                   | 5.00                      | 400.00                  | 5.00            | 400.00        | 5.00                        | 400.00                    | 5.00                       | 400.00                   |
| PHASE4       | TRAINING     | LABOR         | Training on juicer usage (at cust...  | 24.00                      | HOUR  | 40 000.00  | 960.00                   | 24.00                     | 960.00                  | 18.00           | 720.00        | 0.00                        | 0.00                      | 0.00                       | 0.00                     |

**Figure: Cost budget lines with actual and revised values**

- Click the line with the *PHASE4* project task and the *TRAINING* inventory item, and on the table toolbar, click **View Transactions** to review the list of project transactions that corresponds to the cost budget line.
- Review the list of project transactions on the *Project Transaction Details* form, which the system opens in a pop-up window. Notice that three project transactions correspond to the cost budget line.
- Close the pop-up window with the form and return to the project on the *Projects* form.
- Click the line with the *PHASE2* project task and the *INSTALL* inventory item, and on the table toolbar, click **View Commitment Details** to review the list of commitments that correspond to the cost budget line.
- Review the list of commitments on the *Commitments* (PM306000) form, which the system opens in a pop-up window. Notice that two commitments correspond to the cost budget line.
- Close the pop-up window with the form and return to the project on the *Projects* form.
- In the table selection area on the **Cost Budget** tab, select the *PHASE1* project task in the **Project Task** box. In the table, review the cost budget lines related to the selected task.
- In the table selection area, select the **Group by Task** check box. The system clears the **Project Task** box in the table selection area, and in the table, groups the cost budget lines by task. You can review the total budgeted values by task. Notice that the *PHASE4* has the performance of 75%, which means not all the budgeted expenses have been incurred within the task.
- On the **Commitments** tab, review the purchase orders related to the project. Notice that both purchase orders have been processed and assigned the *Closed* status.
- On the **Balances** tab, review the project budget broken down by account groups.

You have finished revising information for the project.

# Additional Materials

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## Appendix 1: Project Implementation

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### Account Groups: Related Reports and Forms

In the following sections, you can find details about report and inquiry forms that provide users with project information broken down by account groups.



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.

### Viewing Budget Summary by Account Groups

If you want to view details about budget summary broken by account groups, you can use the [Budget Summary by Account Group](#) (PMPV0010) inquiry form. On this form, you can explore the particular amounts of project budgets provided by the [Budget Details](#) (PMGI0010) generic inquiry form. The amounts are grouped by types of account groups and then by account groups. You can edit the pivot table to reorganize and summarize the data of a generic inquiry, so that you can view the data from different perspectives. You can also click any link in the table to explore the details of the budgets on the **Drilldown Filter Applied** filter tab of the [Budget Details](#) generic inquiry form.

### Viewing Project Budget Amounts by Account Groups

If you want to view the account group balances for project tasks grouped by project, use the [Project Balance](#) (PM621000) report. The balance of the account group is the total of all amounts posted to all the accounts included in this account group. The balances in this report are listed along with their projected, revised, and actual quantities and amounts.

Also, you can view the budget, revised budget, and actual balance of each account group in the selected project on the **Balances** tab of the [Projects](#) (PM301000) form.

### Project Processing: Project Security Configuration

Many organizations use projects to achieve their business objectives efficiently. An organization may have multiple projects in progress at a given time. By limiting users' access to and visibility of information about particular projects and related transactions, managers can properly organize the work on each project. In Acumatica ERP, you can use roles to provide access to forms according to employees' responsibilities and restriction groups to limit the visibility of particular projects to only the responsible team, as described in this topic.



In Acumatica ERP, you can configure groups with direct and inverse restriction. In this topic, for simplicity, groups with direct restriction are used in examples. You can use inverse restriction groups in the same way as you use direct restriction groups. For details on the types of restriction groups, see [Types of Restriction Groups](#).



## Usage Scenarios

The most common scenarios of managing the security of projects are the following:

- Managing access to forms based on users' roles: Each employee involved with a project has specific tasks. You can configure user roles that will give employees access to project-related forms according to their responsibilities. For details, see [Access to Forms Based on Roles](#).
- Managing the visibility of particular projects by user: If your organization has multiple project teams and multiple employees have the same functional responsibilities in different projects, you can make particular projects available to employees of only a particular project team by using restriction groups. For more information, see [Visibility of Projects by Users](#).
- Managing the visibility of projects by area of the system: If a project should be associated with transactions in a particular system area (such as accounts payable), you can make it visible only within this area. For details, see [Visibility of Projects by Area](#).

## Access to Forms Based on Roles

By using the user security forms, you can configure access rights to the project-related forms for each employee, in accordance with the employee's typical responsibilities. For more information about user roles, see [User Roles: General Information](#).

For example, you can create the following roles for employees of your organization who work with projects:

- *Project Manager*: A role for an employee who coordinates projects and is responsible for achieving the project goals. In the system, this person sets up pricing in projects, creates tasks, and configures projects and project templates. This role should have access to project-related forms—that is, the forms in the **Projects** workspace—including those listed in the **Preferences** category. Also, this role may require access to the [Approvals](#) (EP503010) form so that the users with this role can approve projects.
- *Project Controller*: A role for an employee who controls project transactions, performs allocations, and runs project billing. This role should have full access to project-related forms—that is, the forms in the **Projects** workspace—including those listed in the **Processes** category.
- *Project Accountant*: A role for an employee who plans and executes the project budget and enters project transactions. This role should have access to project-related forms—that is, the forms in the **Projects** workspace—including those listed in the **Transactions** and **Profiles** categories.
- *Project Team Member*: A role for an employee who works for a project and enters time sheets and time cards. This role should have access to project-related forms—that is, the forms in the **Projects** workspace—including those listed in the **Transactions** and **Profiles** categories. It should also have access to the forms listed in the **Time Tracking** category of the **Time and Expenses** workspace.

## Visibility of Projects by Users

By using the row-level security forms of Acumatica ERP, you can configure the system to hide or display particular projects for employees, in addition to implementing task-based roles. Employees who have access to the [Projects](#) (PM301000) form can view or edit all the projects available in your organization. You may need to use restriction groups to restrict the visibility of specific projects to only employees of the project team. For details on restriction groups, see [Restriction Groups in Acumatica ERP](#).

As a simple example, suppose that you need to restrict the visibility of projects to employees in your organization given the following:

- There are two projects in your organization: *Project Y* and *Project Z*.
- User PM is a project manager who controls all projects in your organization.
- User AC is an accountant who plans budgets and performs transactions for all projects in your organization.
- Users E1 and E2 are engineers who work on *Project Y*.
- Users E3 and E4 are engineers who work on *Project Z*.

To configure the visibility of projects according to the listed statements, you would do the following on the [Project Access](#) (PM102000) form:

1. You create two restriction groups of type A (with direct restriction): Group 1 for *Project Y* and Group 2 for *Project Z*.
2. You include the following entities in Group 1: *Project Y*, user PM, user AC, and users E1 and E2.
3. In Group 2, you include *Project Z*, user PM, user AC, and users E3 and E4.

With the settings you have specified, the users' visibility of projects would be the following:

- Users PM and AC can see both *Project Y* and *Project Z*.
- Users E1 and E2 can see only *Project Y*.
- Users E3 and E4 can see only *Project Z*.

## Visibility of Projects by Area

After you have created a project in Acumatica ERP, the project is available system-wide by default. You can control the visibility of projects within functional areas of the system in the following ways:

- Display or hide the **Project** boxes and columns on forms: If you use projects in a particular functional area (for example, accounts receivable), you can configure the system to display the boxes and columns where a user can select a project on forms only within this area. In the **Visibility Settings** section of the [Projects Preferences](#) (PM101000) form, you can select the check boxes for the areas where these elements should be displayed and clear the check boxes for the areas where the elements should not be displayed..
- Display or hide a project: If the project transactions of a particular project should be performed within a particular area (for example, inventory), you can make the project visible only in this area so that users can select only appropriate projects when they are preparing documents. You can select areas in the **Visibility Settings** section of the **General Info** tab on the [Projects](#) (PM301000) form. After you have selected an area, users can select the project in documents generated on the related forms, and the release of these documents automatically updates the project data.
- Display or hide the tasks of a project: If employees need to process documents related to a project in multiple areas, but the users perform particular tasks of a project in a certain area (for example, the *Warehouse operations* task requires users to enter inventory transactions and the *Customer payments* task is performed in accounts receivable), you can select the areas where the task will be displayed in the settings of the task. You select these areas in the **Visibility Settings** section of the **General Info** tab on the [Project Tasks](#) (PM302000) form.

## Forms for Project Security

In the following table, you can find the list of the forms that you can use to manage restriction groups with projects. The table also includes the task that you can perform by using each form.

**Table: Forms for Project Security**

| Task  | Form   |
|---|--|
| To initially configure the visibility of a project to users                   | <a href="#">Project Access</a> (PM102000)                |
| To change the visibility of a project in multiple restriction groups          | <a href="#">Restriction Groups by Project</a> (PM102010) |
| To change the visibility of projects to a user in multiple restriction groups | <a href="#">Restriction Groups by User</a> (SM201035)    |

For information about how to add or remove objects from a restriction group, see [Operations with Restriction Groups](#).

## Project Processing: Related Report and Inquiry Forms

In the following sections, you can find details about the reports you may want to review to gather information about projects.



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

### Finding Projects Related to a Customer

You can prepare a report with all the projects related to a particular customer on the [Projects](#) (PM631000) report form. In the prepared report, the projects are listed, along with their descriptions, statuses, and start dates.

### Printing the Project Balance

To prepare a printable document detailing the project balance, you use the [Project Balance](#) (PM621000) report. While you are viewing a project on the [Projects](#) (PM301000) form, you can print the document by clicking **Reports > Print Project Balance** on the form toolbar. 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, and print the document by clicking **Print** on the report toolbar.

## Project Tasks: 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 particular project tasks.



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

## Finding Project Transactions Related to a Project Task

To find the project transactions that are related to a particular project task, you can view the cost budget lines or revenue budget lines grouped by project task. To do this, you select the **Group by Task** check box on the **Cost Budget** tab or **Revenue Budget** tab, respectively, of the [Projects](#) (PM301000) form. Then you click the aggregated line on the tab, and on the table toolbar, click **View Transactions**. The system opens the [Project Transaction Details](#) (PM401000) form with the list of project transactions that are related to this project and project task.

## Printing Task Information

To generate a printable report with the project task information, you use the [Project Tasks](#) (PM632000) report form. The report provides a list of either all the project tasks, grouped by customer, or only the project tasks for the customer you select.

# Appendix 2: Capturing Costs for Projects

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## Project Transactions: Generated Transactions

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

### General Ledger Transactions Generated on Project Transaction Release

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

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

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

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

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

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

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

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

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

## Project Transactions: Related Reports and Forms

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



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

### Reviewing Project Transactions and Corresponding GL Batches

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

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

### Printing Project Transactions

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

### Reviewing Project Actual Amounts

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

### Reviewing Project Balances

You can review the project budget broken down by account groups on the **Balances** tab of the [Projects](#) (PM301000) form. To review the corresponding project transactions of an account group, you click the

line with this account group; then on the table toolbar, you click **View Transactions**, and the system opens the [Project Transaction Details](#) (PM401000) form.

## Project Transactions: Mass Processing of Documents

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

### Mass-Releasing Project Transaction

To mass-release project transactions, 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.

## Purchasing Materials and Services for Projects: Generated Transactions

When you process a purchase order for a project, you create purchase receipts and accounts payable bills. On release of the inventory receipt associated with the purchase receipt or the AP bill, the system generates the GL and project transactions described in the following sections.

### GL Transactions Generated on Inventory Receipt Release

When an inventory receipt created on release of a purchase receipt prepared for a purchase order is released, the system creates a batch of the general ledger transactions shown in the following table.

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

- The inventory account, which is specified in the posting class of a stock item in the **Inventory/Accrual Account** box on the **GL Accounts** tab of the [Posting Classes](#) (IN206000) form.
- The expense account, which is specified in the posting class of a non-stock item that requires receipt in the **COGS/Expense Account** box on the **GL Accounts** tab of the [Posting Classes](#) form.

| Account                   | Source of Account         | Debit  | Credit |
|---------------------------|---------------------------|--------|--------|
| PO accrual account        | Item                      | 0.00   | Amount |
| Inventory/expense account | Posting class of the item | Amount | 0.00   |

On the **Financial Details** tab of the [Receipts](#) (IN301000) form, you can click the link in the **Batch Nbr.** box to view the details of the batch on the [Journal Transactions](#) (GL301000) form.

### Project Transaction Generated on Inventory Receipt Release

When a batch of the general ledger transactions is created on release of the inventory receipt, the system also generates the project transaction shown in the table below.

| Debit Account             | Credit Account | Source of Account | Amount |
|---------------------------|----------------|-------------------|--------|
| Inventory/expense account |                | GL transaction    | Amount |

You can review the created project transaction on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project in the **Project** box.

### GL Transactions Generated on AP Bill Release

When an accounts payable bill prepared for a service line of a purchase order is released, the system creates a batch of the general ledger transactions shown in the following table.

| Account                  | Source of Account | Debit  | Credit |
|--------------------------|-------------------|--------|--------|
| Accounts payable account | Vendor            | 0.00   | Amount |
| Expense account          | Item              | Amount | 0.00   |

On the **Financial Details** tab (**Link to GL** section) of the [Bills and Adjustments](#) (AP301000) form, you can click the link in the **Batch Nbr.** box to view the details of the batch on the [Journal Transactions](#) (GL301000) form.

### Project Transaction Generated on AP Bill Release

When a batch of the general ledger transactions is created on release of the accounts payable bill, the system also generates the project transaction shown in the table below.

| Debit Account   | Credit Account | Source of Account | Amount |
|-----------------|----------------|-------------------|--------|
| Expense account |                | GL transaction    | Amount |

You can review the created project transaction on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project in the **Project** box. In the table, you can find the project transaction created on release of the accounts payable bill by the reference number of the AP bill in the **Orig. Doc. Nbr.** column.

## Purchasing Services for Projects: Generated Transactions

When you process an accounts payable bill for a project, on release of the AP bill, the system generates the GL and project transactions described in the following sections.

### GL Transactions Generated on AP Bill Release

When an accounts payable bill is released, the system creates a batch of the general ledger transactions shown in the following table.

| Account                  | Source of Account | Debit  | Credit |
|--------------------------|-------------------|--------|--------|
| Accounts payable account | Vendor            | 0.00   | Amount |
| Expense account          | Item              | Amount | 0.00   |

On the **Financial Details** tab (**Link to GL** section) of the [Bills and Adjustments](#) (AP301000) form, you can click the link in the **Batch Nbr.** box to view the details of the batch on the [Journal Transactions](#) (GL301000) form.

## Project Transaction Generated on AP Bill Release

When a batch of the general ledger transactions is created on release of the accounts payable bill, the system also generates the project transaction shown in the table below.

| Debit Account   | Credit Account | Source of Account | Amount |
|-----------------|----------------|-------------------|--------|
| Expense account |                | GL transaction    | Amount |

You can review the created project transaction on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project in the **Project** box. In the table, you can find the project transaction created on release of the accounts payable bill by the reference number of the AP bill in the **Orig. Doc. Nbr.** column.

## Appendix 3: Project Billing

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### Pro Forma Invoice: Making Adjustments

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

On the [Pro Forma Invoices](#) (PM307000) form, you can edit a pro forma invoice with the *On Hold* status. You can review and modify the billable transactions and the amounts of the pro forma invoice before you prepare the accounts receivable invoice that is based on this pro forma invoice. If you have already created the accounts receivable document for the pro forma invoice but has not released it yet, you can delete the AR document to be able to edit the pro forma invoice.

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

#### Adjusting of Progress Billing Information

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

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

#### Adjusting of Time and Material Information

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

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



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



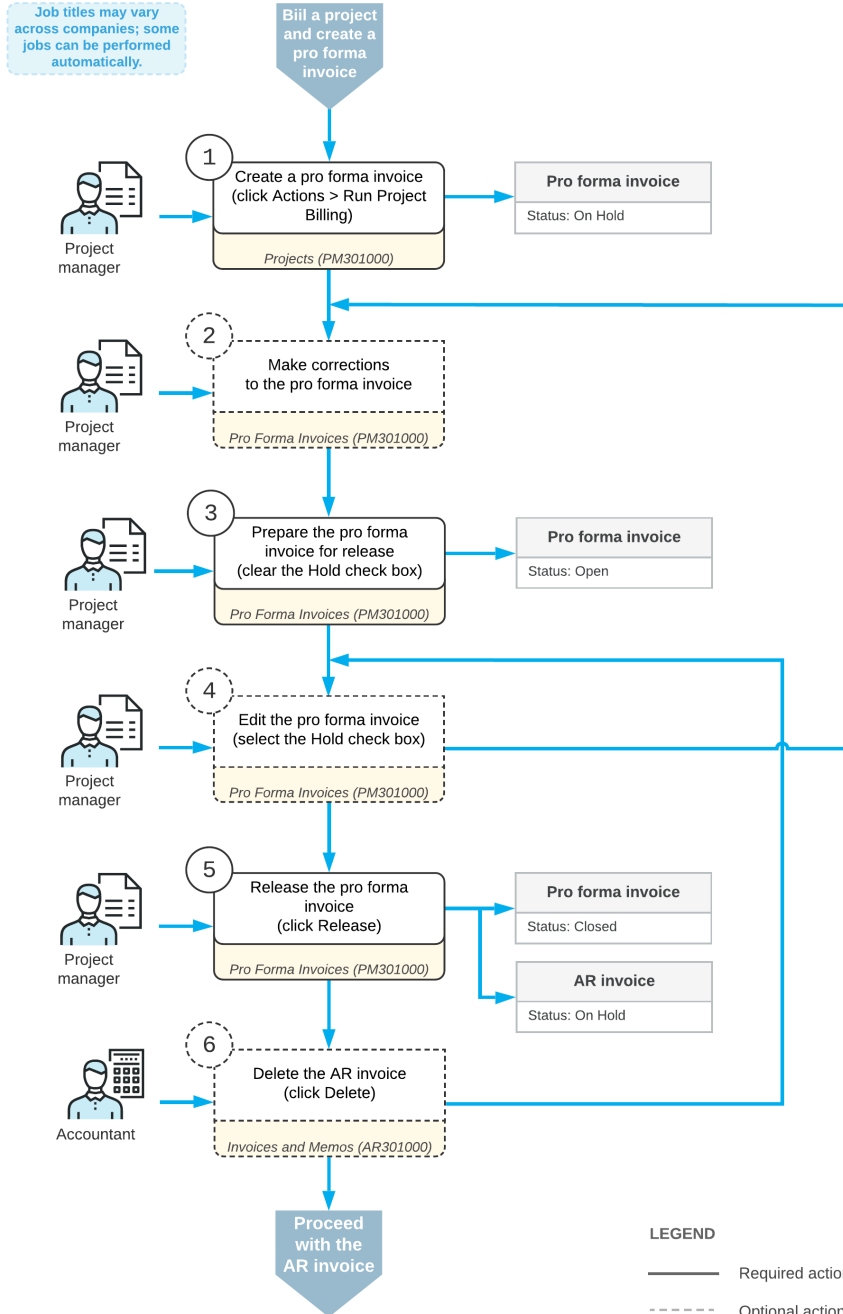
For an unbilled remainder to be billed, the corresponding AR invoice that contains the line from which this reminder originates must be released.

- Selecting a line and then clicking **View Transaction Details** on the table toolbar to drill down to the list of project transactions for which the **Billed Quantity** and **Billed Amount** have been calculated by using the formula of the billing rule. These values are totaled to obtain the **Billed Quantity** and **Billed Amount**, respectively, of the line of the pro forma invoice. You can remove particular transactions from this list, which reduces the billed quantity and amount of the corresponding invoice line, and these transactions will appear in the next invoice.
- Clicking **Upload Unbilled Transactions** on the table toolbar to add to the invoice an unbilled transaction that has not been billed yet, which creates a new invoice line. You can also add to a pro forma invoice an adjustment line that does not originate from the project transactions.
- Rearranging lines within the table by dragging them to the appropriate positions.

### **Workflow of Adjusting Pro Forma Invoices**

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

## Making corrections to a pro forma invoice



## Pro Forma Invoice: Generated Transactions

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

the accounts receivable invoice, the system generates the general ledger transactions and project transactions described in the following sections.

## GL Transactions Generated on Release of an AR Invoice

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

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

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

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

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

## Project Transactions Generated on Release of the GL Batch

On release of the accounts receivable invoice created based on a pro forma invoice, in addition to the creation of a batch of general ledger transactions, the system also generates a batch of the project transactions shown in the following table.

| Debit Account | Credit Account | Source of Account | Amount          |
|---------------|----------------|-------------------|-----------------|
| Sales account |                | GL batch          | Negative amount |

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

## Project Transactions Generated for an Unbilled Remainder

If an amount has been postponed in a pro forma invoice and the corresponding accounts receivable invoice (which contains the line from which this postponed amount originates) is released, the system generates the project transaction shown in the following table. The main attributes of the created transaction—such as the project, project task, inventory item, and account group—are the same as those of the original project transaction from which this unbilled remainder originates.

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

- The accounts, which is specified in the **GL Settings for Unbilled Remainders** section on the **General Settings** tab of the [Projects Preferences](#) (PM101000) form

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



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

| Billable | Amount           | Orig. Doc. Type    | Orig. Doc. Nbr. | Billed  |
|----------|------------------|--------------------|-----------------|---------|
| Selected | Postponed amount | Unbilled Remainder | The AR invoice  | Cleared |

When the accounts receivable invoice that contains the unbilled remainder is released, the system generates the reversing project transaction for the unbilled remainder that is shown in the following table. The main attributes of the created transaction—such as the project, project task, inventory item, account group, debit account, and credit account—are the same as those of the original project transaction of the unbilled remainder.

| Billable | Amount                    | Orig. Doc. Type             | Orig. Doc. Nbr. |
|----------|---------------------------|-----------------------------|-----------------|
| Cleared  | Negative postponed amount | Unbilled Remainder Reversal | The AR invoice  |



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

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

## Pro Forma Invoice: Related Reports and Forms

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



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

### Reviewing Project Transactions

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

## Printing Pro Forma Invoices

You can print a pro forma invoice that you are viewing on the [Pro Forma Invoices](#) (PM307000) form by clicking **Reports > Print Pro Forma Invoice** on the form toolbar. 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 Settings** 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 **Address Details** tab of the [Pro Forma Invoices](#) form. This information is copied to each pro forma invoice related to the project from the **Bill-To** and **Bill-To Address** sections of the **Summary** tab of the [Projects](#) form and can be modified at the invoice or project level.

## Reviewing the Project Transactions Related to an AR Invoice

You can review the project transactions that were created on release of an accounts receivable invoice. To do this, while you are viewing the accounts receivable invoice on the [Invoices and Memos](#) (AR301000) form, you click **Inquiries > View Project Transactions** on the form toolbar. The system opens the [Project Transaction Details](#) (PM401000) form in a pop-up window with reference number and type of the accounts receivable invoice specified in the Selection area.

## Pro Forma Invoice: Mass-Processing of Documents

This topic explains how to process multiple pro forma invoices, and how the system generates, changes, or works with documents as a result of the mass processing.

### Mass-Creating Pro Forma Invoices

You can initiate billing for multiple projects on the [Run Project Billing](#) (PM503000) form; this billing entails the creation of multiple invoices. On this form, you select the unlabeled check boxes in the rows of the projects to be processed in the table, and you click **Process** on the form toolbar. The system initiates billing for the selected projects. Pro forma invoices will be created for only those projects that have the **Create Pro Forma 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.

To initiate processing for all the projects listed in the table of the [Run Project Billing](#) form, you click **Process All** on the form toolbar. The system initiates billing for all the projects listed 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 [Process Pro Forma Invoices](#) (PM506000) form, select the unlabeled check boxes in the rows of the pro forma invoices to be processed, select *Release* in the **Action** box in the Selection area, and click **Process** on the form toolbar. To instead release all the listed pro forma invoices, you click **Process All** on the form toolbar.

## Project Billing: Related Reports and Forms

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



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

## 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** tabs of the *Projects* (PM301000) form. To review the corresponding project transactions of a line on either tab, you click the line; on the table toolbar, you click **View Transactions**, and the system opens the *Project Transaction Details* (PM401000) form in a pop-up window with the project transactions displayed.

## Reviewing Project Balances

You can review the project balance broken down by account group on the **Balances** tab of the *Projects* (PM301000) form. To review the corresponding project transactions of an account group, you click the line; then on the table toolbar, you click **View Transactions**. The system opens the *Project Transaction Details* (PM401000) form in a pop-up window.

## Reviewing Project Transactions

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

## Printing a Pro Forma Invoice

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

## Printing the Project Balance

You can prepare a printable document detailing the project balance by clicking **Reports > Print Project Balance** on the form toolbar of the *Projects* (PM301000) form while you are viewing the project. The system opens the printable document with the project balance on the *Project Balance* (PM621000) report; then you can review the project balance and print the document by clicking **Print** on the report toolbar.

## Project Billing: Mass Processing of Documents

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

### Mass-Billing Projects

Multiple projects can be billed at the same time on the *Run Project Billing* (PM503000) form. On this form, you can run billing for multiple projects that are pending billing, based on the **Invoice Date** selected in the Summary area of the form. (By default, this box contains the business date.)

The form does not show the projects for which the **Next Billing Date**, which is specified on the **Summary** tab of the [Projects](#) form, is later than the **Invoice Date**, which is specified in the Selection area of the [Run Project Billing](#) form.

The system creates pro forma invoices or account receivable invoices (depending on the workflow configured for the project) 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 [Process Pro Forma Invoices](#) (PM506000) form, select the unlabeled check boxes in the rows of the pro forma invoices to be processed, select **Release** in the **Action** box in the Selection area, and click **Process** on the form toolbar. To instead release all the listed pro forma invoices, you click **Process All** on the form toolbar.

## Grouping Invoices: Related Reports and Inquiries

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



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

### Reviewing Project Transactions

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

### Printing Invoices

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

## Appendix 4: Budget and Balances

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## Project Budget: Update of Budget Lines

When you select an inventory item in a project budget line, the system automatically populates the unit rate of the line. The mechanism of retrieving the unit rate depends on the budget line type and is supported on the following forms: [Projects](#) (PM301000), [Project Templates](#) (PM208000), [Change Orders](#) (PM308000), [Change Requests](#) (PM308500), [Project Quotes](#) (PM304500), and [Project Budget](#) (PM309000).

### Unit Rate in a Revenue Budget Line

When you select an inventory item in a revenue budget line—that is, a line with the account group of the income type, the system automatically fills in the unit rate of the line with the item price. The system searches for an applicable price of the inventory item that is effective on the start date of the project or the document date among the sales prices existing in the system. For more details on how the system searches the price, see [Automatic Price Selection: Rules of Price Selection](#).

### Unit Rate in a Cost Budget Line

When you select an inventory item in a cost budget line—that is, a line with the account group of the expense type, the system automatically fills in the unit rate of the line with the item cost.

If the type of the selected inventory item of the budget line is labor—that is, the *Labor* option is selected for the item in the **Type** box in the **Item Defaults** section on the **General Settings** tab of the [Non-Stock Items](#) (IN202000) form, on the [Labor Cost Rates](#) (PM209900) form, the system retrieves the labor cost rate of the *Labor Item* type that is associated with the same inventory item and that has an effective date that satisfies the start date of project or the document date.

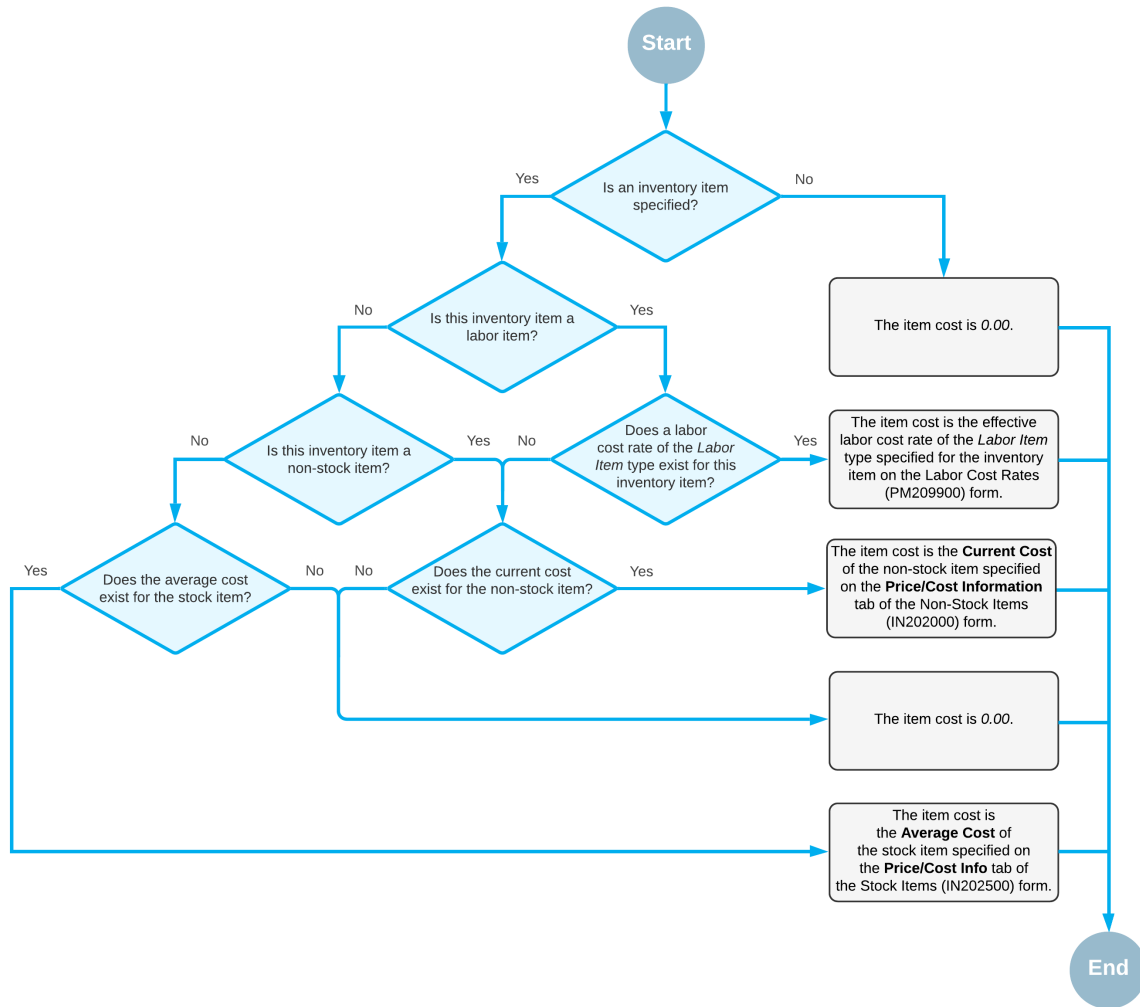
If no labor cost rate is found or the type of the selected inventory item of the budget line is not *Labor*, the system retrieves the following costs depending on the type of the inventory item:

- For a stock item: The **Average Cost** of the item from the **Price/Cost** tab of the [Stock Items](#) (IN202500) form
- For a non-stock item: The **Current Cost** of the item from the **Price/Cost** tab of the [Non-Stock Items](#) (IN202000) form

The following diagram illustrates the logic the system uses to select the cost for an inventory item.



### The selection of the item cost



### Quantity in Budget Lines

Quantities in budget lines (Actual, Committed, Budgeted CO, Committed CO, Potential) is updated in a project budget record if all of the following conditions are true:

- The project transaction has a non-empty UOM.
- In the project budget record that matches the transaction, a UOM is specified.
- The project transaction's UOM is convertible to the budget record's UOM by the global list that is defined on the Units of Measure (CS203100) form.

### Project Budget: Budget Control on Document Entry

The project budget can be exceeded as users enter documents. The system checks whether an entered document is within the cost budget of the project, taking into consideration the portion of the budget that has already been consumed if *Show a Warning* is selected in the **Budget Control** box on the

**General Settings** (**General Settings** section) tab of the *Projects Preferences* (PM101000). This helps you to control the documents you are creating and can be useful for a person who approves these documents.

When you enter or process one of the following documents related to a project, and the amount of a document line exceeds the cost budget of the corresponding project budget line (even if the project budget has no corresponding budget line), you will see a warning:

- A purchase order of the *Open* or *Drop Ship* type on the *Purchase Orders* (PO301000) form.

For a document of the *On Hold* or *Pending Approval* status, you can see a warning in the **Ext. Cost** column on the **Details** tab for the lines that exceed the project budget. The warning is also shown in the Summary area.

- An AP bill on the *Bills and Adjustments* (AP301000) form.

For a document of the *On Hold*, *Pending Approval*, or *Balanced*, you can see a warning in the **Ext. Cost** column on the **Document Details** tab for the lines that exceed the project budget. The warning is also shown in the Summary area.

- A change order on the *Change Orders* (PM308000) form.

For a document of the *On Hold* or *Pending Approval* status, you can see a warning in the **Amount** column on the **Commitment** tab for the lines that exceed the project budget. The warning is also shown in the Summary area.

The warning message in a document line shows you how much the line amount exceeds the budget. The system compares the document line with the corresponding cost budget line of the project and shows you the following amounts in the warning:

- *Available*: The amount of the budget that you can process with the document.

The available amount is calculated as the difference between the *Budgeted* and *Consumed* amounts. The budgeted amount is the revised budgeted amount of the budget line. The consumed amount is the amount that has been spent already—that is, the sum of the actual amount and the committed open amount of the budget line.

- *Remaining*: The amount that exceeds the budget.

The remaining amount is calculated as the difference between the *Available* and *Document* amounts. The document amount is the total amount (the **Ext. Cost** minus the **Discount Amount**) of all the lines of the validated document that correspond to the same budget line, including the current one.

For example, suppose that you have budgeted the cost of \$400 for the project (the budgeted amount). You have already spent \$150 (the consumed amount). When you create for the project an AP bill for the amount of \$300 (the document amount), the system will show you the following warning:

*Budgeted: 400.00, Consumed: 150.00, Available: 250.00, Document: 300.00, Remaining: -50.00*

The warning does not prevent you from processing the document but just informs you that the document processing will result in an excess of the budgeted values.

## Project Budget: Locking of the Budget

After the project budget has been agreed upon, you can lock the original figures from further editing. After the original values are locked, you can still update the revised budget figures. This gives you the ability to control how accurately the budget was estimated.

When you decide to prevent any changes to original budgeted values of the project, you click the **Lock Budget** action on the form toolbar of the [Projects](#) (PM301000) form. When the action is applied for the project, on the **Revenue Budget** and **Cost Budget** tabs, the following columns become read-only:

- **Original Budgeted Quantity**
- **Unit Rate**
- **Original Budgeted Amount.**

You can still edit the budgeted values in the **Revised Budgeted Quantity** and **Revised Budgeted Amount** columns.

Once you decide that making changes to original budgeted values are allowed for the project, you unlock the project budget by clicking **Unlock Budget** action on the form toolbar of the [Projects](#) form.

## Project Budget: Related Reports and Inquiries

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



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

### Reviewing Project Actuals by Project Budget Line

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

### Reviewing Project Actuals 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 corresponding project transactions of an account group, you click the line, on the table toolbar, click **View Transactions**, the system opens the [Project Transaction Details](#) (PM401000) form.

### Reviewing Commitments by Project Budget Line

You can review the list of corresponding commitments of a project budget line with nonzero committed values on the **Cost Budget** tab of the [Projects](#) (PM301000) form. To review the corresponding commitments of a line, you click the line, on the table toolbar, click **View Commitment Details**, 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 corresponding commitments of an account group, you click the line, on the table toolbar, click **View Commitment Details**, the system opens the [Commitments](#) (PM306000) form.

## Printing Project Balances

You can print the project budget broken down by project tasks and account groups by clicking **Reports > Print Project Balance** on the form toolbar of the [Projects](#) (PM301000) form. The system navigates to the [Project Balance](#) (PM621000) report, which is a ready-to-print version of the project balances.

## Reviewing Project Transactions

You can review the list of all the corresponding transactions of a project on the [Project Transaction Details](#) (PM401000) form. In the Selection area of this form, you select the project to review all the corresponding project transactions. You can filter the selected transactions by account group, project task, inventory item, the range of dates, employee, account, related accounts receivable document, and transaction identifier specified in the Selection area.

## Reviewing Project Balances by Account Group

You can review the project budget broken down by account groups on the [Budget Summary by Account Group](#) (PMPV0010) form.

## Reviewing Project Budget Overruns

You can review all the amounts that exceed the budget of a project on the [Project Budget Overruns](#) (PM404000) form. In the Selection area of this form, you select the project and click **Calculate** on the form toolbar. You can filter the selected overruns by document type, project task, account group, and inventory item specified in the Selection area.

## Project Budget: Mass Processing of Documents

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

### Mass-Recalculating Project Budgets

In some cases (for instance, if project data has been modified through external tools or import scenarios), you may need to validate the project budgets to bring them in line with the underlying transactions.

To recalculate project budgets, you use the [Recalculate Project Balances](#) (PM504000) form. On this form, you 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 project balances and recalculates the **Actual Quantity** and **Actual Amount** on the **Revenue Budget** and **Cost Budget** tabs of the [Projects](#) (PM302000) form.