End-User Course

Reporting

Analytical Reports 2025 R1

Revision: 5/25/2025

Acumatica
The Cloud ERP

Contents

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Software Version: 2025 R1

Last Updated: 05/25/2025

How to Use This Course

This course provides a set of seven lessons that illustrate the basic processes of creation and modification of analytical reports by using the Analytical Report Manager (ARM) toolkit. Lesson 1 provides general information about analytical reports and forms used for creating analytical reports. Lesson 2 introduces the concept of data sources and explains how to filter data to be included in the report. Lessons 3 and 4 demonstrate basic operations with report rows and columns. Lesson 5 builds on Lesson 2 and provides details on working with multiple data sources. Lesson 6 illustrates how unit sets can be used to filter data in reports. Lesson 7 explains some more advanced ARM features, such as using formulas. The last lesson provides examples of formatting and layout options that can be used when designing a report.

After you complete the course, you will be able to perform basic operations with analytical reports in Acumatica ERP as well as become familiar with the best practices of designing analytical reports.

Which Training Environment You Should Use

All lessons of the course must be completed on an instance of Acumatica ERP 2025 R1 with the training snapshot restored.

You or your system administrator should prepare an instance of Acumatica ERP 2025 R1, as described in the *How to Create a Tenant with the Needed Data* section below.

What Is in a Lesson

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

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

What the Documentation Resources Are

Acumatica ERP provides a wide variety of documentation resources, which you can access from this course, from the system, or from the *Help portal*. Links to related information are provided at relevant places throughout the course. The complete Acumatica ERP documentation is available on *https://help.acumatica.com/* and is included in the Acumatica ERP instance.

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

How to Create a Tenant with the Needed Data

Before you complete this course, you need to prepare a tenant by importing and restoring the snapshot with the training data. To complete this preparation, perform the following instructions:

1. Go to the *Amazon Storage*.
2. Download and install Acumatica ERP 2025 R1.
3. From the *Training Materials* folder, download the training snapshot that corresponds to your version of Acumatica ERP.

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 training snapshot, which you have downloaded, and click **Upload**.

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

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

Which Credentials You Should Use

You complete all lessons of this course by using the *gibbs* user and the *123* password.

Which License You Should Use

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

Company Story

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

Company Structure

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

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

Operational Activity

The company has been operating starting in the *01-2023* financial period. In November 2023, the company started using Acumatica ERP as an ERP and CRM system and migrated all data of the main office and retail store to Acumatica ERP. The equipment center has begun its operations in *01-2024* in response to the company's growth.

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

SweetLife Company Sales and Services

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

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

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

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 from large juicer vendors, and it either purchases the installation service for the juicers or provides the installation service on its own, depending on the complexity of the installation.

Lesson 1: Creating an ARM Report

ARM Reports: General Information

Analytical reports are used to display the consolidated and summarized general ledger data and project data in ways defined by the report designer. Analytical reports are also referred to as *ARM reports* to distinguish them from the reports created in the Acumatica Report Designer.

Acumatica ERP comes with several predefined reports, such as the following:

- *Balance Sheet* (GL634000)
- *Profit & Loss* (GL635000)
- *Cash Flow* (GL636500)

You create a new analytical report or customize an existing analytical report if the layout or structure of predefined analytical reports does not meet the company's business requirements.

Learning Objectives

In this lesson, you will learn about the structure of an analytical report and the ways to create an analytical report.

Applicable Scenarios

You use the functionality of analytical reports rather than Acumatica Report Designer to create the following types of reports:

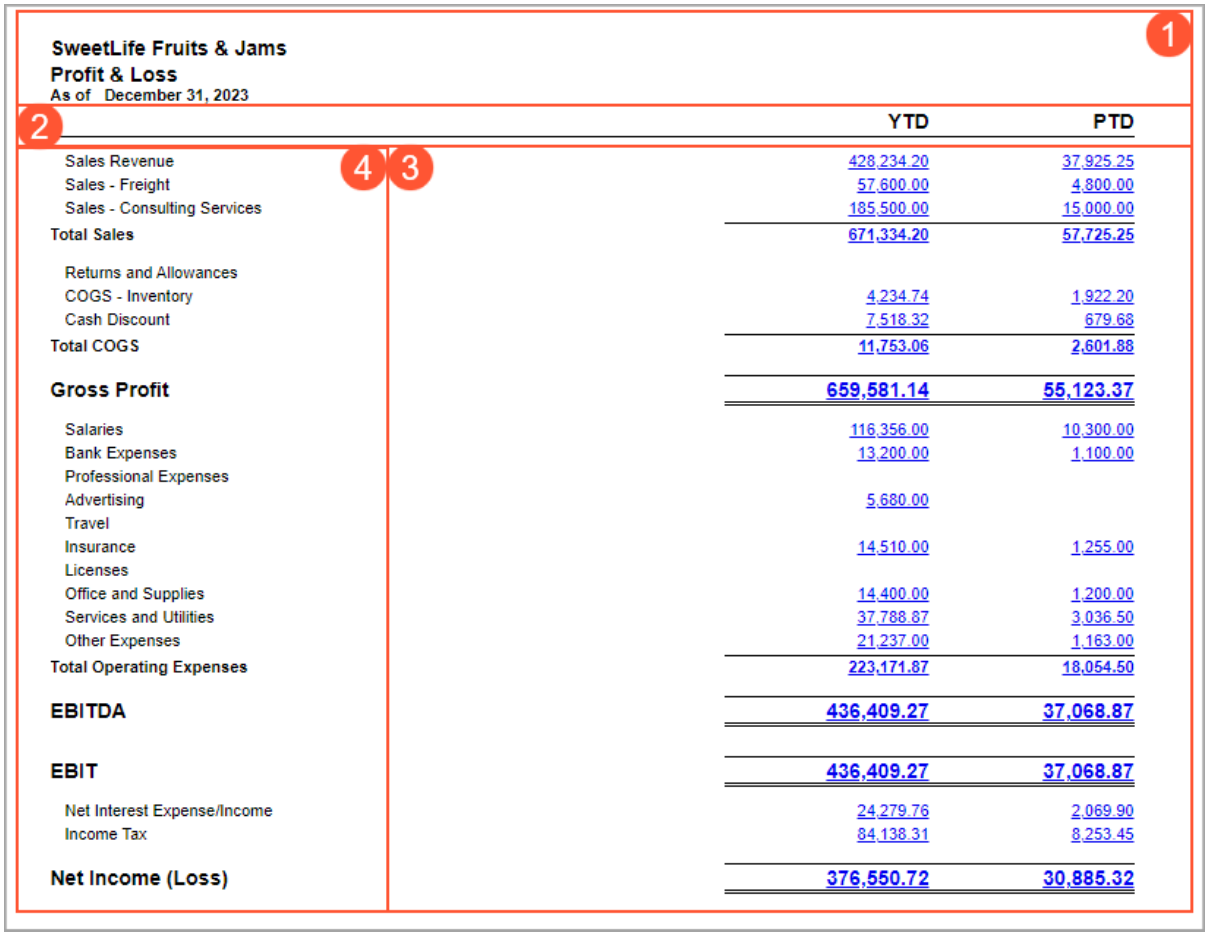
- Financial reports that display data posted to general ledger accounts and accumulated in the general ledger
- Project accounting reports that display data accumulated in the projects subledger

ARM Reports: Report Structure

The structure of the analytical report determines the content to be presented and its appearance. An analytical report typically consists of the following elements: a row set, a column set, and a unit set.

The following screenshot shows a generated report, which is affected by the settings specified during report configuration as follows (with the numbers in the list corresponding to those in the screenshot).

1. The report title, which is specified in the upper table of the *Column Sets* (CS206020) form.
2. The column headers, which are specified in the upper table of the *Column Sets* form.
3. Report columns, which are specified in the lower table of the *Column Sets* form. The lines of these columns are the report rows, which are specified on the *Row Sets* (CS206010) form.
4. The descriptions of rows, which are specified on the *Row Sets* form for each row and displayed in a column for which the *Descr* type is specified in the lower table of the *Column Sets* form.



SweetLife Fruits & Jams
Profit & Loss
As of December 31, 2023

	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Freight	57,600.00	4,800.00
Sales - Consulting Services	185,500.00	15,000.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: The Profit & Loss (GL635000) report

Optionally, an analytical report can include a unit set, which defines the units to be used in the report. With units, users can quickly filter or consolidate the report data. The following screenshot illustrates using units to switch between data for the entire company and each of its branches. You create a unit set on the *Unit Sets* (CS206030) form.

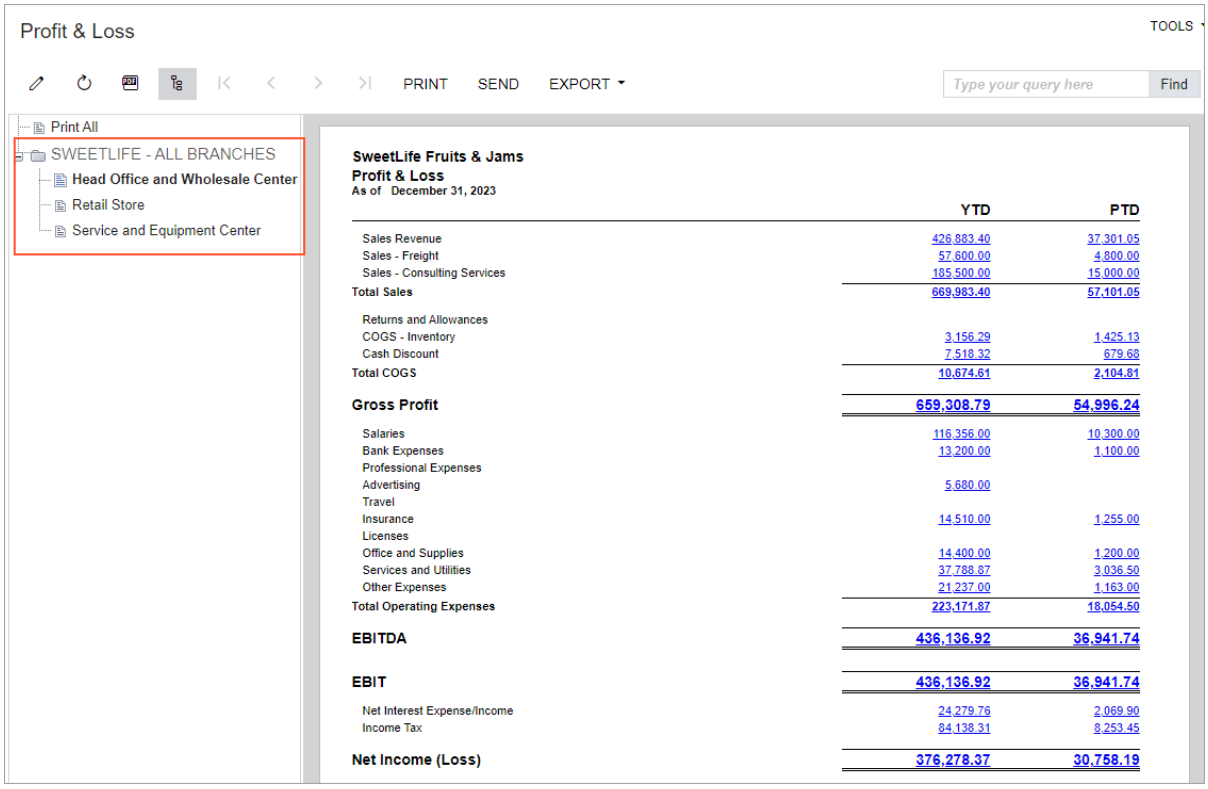


Figure: Profit & Loss report with Units for Branches

ARM Reports: Report Definition

Each analytical report also has a report definition, which identifies the report, links together the row set and the column set of the report, and defines the report parameters. By using the report definition, you can add the report to the site map.

You create a report definition on the *Report Definitions* (CS206000) form, which is shown in the following screenshot for the *Profit and Loss* report.

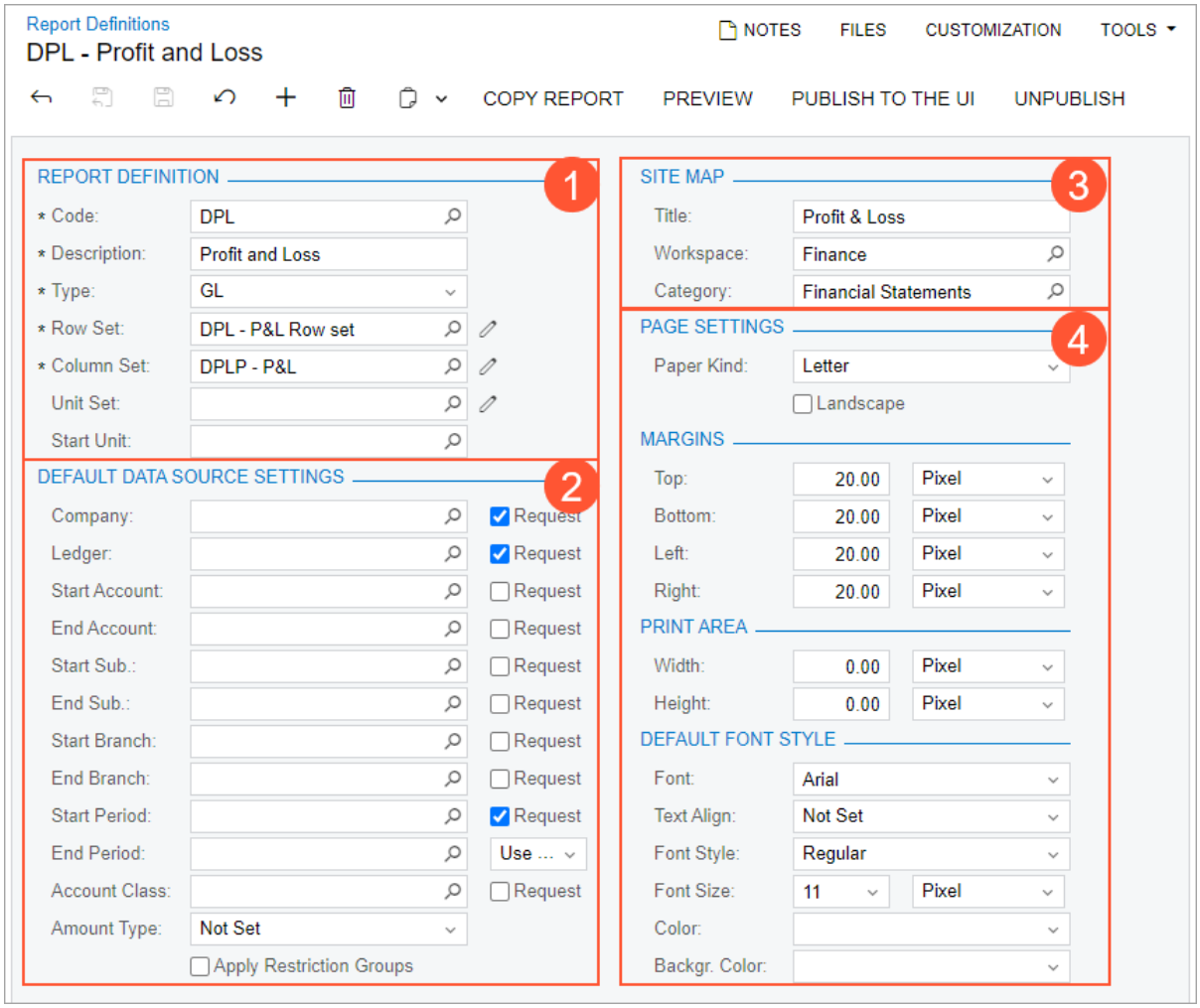


Figure: The Profit and Loss report configured on the Report Definitions form

In the **Report Definition** section of this form (Item 1 in the screenshot above), you specify the row set, the column set, and the unit set; you also specify the following main settings of the report:

- **Code**: The report definition identifier, which can be up to 10 alphanumeric characters.
- **Description**: The report description. We recommend that you specify a report description that matches or is similar to the title of the report in the site map (see the description of the **Title** setting below). This will help you find the report definition when you are selecting it in the **Code** box.
- **Type**: The data source of the analytical report. You can select one of the following options:
  - *GL*: The general ledger is used as the data source.
  - *PM*: Project accounting data is used as the data source.

In the **Default Data Source Settings** section (Item 2), you can specify report parameters and their default values. By using these parameters, the user can filter the report data. If you select the **Request** check box to the right of any parameter, this parameter will appear on the **Report Parameters** tab of the report form, and the user will have to provide a value for this parameter to run the report.

The **Site Map** section (Item 3) contains the settings that determine where in the user interface the report is displayed (the **Workspace** and **Category** boxes) and the title of the report. The boxes of this section are populated if the report is published. For more information about publishing a report, see *ARM Reports: To Publish a Report*.

In the remaining sections of the form, you can specify the paper size and orientation of the report, as well as define the margins, display area, and default font style, all of which determine how the text in the report will be formatted and displayed.

You can preview the report by clicking **Preview** on the form toolbar.

ARM Reports: Creation and Publishing of a Report

In the sections below, you will learn how to create an analytical report by copying an existing report and modifying its settings. You will also find information on how to make a report available to users of Acumatica ERP.

Creating a Copy of an Analytical Report

To modify an existing report, we recommend that you create a copy of the predefined report and modify this copy. Creating a copy of the report involves creating a copy of each of its elements:

1. On the *Report Definitions* (CS206000) form, you copy an existing report definition. You also note the row set, column set, and unit set that were used in the report.
2. On the *Row Sets* (CS206010) form, you copy the row set and save it with a new identifier.
3. On the *Column Sets* (CS206020) form, you copy the row set and save it with a new identifier.
4. On the *Unit Sets* (CS206030) form, you copy the unit set (if one was used in the report) and save it with a new identifier.
5. On the *Report Definitions* form, you specify the new identifiers of the copied report elements in the **Row Set**, **Column Set**, and **Unit Set** boxes.

Publishing an Analytical Report

To make a report available in the user interface, you need to publish it—that is, add the report form to the site map and grant other users access to it.

When you are publishing a report for the first time, you specify the site map settings, which determine where in the user interface the report will be available, and the access settings, which determine who will be able to access the report.

You set up the site map settings of an unpublished analytical report during the report publication. You click **Publish to the UI** on the toolbar of the *Report Definitions* (CS206000) form—the system opens the **Publish to the UI** dialog box. In the dialog box, you fill in the following boxes:

- **Site Map Title**: The name of the report form that will be shown on the *Site Map* (SM200520) form.
- **Workspace**: The workspace in the user interface from which the report form can be accessed.
- **Category**: The name of the category under which the report form will be displayed in the selected workspace.
- **Screen ID**: The identifier to be assigned to the report form. By default, the identifiers of a report start with the prefix *RM*.

To publish the report, you click **Publish** in this dialog box. The system assigns the report form the specified screen identifier and makes it available in the specified workspace. Also, the system adds a new site map node for this report form to the site map and applies the appropriate access rights to this site map node.

The site map settings of a published report are displayed in the **Site Map** section of the *Report Definitions* form and can be edited as needed. You can unpublish a report by clicking **Unpublish** on the toolbar of this form.

Managing Access Rights to an Analytical Report

You set up access rights to an analytical report during the report publication. You click **Publish to the UI** on the toolbar of the *Report Definitions* (CS206000) form—the system opens the **Publish to the UI** dialog box (which is shown in the following screenshot).

In the **Access Rights** section of the dialog box, you select one of the following option buttons to indicate which access rights should be specified for the report:

- **Set to Granted for All Roles**: The system will set the access rights for this report form to *Granted* for all user roles in the system.
- **Set to Revoked for All Roles**: The system will set the access rights for this report form to *Revoked* for all user roles in the system.
- **Copy Access Rights from Screen** (default): The system will copy the set of the access rights from the specified form.

After the report is published, you can modify the defined levels of access rights by using any of the *Access Rights by Role* (SM201025), *Access Rights by User* (SM201025), or *Access Rights by Screen* (SM201020) form.

ARM Reports: To Create a Copy of a Report

In the following activity, you will create a new report by copying existing report elements.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for supporting analytical reports. SweetLife's senior accountant has requested that you create a Profit & Loss by Branch analytical report, which will display the same rows as the predefined *Profit & Loss* (GL635000) report, but a different set of columns. Because the new report should display data that is similar to the data shown in the predefined report, you need to create a copy of the *Profit & Loss* report, to which you will later make the necessary modifications.

Process Overview

In this activity, before you create a copy of the predefined *Profit & Loss* (GL635000) report, you will use the *Site Map* (SM200520) form to identify the code of the corresponding report definition. Then you will open the report definition with the identified code on the *Report Definitions* (CS206000) form in order to find the codes of the row set and column set used to build the report.

You will then create a copy of the row set on the *Row Sets* (CS206010) form, of the column set on the *Column Sets* (CS206020) form, and of the report definition on the *Report Definitions* form. Then you will specify the copied elements of the report in the new report definition, and preview the new report.

Step 1: Identifying the Codes of the Report Definition, Row Set, and Column Set

To locate the code of the report definition of the *Profit & Loss* (GL635000) report, do the following:

1. On the *Site Map* (SM200520) form, use the Search box of the form toolbar to find the report with the *Profit & Loss* title (see the following screenshot).

   In the row with this report, notice the **URL**, in which the code of the report definition follows the equal sign and precedes *.rpx*. In the *~/Frames/RMLauncher.aspx?ID=DPL.rpx* URL, *DPL* is the code of the report definition.

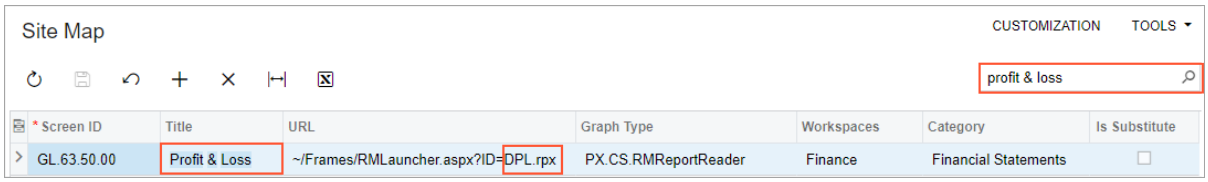


Figure: The report definition code

2. On the *Report Definitions* (CS206000) form, open the definition with the *DPL* code.

> Because the *ReportDesigner* role is assigned to your user account, instead of performing Instructions 1 and 2, you could have opened the report definition directly from the corresponding analytical report form. In this case, on the report form toolbar, you would click **Edit Report**. The *Report Definitions* form would open with the definition of the report in a new browser tab.

3. Find the code (that is, identifier) of the row set of the report in the **Row Set** box, and find the code of the column set of the report in the **Column Set** box. These codes are *DPL* and *DPLP*, respectively.

Step 2: Copying the Row Set of the Report

To copy the row set of the Profit & Loss report, do the following:

1. On the *Row Sets* (CS206010) form, open the row set with the *DPL* code.
2. On the form toolbar, click **Copy Row Set**.
3. In the **New Row Set Code** dialog box, which is opened, type `F350_PLB` as the new code, and click **Copy**, which closes the dialog box and creates a copy of the row set on the current form with the code you entered.
4. In the **Description** box of the Summary area, type `F350 P&L by Branch`.
5. On the form toolbar, click **Save**.

> We recommend that as you perform the activities, you save your changes often, even if you are not explicitly instructed to do so.

Step 3: Copying the Column Set of the Report

To copy the column set of the Profit & Loss report, do the following:

1. On the *Column Sets* (CS206020) form, open the column set with the *DPLP* code.
2. On the form toolbar, click **Copy Column Set**.
3. In the **New Column Set Code** dialog box, which is opened, type `F350_PLB` as the new code, and click **Copy**, which closes the dialog box and creates a copy of the column set on the current form with the code you entered.
4. In the **Description** box of the Summary area, type `F350 P&L by Branch`.
5. On the form toolbar, click **Save**.

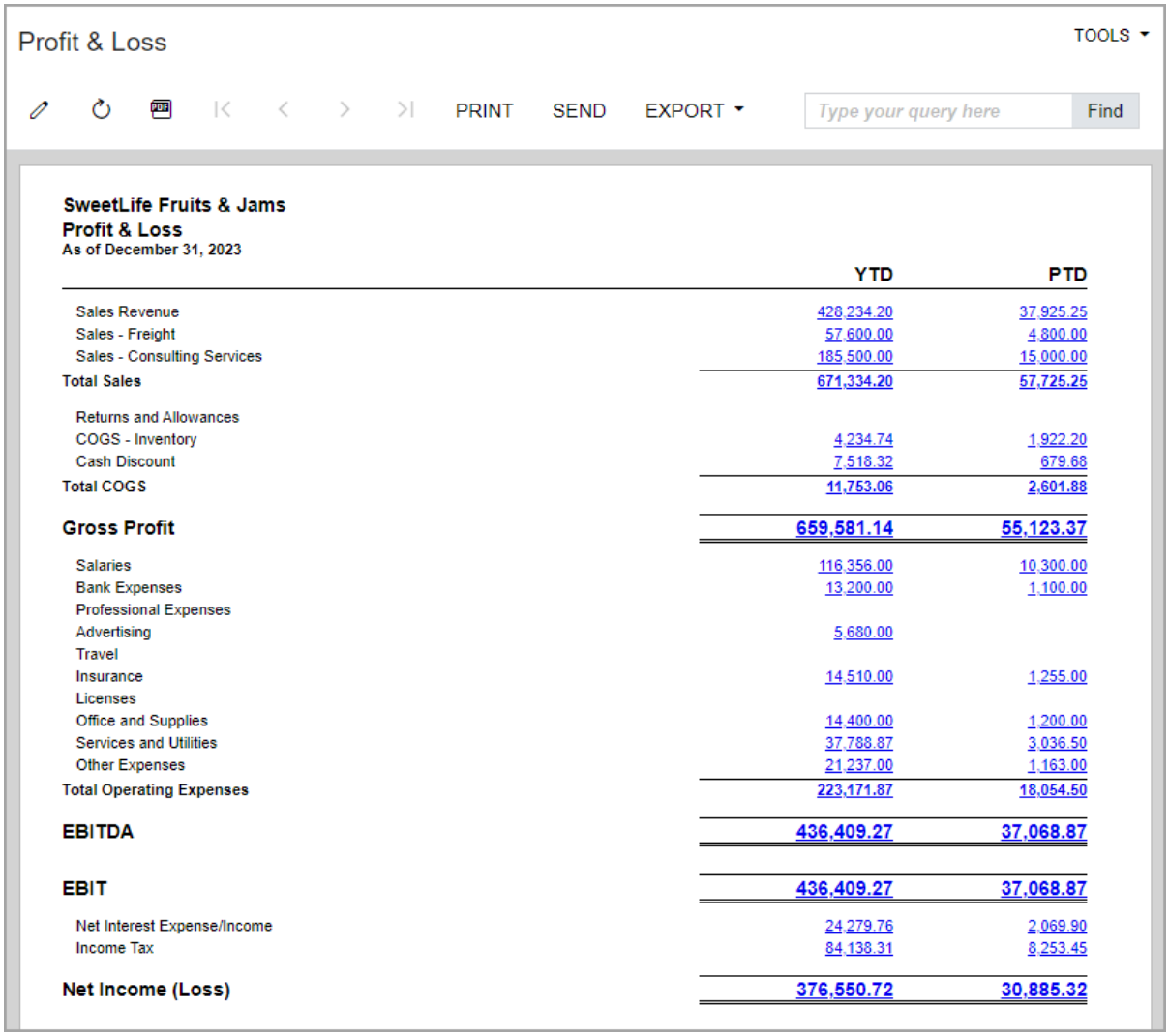
Step 4: Copying the Report Definition of the Report

To copy the report definition of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the definition with the *DPL* code.
2. On the form toolbar, click **Copy Report**.
3. In the **New Report Code** dialog box, which is opened, type `F350_PLB` as the new code, and click **Copy**. This closes the dialog box; you are now working with the copied version of the report with the *F350_PLB* code.
4. In the **Report Definition** section of the form, change the settings of the report to the following:
   - **Description**: `F350 P&L by Branch`
   - **Row Set**: *F350_PLB*
   - **Column Set**: *F350_PLB*

5. On the form toolbar, click **Save**.
6. On the form toolbar, click **Unpublish**.
7. In the warning dialog box, click **OK**.

   Because you have created a copy of a published report, you have also made it unavailable in the site map so that other users cannot access the report while you are working on it.
8. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
9. On the **Report Parameters** tab of the report form, specify the following parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
10. On the report form toolbar, click **Run Report**.
11. Review the report (which is shown in the following screenshot).



SweetLife Fruits & Jams
Profit & Loss
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Gross Profit	659,581.14	55,123.37
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Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: Copied Profit & Loss report

You have created an analytical report as a copy of an existing report.

ARM Reports: To Publish a Report

The following activity will walk you through the publishing of a report.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for supporting analytical reports. SweetLife's senior accountant has requested that you create the Balance Sheet Comparative analytical report. You have already prepared the report and now need to make it available to users of Acumatica ERP. The report should be available in the **Finance** workspace under the **Financial Statements** category.

Configuration Overview

In the training dataset, on the *Report Definitions* (CS206000) form, the *F350RD11* report definition has been created for the purposes of this activity.

Process Overview

In this activity, you will modify the report definition on the *Report Definitions* (CS206000) form to include it in the site map and then verify that the report is accessible.

Step 1: Modifying the Report Definition

To add the Balance Sheet Comparative analytical report to the site map, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD11* code.
2. On the form toolbar, click **Publish to the UI**. The system opens the **Publish to the UI** dialog box,
3. In the dialog box, specify the following settings:
   - **Site Map Title**: `Balance Sheet Comparative`
   - **Workspace**: *Finance*
   - **Category**: *Financial Statements*

   In the **Screen ID** box, the system has automatically inserted an identifier that will be assigned to the report form. You can leave this value as it is.
4. In the **Access Rights** section, make sure the **Copy Access Rights from Screen** option button is selected, and in the box to the right of it, select the *Balance Sheet* report.

   This report has the *GL.63.40.00* screen ID.
5. Click **Publish** to publish the report and close the dialog box.

   Once the report is published, its site map settings will be displayed in the **Site Map** section of the *Report Definitions* form.

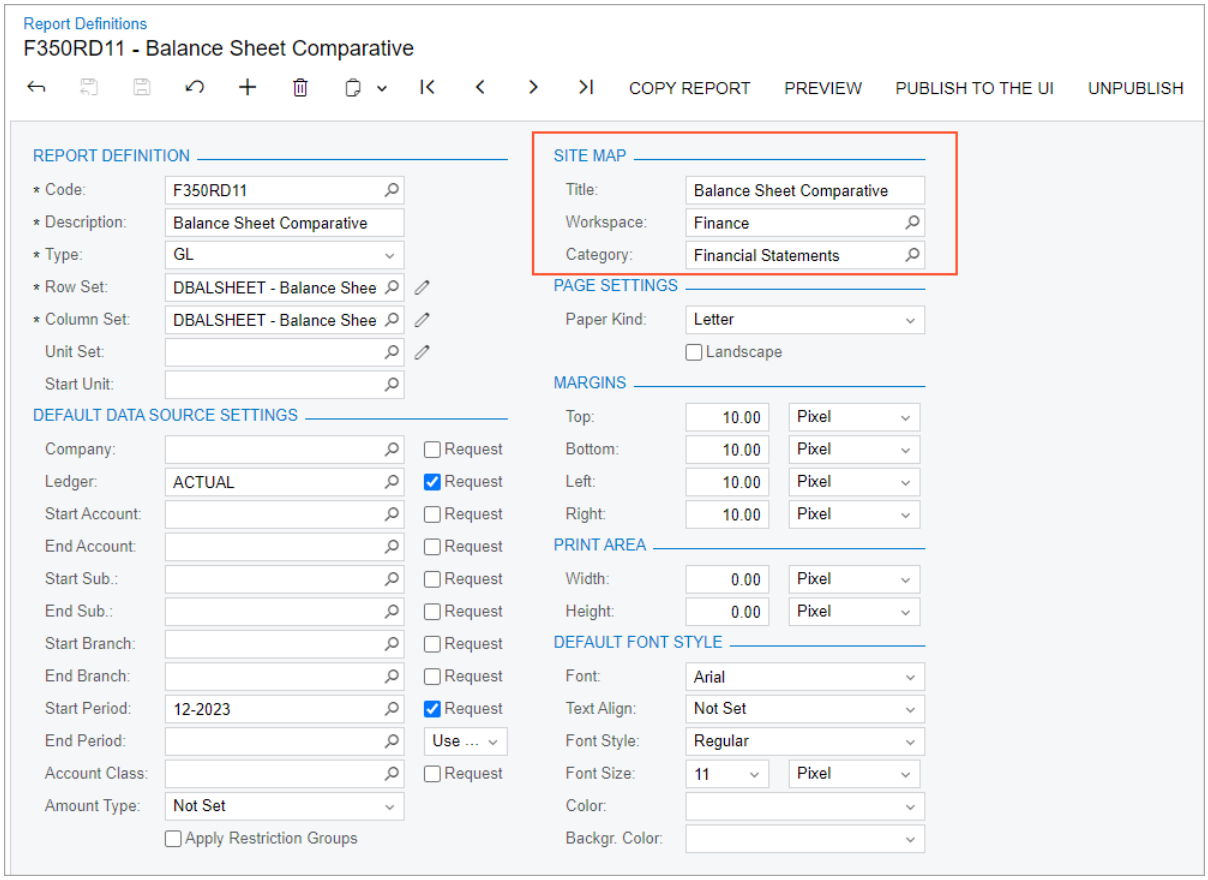


Figure: The definition of the Balance Sheet Comparative report

Step 2: Reviewing the Published Report

To make sure the report is accessible in the **Finance** workspace and review the report, do the following:

1. Click **Finance** on the main menu to open the **Finance** workspace.

   Notice that the *Balance Sheet Comparative* report has been added to the **Financial Statements** category (which is shown in the screenshot below).

   > ⚠ You might need to click **Show All** in the workspace footer to display all links within the workspace.

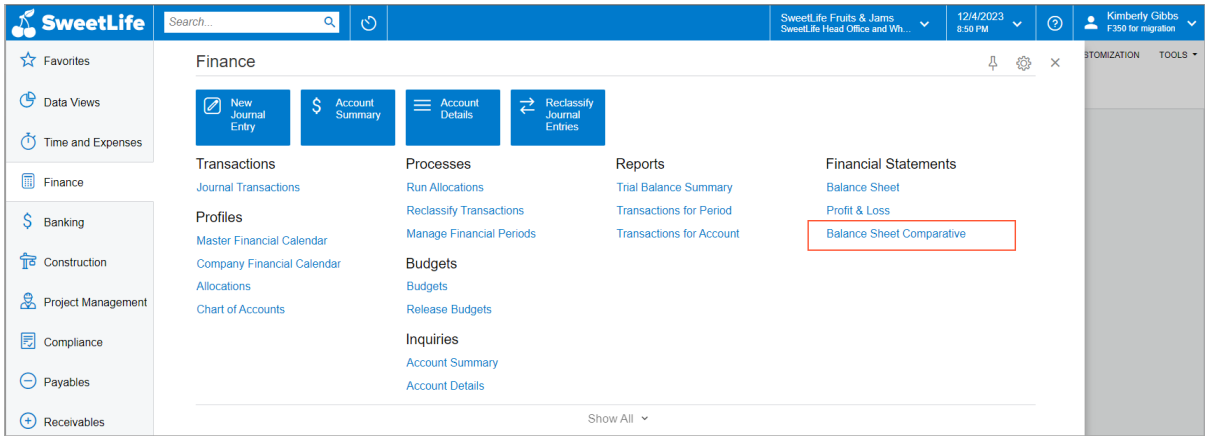


Figure: The Balance Sheet Comparative report in the Finance workspace

2. Under **Financial Statements**, click *Balance Sheet Comparative*.
3. On the **Report Parameters** tab of the report form, which opens, make sure the following parameters are specified:
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.
5. Review the report.

Lesson 2: Filtering Data

Data Filtering: General Information

Data filtering criteria specify how the data will be selected from the database to be shown in a report.

The data filtering criteria defined for the whole report or for the individual rows and columns, use common parameters that identify the subsets of data to be displayed in the report. These parameters can be specified in the *Data Source Editor* dialog box.

Learning Objectives

In this lesson, you will learn how to pull and filter data to be shown in a report by using the following criteria (further described in the following sections of this topic):

- Group of accounts and subaccounts
- Range of periods
- Type of amount
- Company or branch

Applicable Scenarios

You define filtering criteria for the whole report, for a unit, or for any specific row or column in the report. Usually, the criteria defined for the rows and columns reflect the report structure—that is, how the report data will be grouped in rows and columns.

Data Sources and Filtering Data

The data source defines and applies the data filtering criteria to select the data that will be used in the report. You can include the selected data in the report in the following ways:

- For each row of a row set, by specifying data filtering criteria in the *Data Source Editor* dialog box. You invoke this dialog box by clicking the magnifier button in the **Data Source** column on the *Row Sets* (CS206010) form, which is shown in the following screenshot.
- For each column of a column set, by specifying data filtering criteria for the report columns in the *Data Source Editor* dialog box. You invoke this dialog box by clicking the magnifier button in the **Data Source** cell for the column, in the lower table of the *Column Sets* (CS206020) form.
- For each unit that includes rows and columns, by specifying data filtering criteria in the *Data Source Editor* dialog box. You invoke this dialog box by clicking the magnifier button in the **Data Source** column (in the table of the Units area) on the *Unit Sets* (CS206030) form.
- For the data source defined for the entire report, by specifying additional data filtering criteria to be applied to the report rows and columns. You do this by specifying the data source parameters on the *Report Definitions* (CS206000) form.

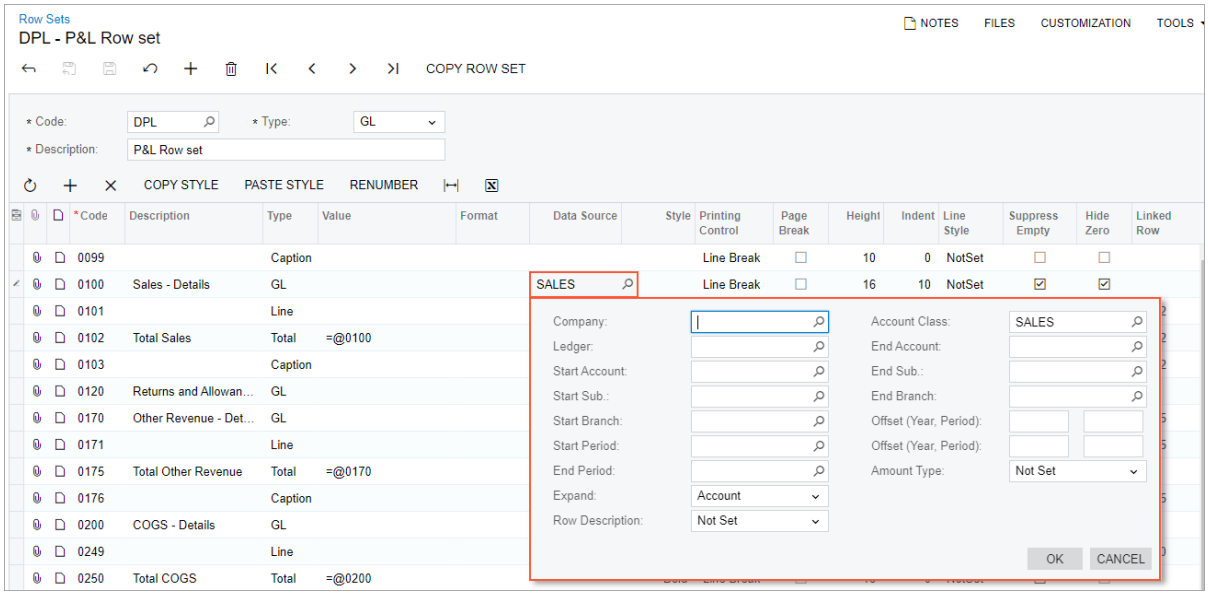


Figure: The Data Source dialog box of the Row Sets form

The filtering rules defined for the unit have the highest priority. The rules defined on the row, column, and report levels have the next highest priorities (in that order). For example, if you want to define filtering criteria for a column and these criteria differ from the criteria that has already been specified for the rows, you need to clear the parameters or specify the **Amount Type** as *Not Set* for the **Data Source** of the row that interacts with the corresponding column so that the data filtering criteria specified for the column will be applied.

By specifying the data filtering parameters on the row level, you define the data structure in the report. For example, if a group of lines in the report must display the calculated values for a specific period range, you should specify the start period and end period for each row included in this group of report lines. If some lines in the report must display the data related to a specific account, and the columns must display the values calculated for certain periods, you should specify the account on the row level, and specify the start period and end period of each period range on the column level.

Filtering by a Group of Accounts or Subaccounts

To eliminate the data that is not related to a specific account and subaccount, or define the range of accounts and subaccounts to be used for data filtering criteria in the report, you should define the account and subaccount ranges.

To specify a predefined group of accounts and subaccounts to be included in the report, you can select an **Account Class**. Filtering the data by using the account class is convenient, but you can filter the data in other ways. You can specify the range of the accounts by using the settings in the dialog box in one of the following ways:

- Specify the range of accounts by the start account and the end account—that is, select *740000* as the **Start Account** and *758000* as the **End Account**.

  This range includes all the accounts between 740000 and 758000, and returns the following accounts: *740000*, *745000*, *755000*, and *758000*.
- List all the accounts explicitly in the **Start Account** box separated by a comma as follows: `740000,745000,755000,758000`.
- Specify the range of accounts by using the colon in a mask in the **Start Account** box, such as `740000:758000`.

  The range *740000:758000* includes all the accounts between 740000 and 758000. This range returns the following accounts: *740000*, *745000*, *755000*, *758000*.
- Use the *?* expanded wildcard character in a mask in the **Start Account** box as follows: `74?000,75?000`.

The *?* wildcard character gives you the ability to match all possible options with any single character in the specific position where the *?* character is. For example, the range *74?000,75?000* includes all the accounts starting with *74* and ending with *000* with a single character between them, and all the accounts starting with *75* and ending with *000* with a single character between them. This range returns the following accounts: *740000*, *745000*, *755000*, and *758000*.

The range *7??000* includes all accounts starting with *7* and ending with *000* with two characters between them. This range returns the following accounts: *740000*, *745000*, *755000*, *758000*, *760000*, *770000*, and *790000*.

You can combine the *,*, *:*, and *?* characters to create complicated masks. You can also use a mask for only subaccounts with the *Unicode* edit mask. The other edit masks do not allow using special characters.

You can specify values in the **Account Class**, **Start Account**, and **End Account** boxes at the same time. However, if the specified accounts have no common data, null values will be displayed in the report rows, columns, or both.

You can use denominated accounts for retrieving amounts in a foreign currency.

Filtering by Period Range

To define specific periods for the data to be included in the report, you specify **Start Period** and **End Period** values. The data related to the periods not included in the selected range of periods will be filtered out and not included in the report.

Filtering by Amount Type

To define the type of amounts that should be used in the report lines (displayed or used in calculations), you should select the appropriate **Amount Type** option in the *Data Source Editor* dialog box or on the **Default Data Source Settings** section of the *Report Definitions* (CS206000) form. The following types of amounts can be selected: *Turnover*, *Credit*, *Debit*, *Beg. Balance*, *Ending Balance*. These types of amounts can be specified for use in the whole analytical report or for a separate row or column.

You can also use the amounts in a foreign currency retrieved from the denominated accounts by specifying one of the following options: *Curr. Turnover*, *Curr. Credit*, *Curr. Debit*, *Curr. Beg. Balance*, or *Curr. Ending Balance*.

Lesson 3: Working with Report Rows

Row Sets: General Information

A row set is a set of rows to be used in a report or in a group of reports that all use the same rows. You define row sets and their properties on the *Row Sets* (CS206010) form. Although a row set can be used in multiple reports, each report can be associated with only one row set.

You specify what rows will be displayed in the analytical report by creating a new row set, adding rows to it, and specifying this row set for the report on the *Report Definitions* (CS206000) form.

Learning Objectives

In this lesson, you will learn about the properties of the rows in a row set and how to add, remove, and work with the rows in a row set.

Applicable Scenarios

You may find the information in this chapter useful if you are responsible for developing and supporting analytical reports in Acumatica ERP and need to add or modify rows of a report.

Properties of a Row Set

In the Summary area of the *Row Sets* (CS206010) form, you specify the code, description, and type of the data source for the row set.

In the **Type** box, you select the *GL* type to display in your report accounting data from the general ledger, or the *PM* type to display project accounting data. The **Code** and **Description** properties of the row set help you to uniquely identify the row set in the system.

Row Sets: Row Attributes

In the table of the *Row Sets* (CS206010) form, you can add rows to the row set. Each row has its properties displayed in the lines of the form, which is shown in the following screenshot.

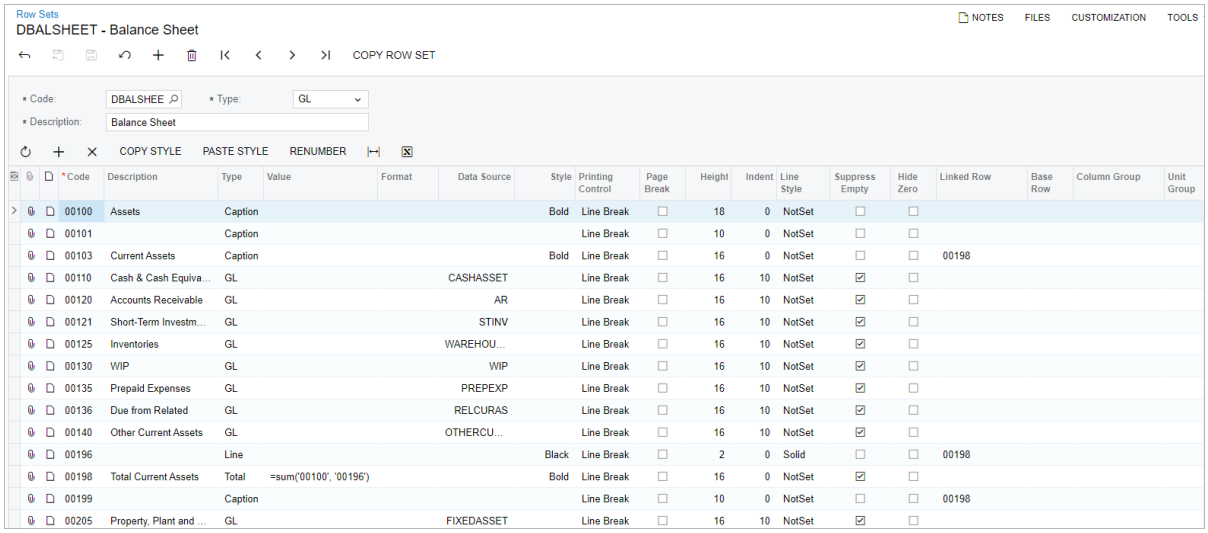


Figure: The Row Sets form

The Code and Description of a Row

The row code (**Code** column) is a unique value you specify when you add a new row to the row set. This code is used to identify the row within the row set, and the references to the rows in the formulas also include the row codes. The code assigned to the row can be changed later, but we do not recommend that you change the existing row codes, because they may be used in the formula references to this row. The rows in the row sets are sorted by row code in ascending order, and this is the order in which they appear in the generated report.

The row description (**Description** column) is a descriptive definition of the row contents. The data from this column is not displayed in the analytical report. To include a row description in the report, you should add a column of the *Desc* type to the column set.

Row Types

By defining the **Type** attribute of a row, you specify what data will be displayed in a particular report row, and how the data in the row will be processed.

You can select one of the following row types:

- *GL*: A row of this type contains accounting data that satisfies the filtering conditions specified in the **Data Source** column of the row.
- *Caption*: A row of this type is used to display in the report the text specified in the **Description** column of the row. If no description is specified, the row of this type is displayed as an empty line, which can be used to add space between groups of rows in the report.
- *Line*: A row of this type is displayed in the report as a line. With these lines, you can improve the readability of the report and visually segregate groups of lines displayed in the report. You can specify the line style in the **Line Style** column of the row and the thickness of the row in the **Height** column.
- *Total*: A row of this type is used when the **Value** column of the row contains a formula to calculate a sum or another calculated value.
- *Header*: A row of this type contains the report header—that is, all lines of the report title and the column headers, which are specified in the column set, are displayed in this row.
- *Sort*: A row of this type contains the sorting conditions of some report rows in the **Value** column. A row of this type is not displayed in the report; instead, it affects the order of the data displayed in the report.

The Value of a Row

By filling in the **Value** column for a row in the row set, you define a particular value to be displayed in the report line. The values in the rows can be predefined parameters or computed values that the system calculates by using formulas. Values are frequently used to insert sums and totals into the report lines.

The formulas used to calculate the data in the report lines usually include references to other rows or particular cells in the report. The expressions used to insert the data in the report rows can also use parameter queries to select the necessary data from the data source.

When you fill in the **Value** column to display total values in the row, you need to ensure that the appropriate *Type* is selected for this row to exclude it from the data that can be selected as a source for summarized value calculation.

Row Sets: To Add a Row with Summary Data

In this activity, you will add a report row with summary data retrieved from the GL accounts of an account class.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for supporting analytical reports. You have developed most of the Profit & Loss report according to the company's needs, and now need to add a row displaying the aggregated amount of service and utility expenses.

In your instance of Acumatica ERP, these expenses are recorded to the GL accounts of the *EXSERVICE - Service and Utilities* account class. So you need to add a report row that will total the amounts from all GL accounts of this class.

Configuration Overview

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

- On the *Row Sets* (CS206010) form, the *F350RS1* row set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD1* report definition has been created with *F350RS1* selected as the row set.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.
2. On the *Chart of Accounts* (GL202500) form, review the structure of accounts of the *EXSERVICE* account class.
3. On the *Row Sets* (CS206010) form, modify the row set to display the aggregated amount from the accounts of the *EXSERVICE* account class in a single row.
4. On the *Report Definitions* form, review the updated Profit & Loss report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD1* code.

2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that no data is displayed for service expenses in the expense section of the report.

Step 2: Reviewing the Accounts of the Account Class

To review the accounts that belong to the *EXSERVICE* account class, do the following:

1. Open the *Chart of Accounts* (GL202500) form.
2. Click the header of the **Account Class** column.
3. In the Sorting and Filtering Settings dialog box, which opens, do the following:
   a. Make sure **Equals** is selected in the list of filter conditions.
   b. In the **Value** box, specify `EXSERVICE`.
   c. Click **OK**.

   The system closes the dialog box, In the list of accounts, the accounts that belong to the *EXSERVICE* account class are displayed. (See the following screenshot.)

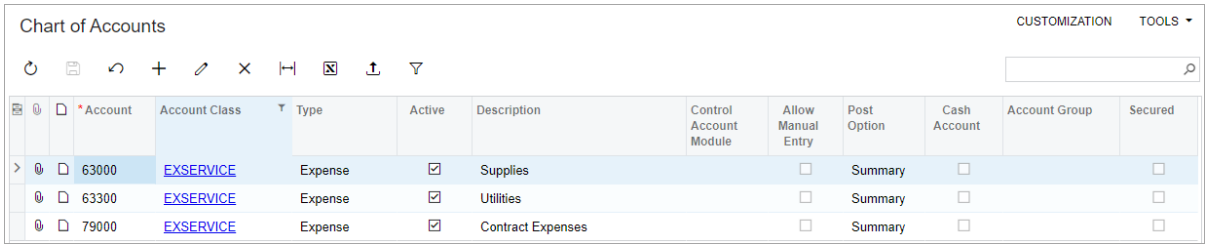


Figure: The accounts of the EXSERVICE account class

Step 3: Updating the Row Set

To modify the row in the row set, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD1* code.
2. In the **Report Definition** section, click the Edit button to the right of the **Row Set** box.

   The *Row Sets* (CS206010) form opens with the *F350RS1* row set selected.
3. Add a new row with the following settings:
   - **Code**: `0340`
   - **Description**: `Services and Utilities`
   - **Type**: *GL*
4. On the form toolbar, click **Save**.
5. In the row with the *0340* code, double-click the **Data Source** cell, and then click the magnifier button.
6. In the Data Source dialog box, which opens, do the following:
   a. Select *EXSERVICE* in the **Account Class** box.

b. Make sure that **Expand** is set to *Nothing*.

With this setting, data from all accounts of the selected class will be displayed in the same line of the report.

7. Click **OK** to close the dialog box.
8. In the **Indent** column of the *0340* row, type `10`.
9. In the **Hide Zero** column, select the check box.
10. Save your changes to the row set.

Step 4: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD1* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. While the *F350RD1* report definition is still open on the *Report Definitions* (CS206000) form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the *Services and Utilities* row is now displayed in the report. (See the following screenshot.)

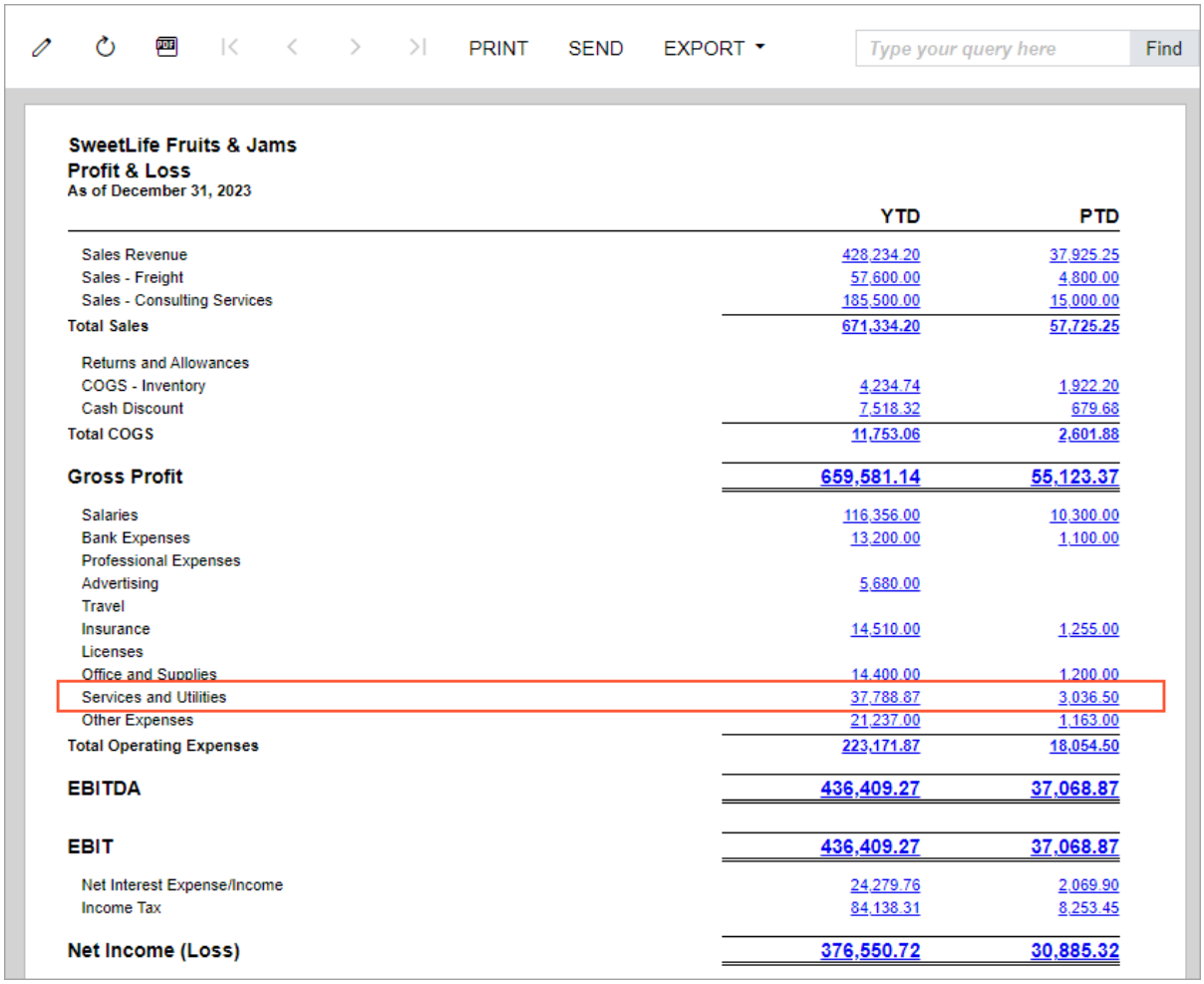


Figure: The added summary row for Services and Utilities

Row Sets: To Expand a Row to Show Detailed Data

In this activity, you will expand a row to show detailed data. Specifically, you will modify a row that displays summary data retrieved from the GL accounts of an account class. The updated report will show a separate row for each GL account included in the account class.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for supporting analytical reports. You have developed the initial version of the Profit & Loss report according to the company's requirements. However, SweetLife's chief accountant has asked you to display the sales data in the report in more detail.

You need to update the row that currently shows the sales data aggregated from all accounts of the sales account class so that it displays more information.

Configuration Overview

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

- On the *Row Sets* (CS206010) form, the *F350RS2* row set has been created.

- On the *Report Definitions* (CS206000) form, the *F350RD2* report definition has been created with *F350RS2* selected as its row set.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.
2. On the *Chart of Accounts* (GL202500) form, review the structure of accounts of the *SALES* account class.
3. On the *Row Sets* (CS206010) form, modify the row set to display the amounts from the accounts of the *SALES* account class in separate rows.
4. On the *Report Definitions* form, review the updated Profit & Loss report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD2* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report opens in a pop-up window. Notice that the sales data is shown in one line, *Sales* (as shown in the following screenshot).
5. Close the pop-up window.

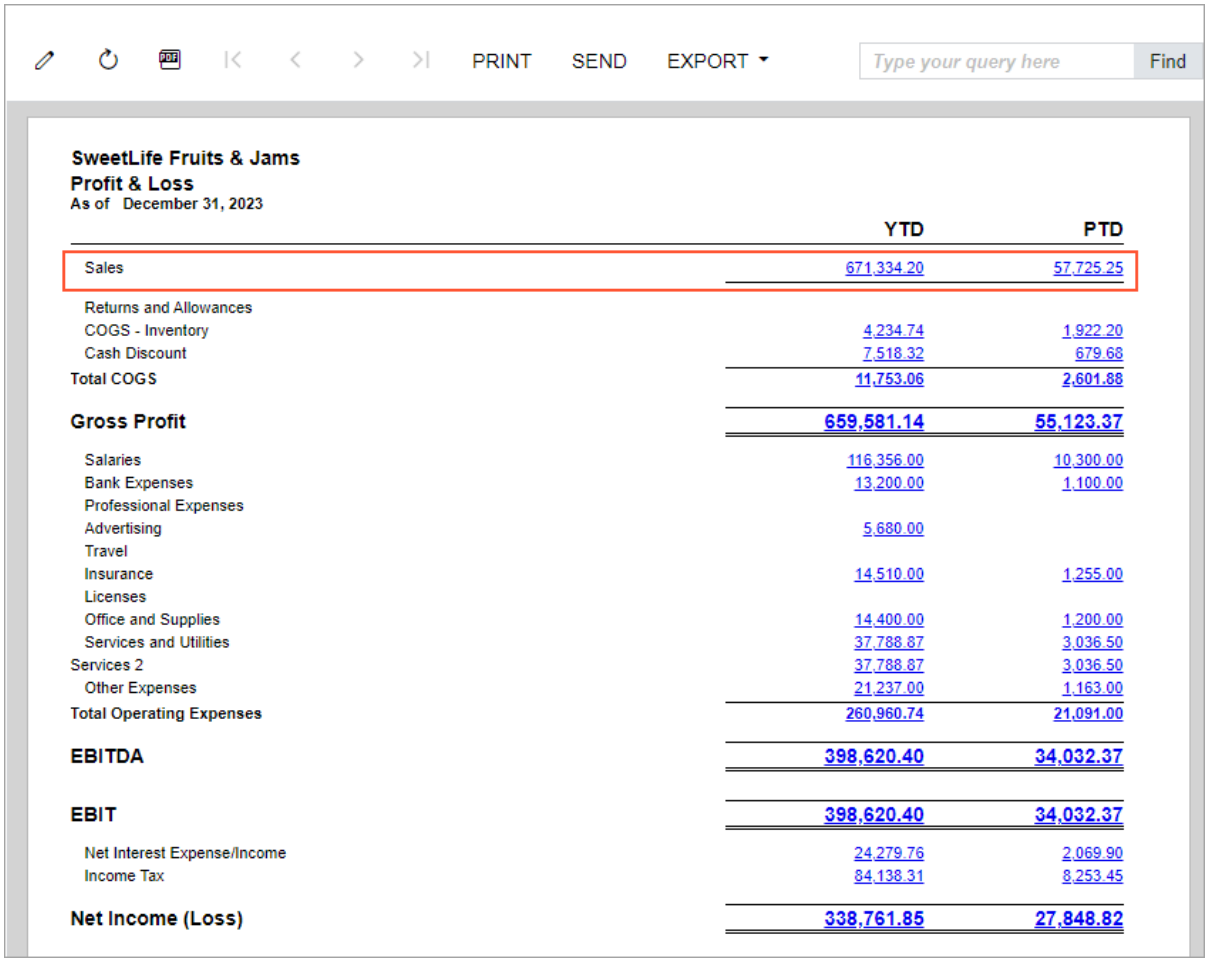


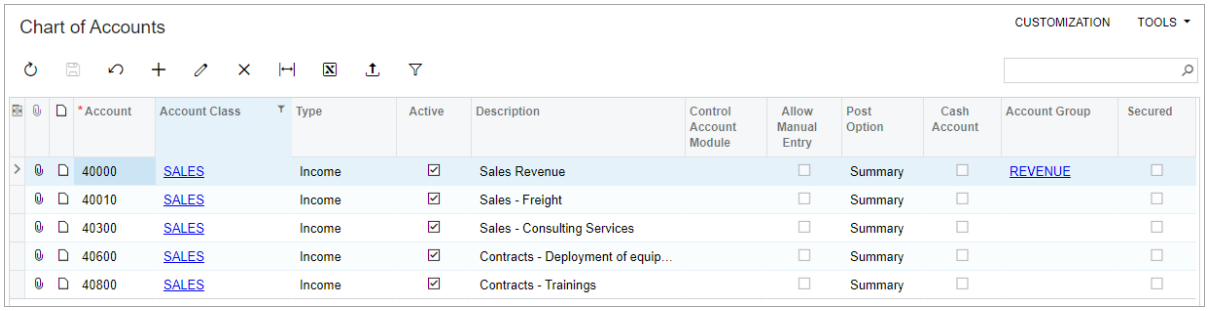
Figure: Aggregated sales data in the Profit & Loss report

Step 2: Reviewing the Accounts of the Account Class

To review the accounts that belong to the *SALES* account class, do the following:

1. Open the *Chart of Accounts* (GL202500) form.
2. Click the header of the **Account Class** column.
3. In the Sorting and Filtering Settings dialog box, which opens, do the following:
   a. Make sure **Equals** is selected in the list of filter conditions.
   b. In the **Value** box, specify `SALES`.
   c. Click **OK**.

   The system closes the dialog box, In the list of accounts, the accounts that belong to the *SALES* account class are displayed. (See the following screenshot.)



Account	Account Class	Type	Active	Description	Control Account Module	Allow Manual Entry	Post Option	Cash Account	Account Group	Secured
40000	SALES	Income	☑	Sales Revenue		☐	Summary	☐	REVENUE	☐
40010	SALES	Income	☑	Sales - Freight		☐	Summary	☐		☐
40300	SALES	Income	☑	Sales - Consulting Services		☐	Summary	☐		☐
40600	SALES	Income	☑	Contracts - Deployment of equip...		☐	Summary	☐		☐
40800	SALES	Income	☑	Contracts - Trainings		☐	Summary	☐		☐

Figure: The accounts of the SALES account class

Step 3: Updating the Row Set

To modify the row in the row set, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD2* code.
2. In the **Report Definition** section, click the Edit button to the right of the **Row Set** box.

   The *Row Sets* (CS206010) form opens with the *F350RS2* row set selected.
3. In the row with the code *0100*, click the **Data Source** cell, and then click the magnifier button.
4. In the Data Source dialog box, which opens, set **Expand** to *Account*.

   With this option selected, the GL accounts that belong to the *SALES* account class (which is selected in the **Account Class** box) will be displayed in separate lines of the report.
5. In the **Row Description** box, select *Description*.

   The descriptions of the accounts of the *SALES* account class will be displayed as the row descriptions.
6. Click **OK** to close the dialog box.
7. Save your changes to the row set.

Step 4: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD2* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that three lines are now displayed in the report (see the following screenshot).

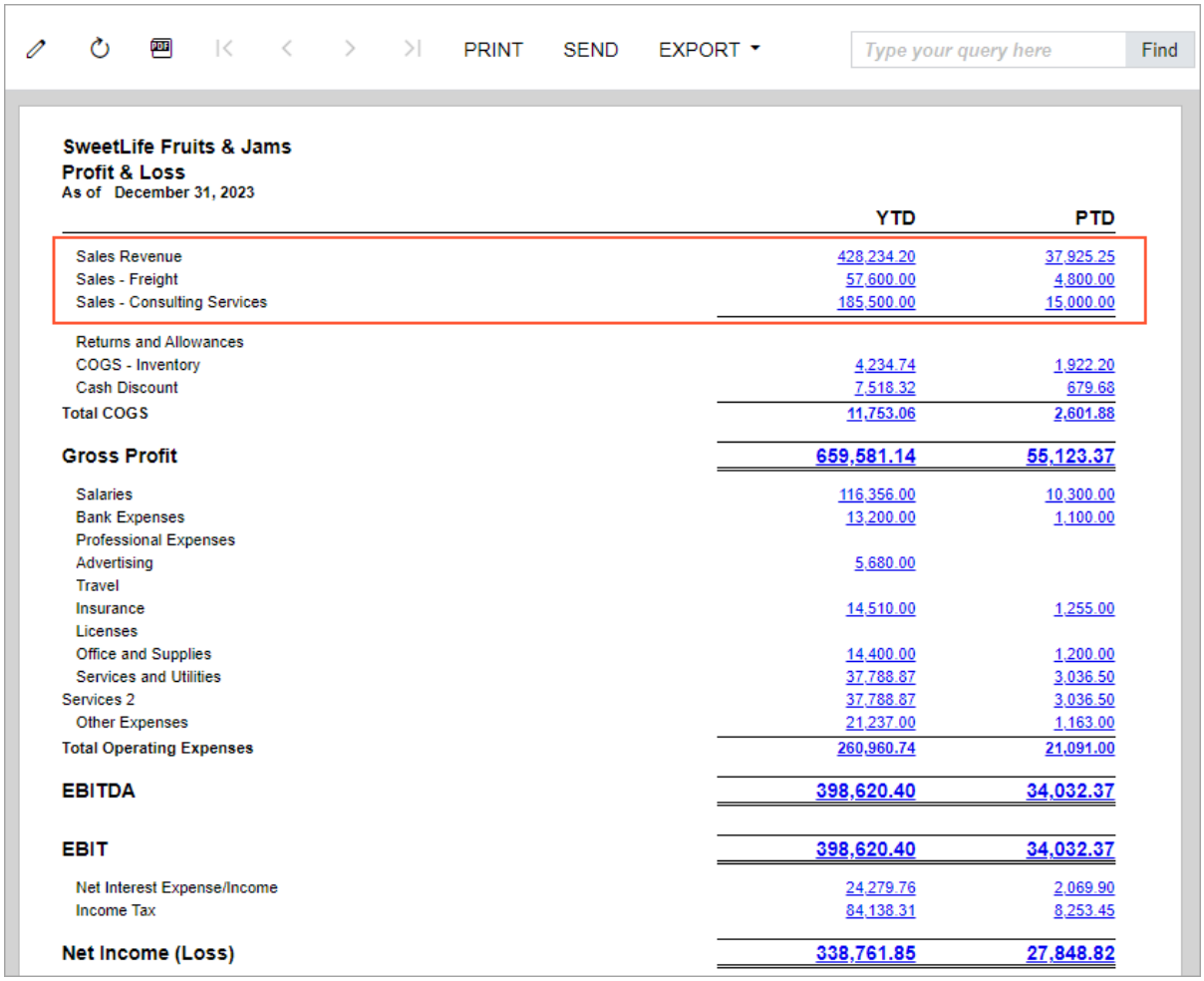


Figure: Sales data expanded by account

Row Sets: To Add a Row with a Total

The following activity will walk you through the process of adding a row that displays a total—in this case, a subtotal of a subset of other rows.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for supporting analytical reports. SweetLife's manager has requested that you update the existing Profit & Loss report with detailed information about sales as well as the total sales amount. The rows with *Total Sales* and *Net Income* should be highlighted to be immediately visible to the users of the report.

You have already added the rows with detailed sales data to the Profit & Loss report. Now you need to add a row that will display a subtotal of all sales amounts and highlight the needed rows.

Configuration Overview

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

- On the *Row Sets* (CS206010) form, the *F350RS3* row set has been created.

- On the *Report Definitions* (CS206000) form, the *F350RD3* report definition has been created with *F350RS3* selected as its row set.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.
2. On the *Row Sets* (CS206010) form, modify the row set to display a line with the subtotal of the sales amounts.
3. On the *Report Definitions* form, review the updated Profit & Loss report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD3* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that three rows with sales data are displayed in the report.
5. Close the pop-up window.

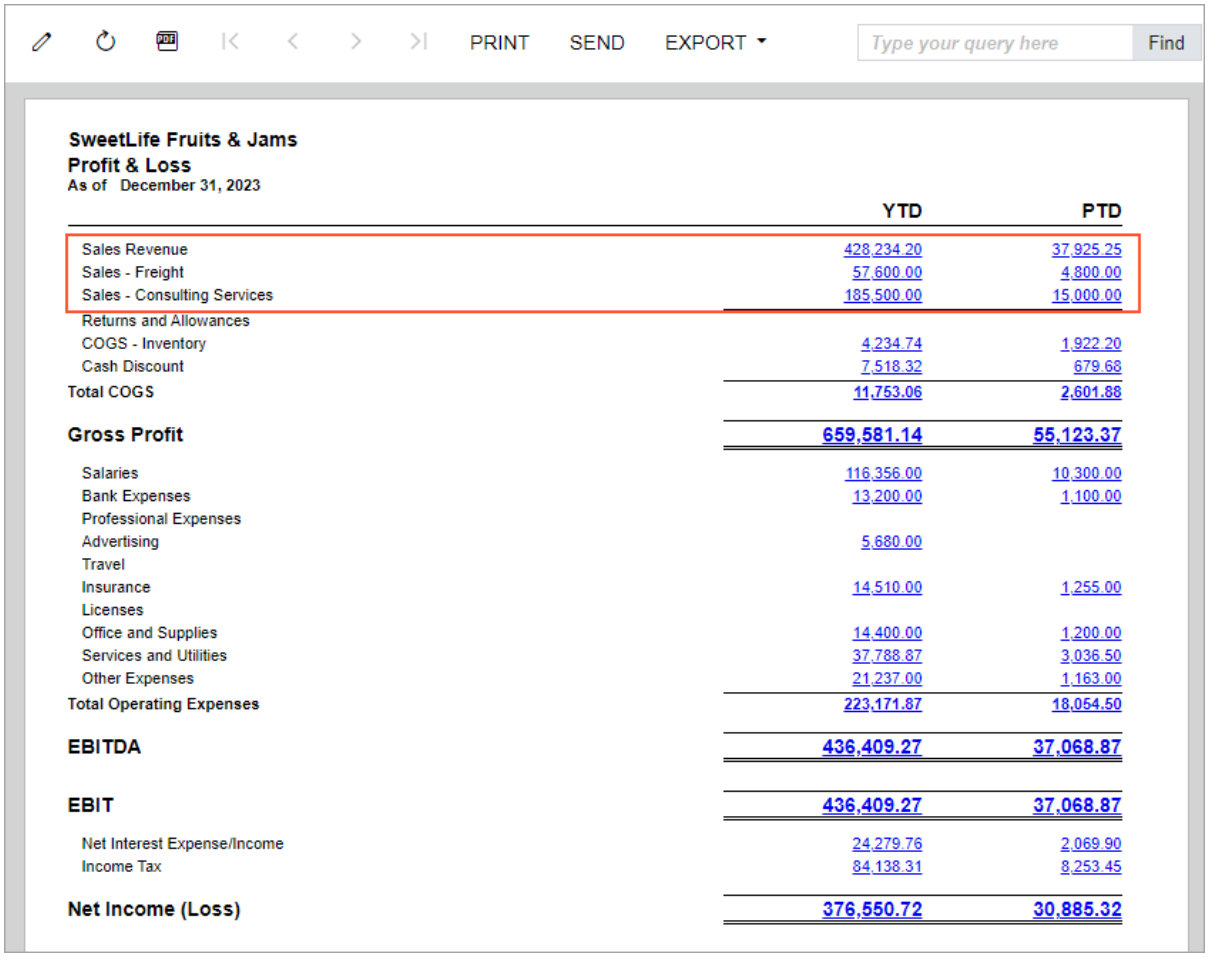


Figure: Sales data without the total sales amount

Step 2: Adding a Row with the Subtotal

To add a row with the subtotal to the row set, do the following:

1. While the *F350RD3* report definition is still open on the *Report Definitions* (CS206000) form, in the **Report Definition** section, click the Edit button to the right of the **Row Set** box.

   The *Row Sets* (CS206010) form opens with the *F350RS3* row set selected.

2. Add a new row with the following settings:

   - **Code**: `0102`
   - **Description**: `Total Sales`
   - **Type**: *Total*
   - **Value**: `=@0100`

   The *0100* row has been expanded to display individual amounts of the accounts of the *SALES* account class. With these settings, the *0102* row will display the total of these amounts.

3. On the form toolbar, click **Save**.

Step 3: Formatting the Rows

To format the rows with *Total Sales* and *Net Income*, while you are still on the *Row Sets* (CS206010) form with the *F350RS3* row set selected, do the following:

1. In the row with the *0102* code, double-click the cell of the **Style** attribute, and click the magnifier button.
2. In the Style dialog box, which opens, specify the following settings:
   - **Backgr. Color**: *Yellow*
   - **Bold**: Selected
3. Click **OK** to close the dialog box.
4. On the form toolbar, click **Save**.
5. Click any cell of the row with the *0102* code, and click **Copy Style** on the table toolbar.
6. Click any cell of the row with the *0480* code, and click **Paste Style** on the table toolbar.

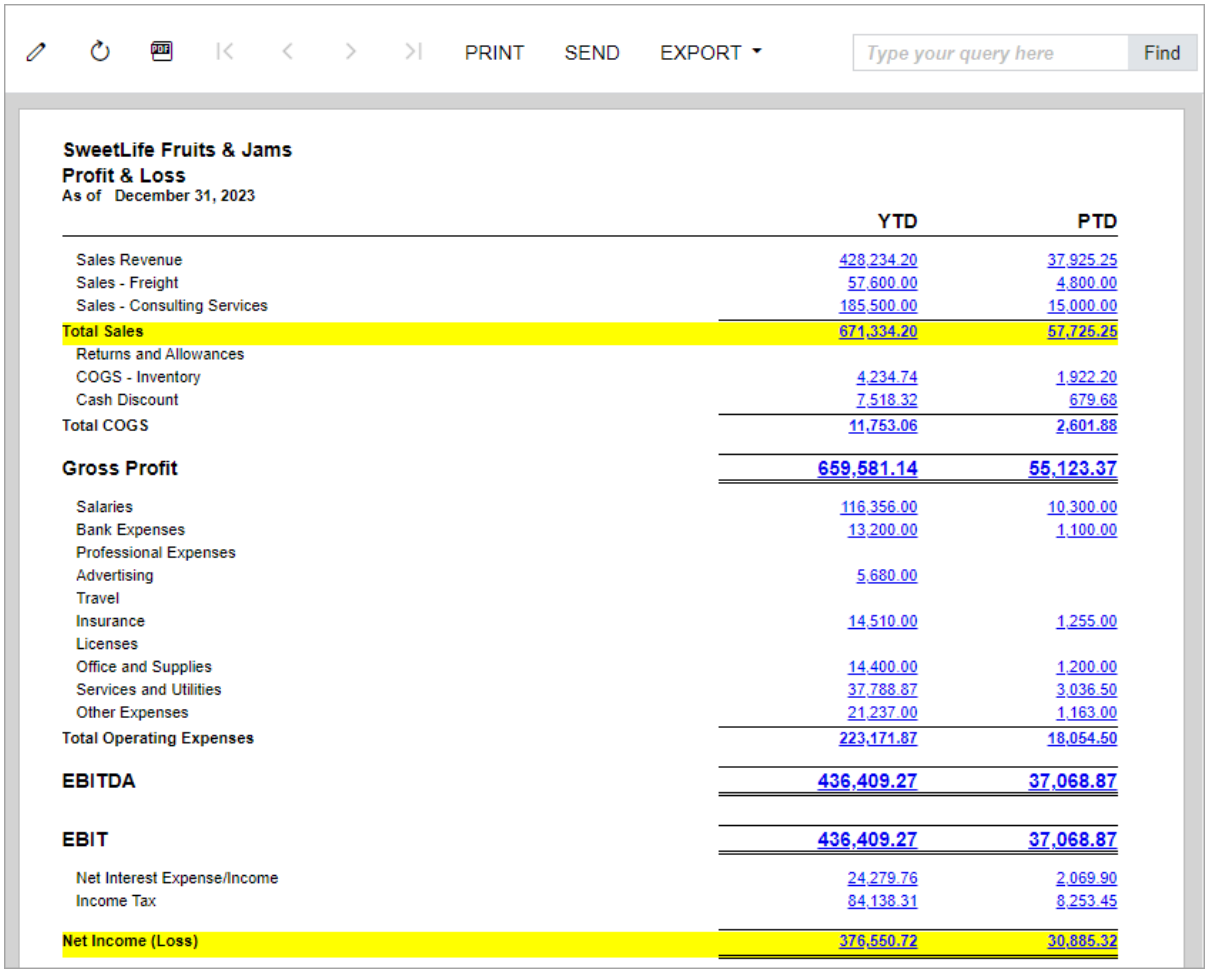
   The style that you defined for row 0102 will be applied to row 0480.
7. On the form toolbar, click **Save**.

Step 4: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD3* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the sales subtotal row is now displayed and that the two rows are highlighted in yellow (as shown in the following screenshot).



	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Freight	57,600.00	4,800.00
Sales - Consulting Services	185,500.00	15,000.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: The new Total Sales line

Row Sets: Sorting Rows

The Order of Report Rows

The order of the rows in a row set depends on the values you specify in the **Code** column of the table on the *Row Sets* (CS206010) form. The lower the code of a row, the higher the row will be listed in the row set. If you do not specify any sorting conditions for the row set, the rows will be displayed in the report in the order in which they are listed in the row set.

Sorting Report Rows

You can sort a group of rows of the report in ascending or descending order by adding a row of the *Sort* type. The row of this type contains the sorting conditions for some report rows in the **Value** column. This row is not displayed in the report; instead, it affects the order of the data displayed in the report. The location of the rows of the *Sort* type in the row set does not affect the sorting conditions.

You can sort orders in ascending order by using the `SORT()` function. The first two attributes of the function define the range of rows to be sorted, and the third attribute determines the column of the column set by which the values should be sorted.

For example, the `SORT('300','315','B')` expression added as the **Value** attribute of a row of the *Sort* type will sort rows with codes from *300* to *315* in ascending order based on the value these rows have in column B.

To sort orders in descending order, you use the `SORTD()` function. The attributes of this function are the same as the attributes of the `SORT()` function.

> You should keep all rows with sorting conditions together in a particular row set. The location of rows with sorting conditions in the row set does not affect sorting conditions. For easier maintenance of row sets, we recommend that you add the rows with sorting conditions to the end of each row set and keep all conditions listed together.

For information on using formulas, see *Formulas: General Information*.

Reserving Codes for Future Use

When you are creating a report, you should reserve row codes—that is, omit a particular number or a range of numbers after each row code. For example, if the code of the first row of your row set is *0010*, omit the numbers *0011* through *0019*, and add the next row with the *0020* code. Similarly, you should then omit the numbers *0021* through *0029* and use the *0030* code for the next row; you then continue using multiples of 10 as the codes.

The order of rows in a row set depends on their codes. If you do not specify any sorting conditions for the row set, the rows are displayed in the report in the order in which they are listed in the row set. Reserving row codes gives you the ability to add new rows between existing ones. For example, if you decide to expand a row of an existing report, you will be able to add a subtotal after this row.

You can renumber all rows of a row set if the code of the topmost row is an integer value. To renumber all rows, click the **Renumber** button on the table toolbar. In the dialog box that opens, specify the number to be omitted after each row code in the **Numbering Step** box, and specify the length of codes in the **Length** box. When you confirm renumbering by clicking the **Renumber** button of the dialog box, the system takes the code of the topmost row, corrects its length according to the specified **Length**, and sequentially renumbers each next row by adding the specified **Numbering Step** to the previous row. The codes that are used in the **Linked Row**, the **Base Row**, and the formulas of the row set will be changed accordingly.

Row Sets: To Change the Order of Rows

The following activity will walk you through the process of reordering rows in a report.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. The chief accountant has asked you to update the lines displayed in the existing Profit & Loss report so that the lines with year-to-date sales amounts are displayed in descending order.

Configuration Overview

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

- On the *Row Sets* (CS206010) form, the *F350RS4* row set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD4* report definition has been created with *F350RS4* selected as its row set.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.

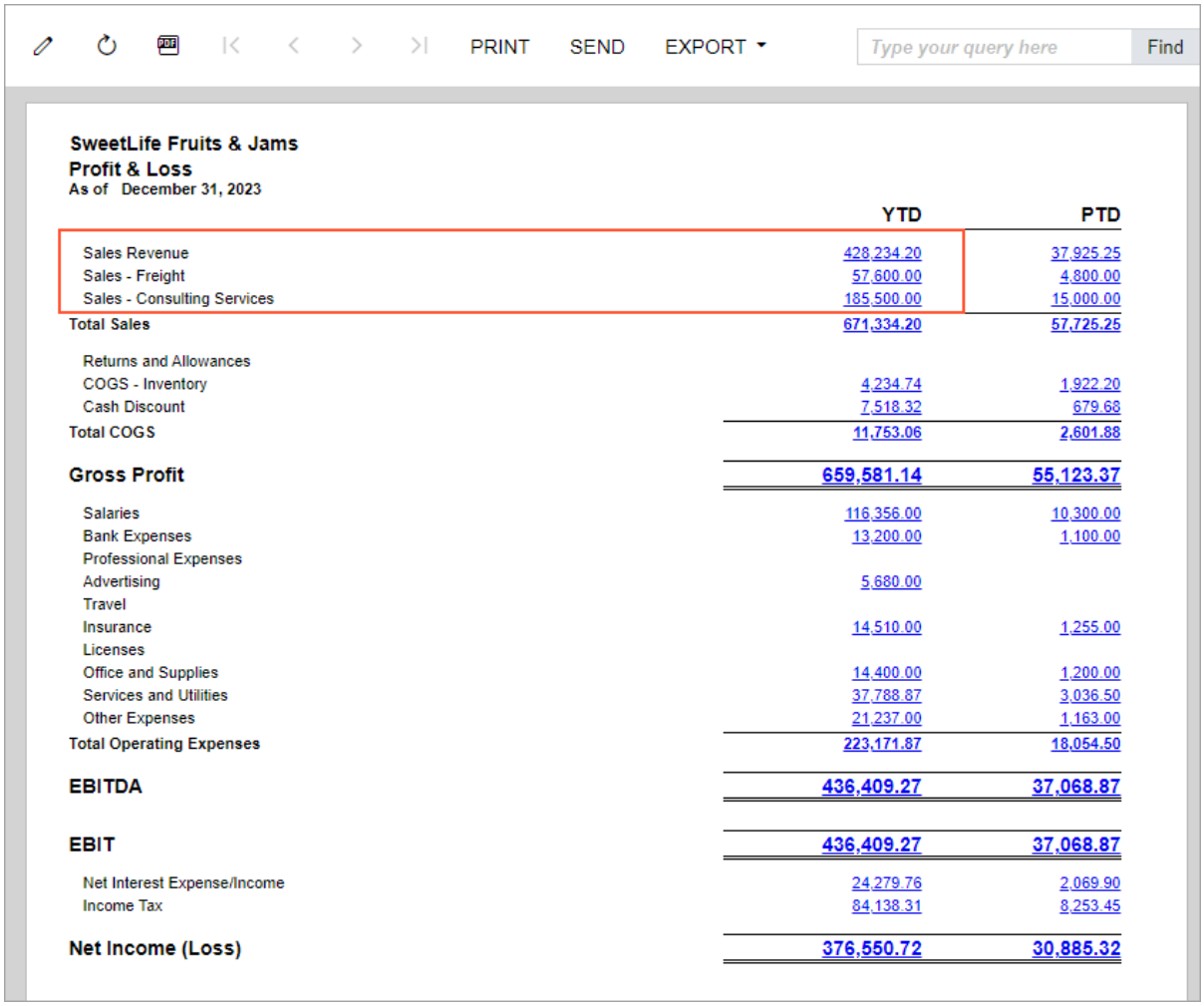
2. On the *Row Sets* (CS206010) form, modify the row set to display the lines with sales amounts in descending order.
3. On the *Report Definitions* form, review the updated Profit & Loss report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD4* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report opens in a pop-up window. Notice that three rows with sales data are displayed in the report. These rows are not ordered by the amounts in the **YTD** column.
5. Close the pop-up window.



	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Freight	57,600.00	4,800.00
Sales - Consulting Services	185,500.00	15,000.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: Sales data with unsorted sales amounts

Step 2: Sorting the Rows with Sales Amounts

To sort the sales rows, while the *F350RD4* report definition is still open on the *Report Definitions* (CS206000) form, do the following:

1. In the **Report Definition** section, click the Edit button to the right of the **Row Set** box.

   The *Row Sets* (CS206010) form opens with the *F350RS4* row set selected.
2. Add a new row with the following attributes:
   - **Code**: `0900`
   - **Description**: `Sorting Sales`
   - **Type**: *Sort*
   - **Value**: `=SORTD('0100','0100','B')`

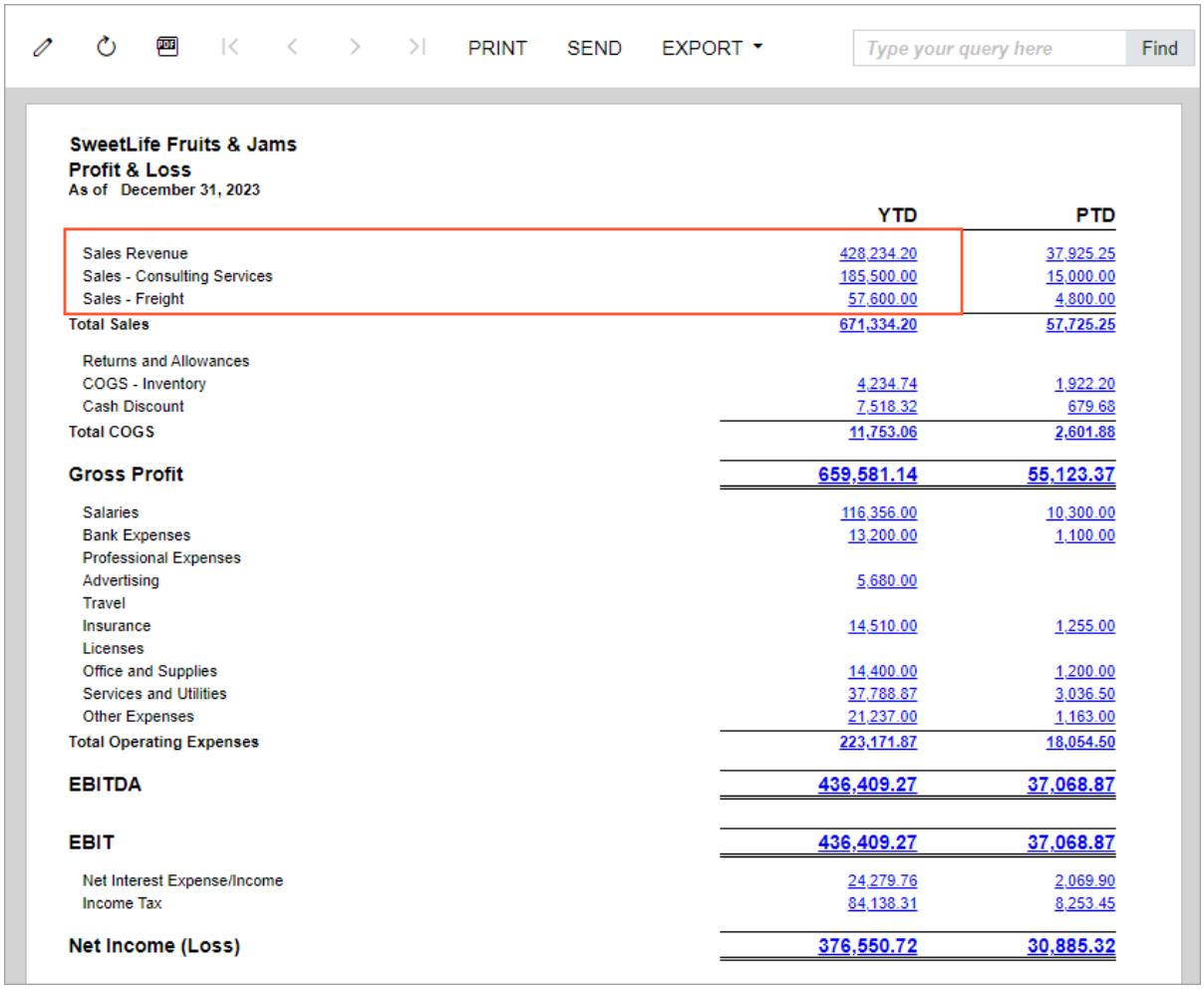
     For the *SORTD* function, you specify the start and the end of the row range to which you need to apply sorting (in this case, you apply sorting to only one row, *0100*), and the column by whose values you need to sort the rows (column B).
3. On the form toolbar, click **Save**.

Step 3: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD4* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report opens in a pop-up window. Notice that the sales rows are now sorted in descending order (as shown in the following screenshot).



SweetLife Fruits & Jams
Profit & Loss
As of December 31, 2023

	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Consulting Services	185,500.00	15,000.00
Sales - Freight	57,600.00	4,800.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
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Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
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EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: Lines with sales amounts sorted in descending order

Lesson 4: Working with Report Columns

Column Sets: General Information

Column sets are used to define the columns to be used in a specific report or in a variety of reports having a common layout. Every report can be associated with only one column set. When different reports use the same columns, you can create a single column set for them.

You specify what columns will be displayed in the analytical report by creating a new column set, adding columns to it, and specifying this column set for the report on the *Report Definitions* (CS206000) form.

Learning Objectives

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

- Add a column with row descriptions
- Add a column displaying values extracted from the general ledger
- Add a column displaying calculated values

Applicable Scenarios

You may find the information in this lesson useful if you are responsible for supporting analytical reports in Acumatica ERP and need to add or modify columns in a report.

Column Set Properties

Each column in a column set has its properties displayed in the table of the *Column Sets* (CS206020) form. The properties of each column specify how the data is selected, calculated, formatted, and displayed in the particular column of a printable version of an analytical report.

Column Sets: Column Attributes

The *Column Sets* (CS206020) form, on which you define a column set, consists of two tables (shown in the following screenshot).

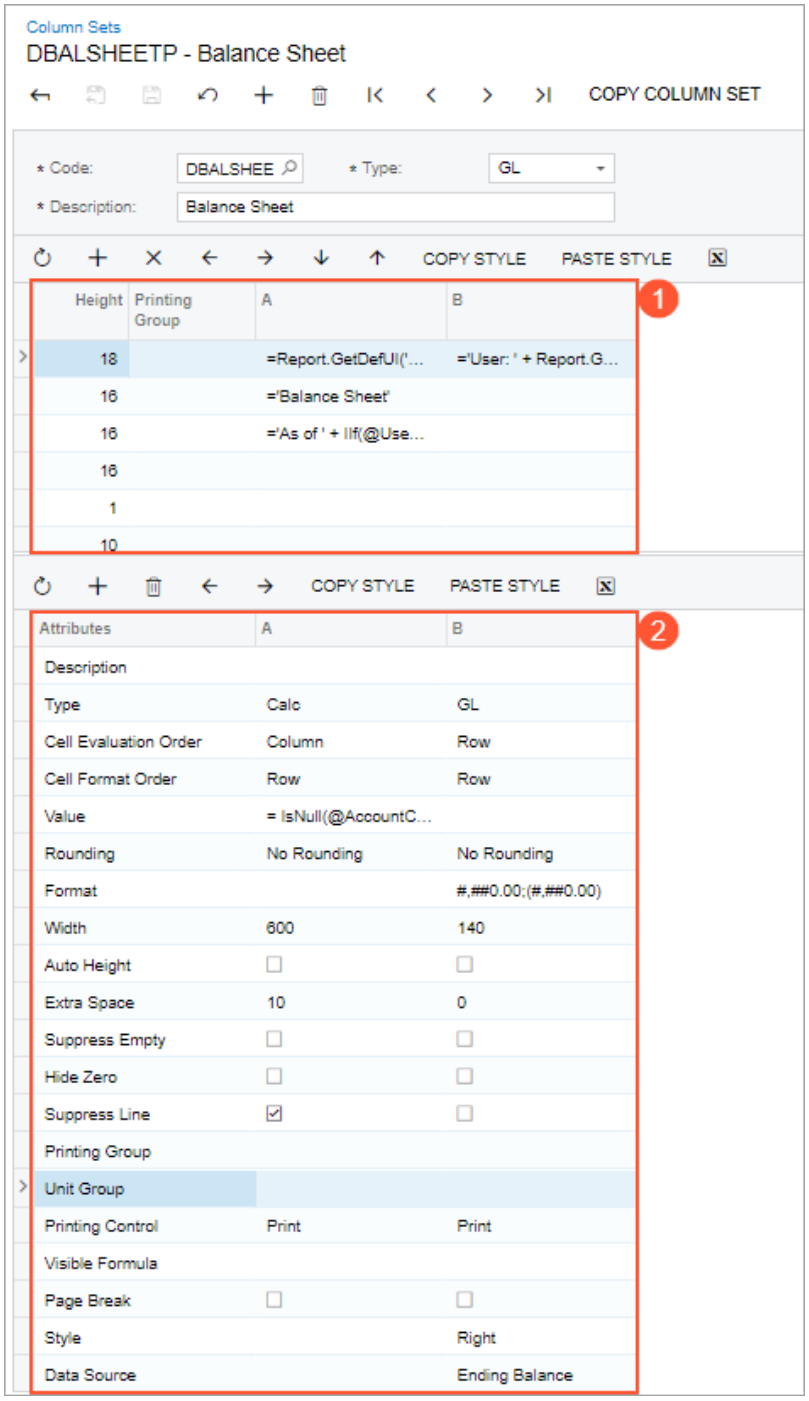


Figure: A column set on the Column Sets form

In the upper table of the form (Item 1 in the screenshot above), you define the report title, the column headers, and all the data that should be displayed on every report page. In the lower table (Item 2), you add the report columns and define column attributes.

You click **New** in the toolbar of the upper table to add a line to the upper table—that is, to the report header. The added line is the bottom line of the upper table. You can select a line of the upper table and move the line up and down by clicking the appropriate arrow buttons on the toolbar of the upper table.

You click **New** in the toolbar of the lower table to add a column to the far right of both the upper and the lower tables. In each table, you can select a column and move the column to the left and to the right by clicking the

appropriate arrow buttons on the table toolbar. The column is moved in one table and not in the other table of the form.

You can also move a column in either table by dragging its header to the needed position.

The Code and Description of a Column

The system assigns a letter code (**A**, **B**, **C**, and so on) to every column that you add to the column set. The added columns are named as they would be named in an Excel file, and the letter assigned to the column cannot be changed later.

The system assigns a letter code within the **A** - **ZZZ** range.

In the **Description** row, you can add a description of the contents of each column. The data from the **Description** row is not displayed in the analytical report; instead, you should add column headers in the upper table of the *Column Sets* (CS206020) form.

Column Types

The **Type** attribute of the columns shown in the lower table on the *Column Sets* (CS206020) form specifies what data will be displayed in a particular column. You can select one of the following types:

- *GL*: A column of this type contains the data of the row set that also satisfies the filtering conditions specified in the **Data Source** dialog box for the column. The filtering conditions of rows of the *GL* type and the filtering conditions of the column are applied simultaneously.
- *Calc*: A column of this type is used to calculate values with the formula that is specified in the **Value** attribute.
- *Descr*: A column of this type displays the text of the **Description** attribute of the report row set.

You can also display the row description by using a formula with the `@RowText` parameter in a column of the *Calc* type as follows: `=@RowText`. For information about parameters, see *Formulas: Parameters*.

The Value of a Column

By specifying the **Value** attribute of a column in a column set, you define a certain value to be displayed in the report column. The values in the columns can be predefined parameters or computed values that the system calculates by using formulas. Values are frequently used to insert sums and totals into the report columns.

The formulas used to calculate the data in the report columns usually include references to other columns or particular cells in the report. The expressions defined for the report columns can also use parameter queries to select the values from the data source and insert them in the column cells.

When you use the **Value** attribute to display predefined or calculated values in the column, you must ensure that the appropriate **Type** attribute is selected for this column; otherwise, the formula and value calculation rules will be ignored.

Cell Evaluation Order

Sometimes both the row and the column defining a cell may contain formulas as their values. In this case, you must define the **Cell Evaluation Order** attribute of the column, which determines the source of the formula that will be used to calculate the cell's value. You can select either of the following options:

- *Row*: The formula of the row will be used to calculate the value.

- *Column*: The formula from the column will be used to calculate the value.

> ⚠ You cannot set **Cell Evaluation Order** to *Column* for columns of the *GL* type.

Column Sets: To Add a Column with Row Descriptions

The following activity will walk you through the process of adding a column with row descriptions.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. You are starting to build a custom Profit & Loss report. You have already prepared the row set with all rows that need to be included in the report, and are now working on the report columns. First, you need to add a column with the row descriptions.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS5* column set has been created.
- On the *Row Sets* (CS206010) form, the *F350RS5* row set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD5* report definition has been created with the *F350CS5* column set and the *F350RS5* row set specified.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.
2. On the *Row Sets* (CS206010) form, review the rows that have been added to the row set.
3. On the *Column Sets* (CS206020) form, modify the column set to display a column with the descriptions of the report rows.
4. On the *Report Definitions* form, review the updated Profit & Loss report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD5* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report opens in a pop-up window. Notice that the report is currently empty.
5. Close the pop-up window.

Step 2: Reviewing the Row Set

To review the row set, do the following:

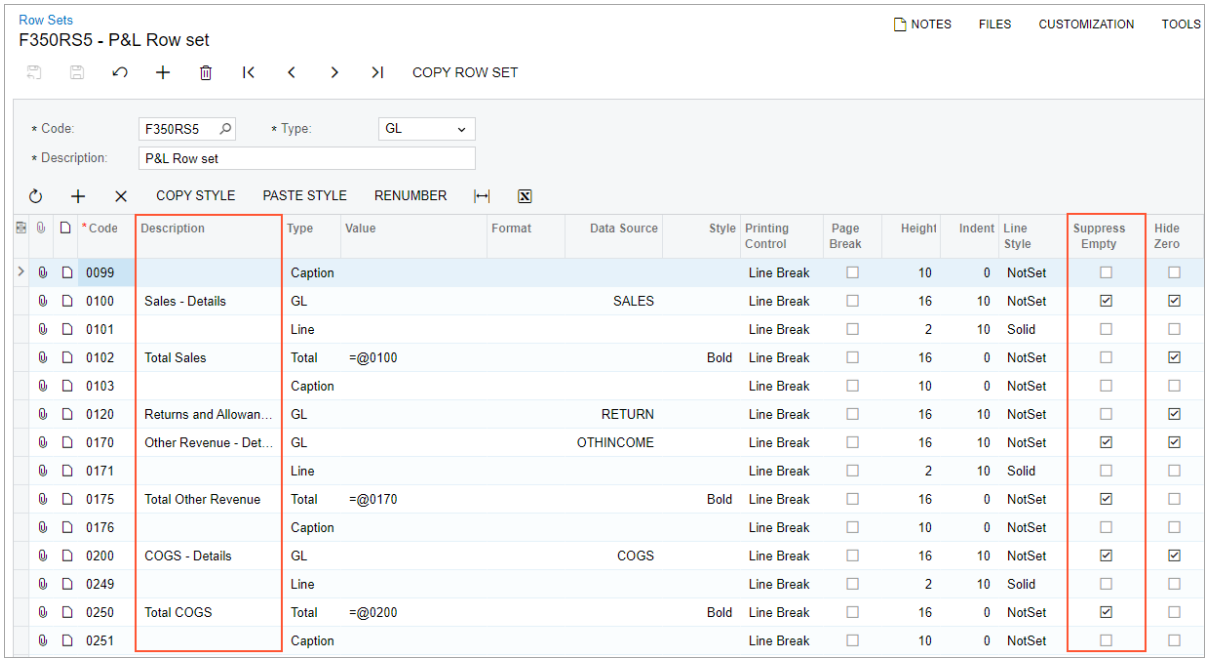
1. While you are still viewing the *F350RD5* report definition on the *Report Definitions* (CS206000) form, in the **Report Definition** section, click the Edit button to the right of the **Row Set** box.

   The *Row Sets* (CS206010) form opens with the *F350RS5* row set selected.

2. Review the rows added to the row set.

   Notice the descriptions added to the **Description** column of the form. Also notice that the **Suppress Empty** check box is selected for some of the rows. (See the following screenshot.)

3. Close the pop-up window.



* Code	Description	Type	Value	Format	Data Source	Style	Printing Control	Page Break	Height	Indent	Line Style	Suppress Empty	Hide Zero
0099		Caption					Line Break	☐	10	0	NotSet	☐	☐
0100	Sales - Details	GL			SALES		Line Break	☐	16	10	NotSet	☑	☑
0101		Line					Line Break	☐	2	10	Solid	☐	☐
0102	Total Sales	Total	=@0100			Bold	Line Break	☐	16	0	NotSet	☐	☑
0103		Caption					Line Break	☐	10	0	NotSet	☐	☐
0120	Returns and Allowan…	GL			RETURN		Line Break	☐	16	10	NotSet	☐	☑
0170	Other Revenue - Det…	GL			OTHINCOME		Line Break	☐	16	10	NotSet	☑	☑
0171		Line					Line Break	☐	2	10	Solid	☐	☐
0175	Total Other Revenue	Total	=@0170			Bold	Line Break	☐	16	0	NotSet	☑	☐
0176		Caption					Line Break	☐	10	0	NotSet	☐	☐
0200	COGS - Details	GL			COGS		Line Break	☐	16	10	NotSet	☑	☑
0249		Line					Line Break	☐	2	10	Solid	☐	☐
0250	Total COGS	Total	=@0200			Bold	Line Break	☐	16	0	NotSet	☑	☐
0251		Caption					Line Break	☐	10	0	NotSet	☐	☐

Figure: Row descriptions in the row set

Step 3: Modifying the Column Set

To update the column set with a report column that will display row descriptions, do the following

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD5* code.
2. In the **Report Definition** section, click the Edit button to the right of the **Column Set** box.

   The *Column Sets* (CS206020) form opens with the *F350CS5* column set selected. Notice that one column, column A, has already been created in the report.

3. In column A, set the **Type** attribute to *Descr*.
4. On the form toolbar, click **Save**.

Step 4: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD5* code.

2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report opens in a pop-up window. Notice that the row descriptions are now displayed in the only column. The report does not display the descriptions of rows for which the **Suppress Empty** check box is selected in the row set.

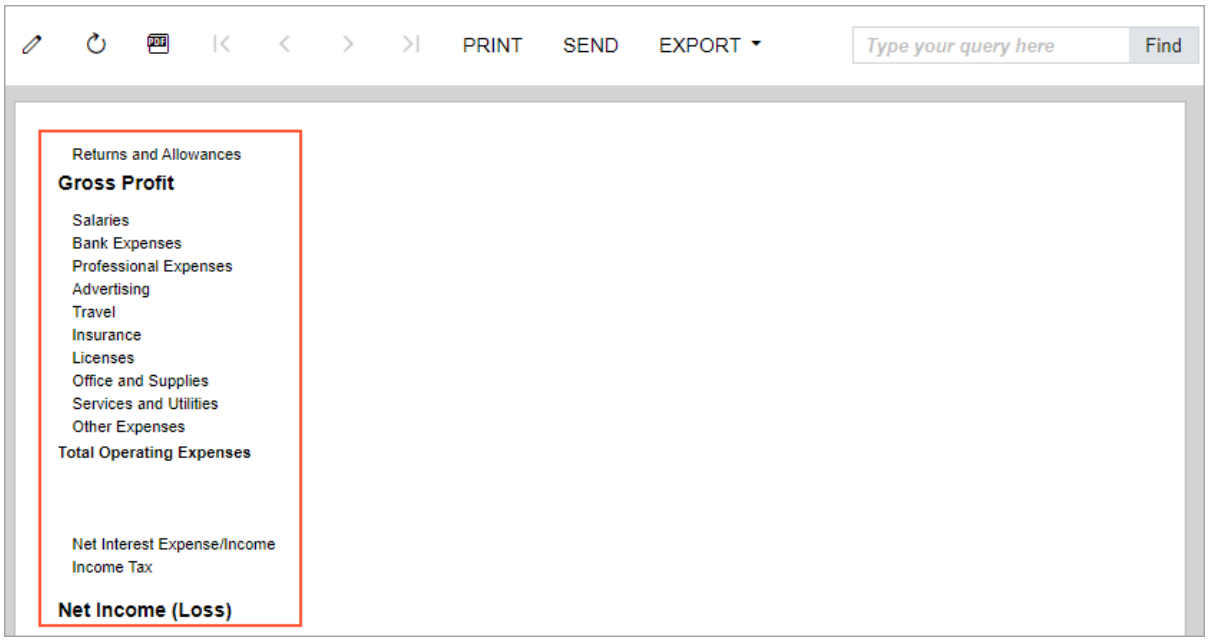


Figure: A column with row descriptions

Column Sets: To Add a Column with PTD Amounts

The following activity will walk you through the process of adding a column with period-to-date (PTD) amounts. The report will show this column in addition to an already-defined column with year-to-date (YTD) amounts.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. You are currently building a custom Profit & Loss report that should contain columns for both YTD amounts and PTD amounts. You have already defined the rows that you need to add to the report and added the column for YTD amounts. Now you need to add a new column for PTD values.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS6* column set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD6* report definition has been created with the *F350CS6* column set specified for it.

Process Overview

In this activity, you will do the following:

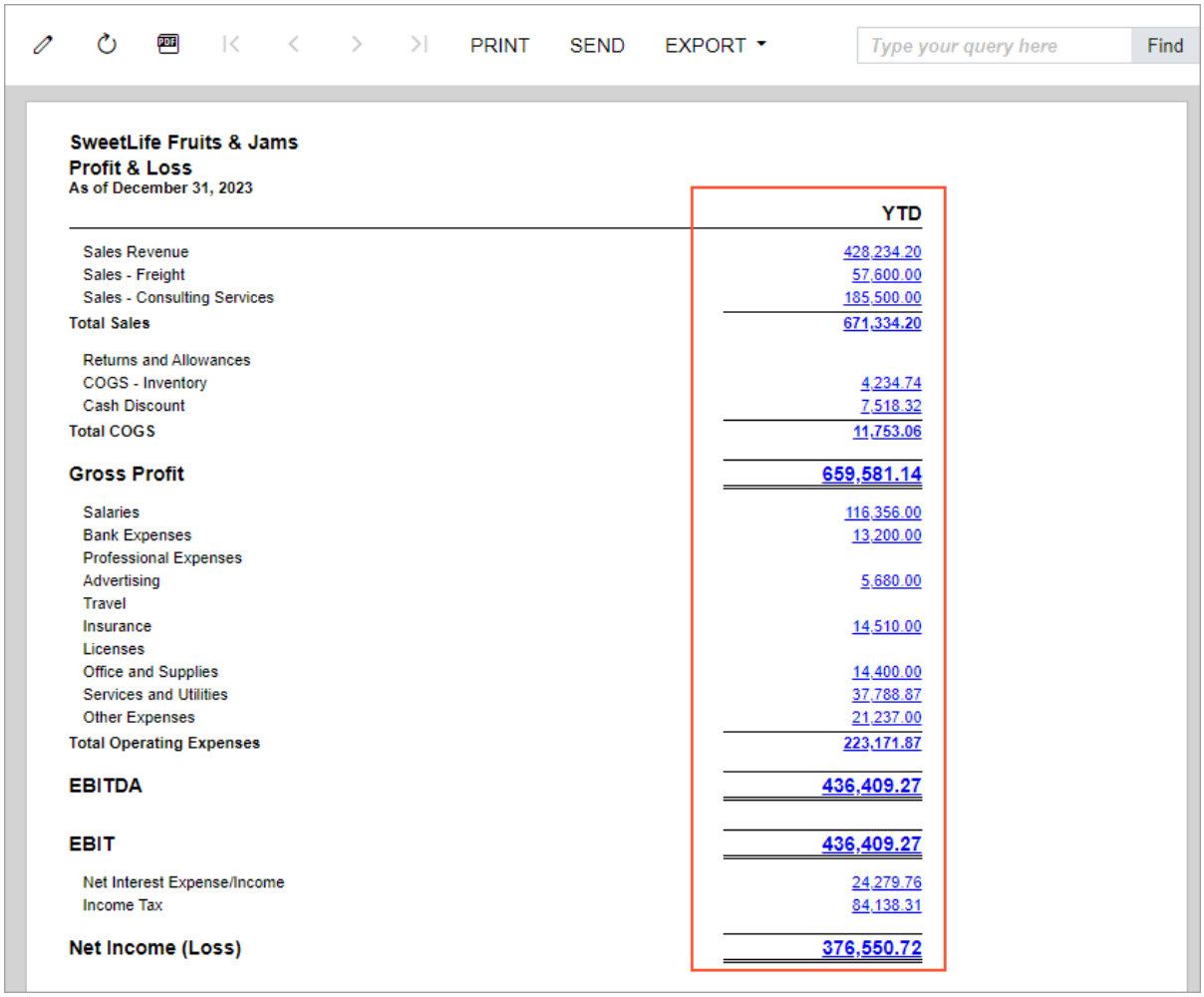
1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.
2. On the *Column Sets* (CS206020) form, modify the column set to add a column with the PTD values.
3. On the *Report Definitions* form, review the updated Profit & Loss report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD6* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the report displays only the column with row descriptions and the column with YTD values (as shown in the following screenshot).



Step 2: Adding a Column with PTD Values

To update the column set with a report column that will display PTD values, do the following

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD6* code.
2. In the **Report Definition** section, click the Edit button to the right of the **Column Set** box.

   The *Column Sets* (CS206020) form opens with the *F350CS6* column set selected.
3. On the table toolbar of the lower table, click **New** to add a column. The added column is the rightmost column of both the upper table and the lower table—that is, column **C**.
4. In the lower table, do the following:
   a. Double-click the **Data Source** attribute in column **C**, and click the magnifier button to open the Data Source dialog box.
   b. In the dialog box, set **Amount Type** to *Turnover*.
   c. Click **OK** to close the dialog box.
5. In the upper table, specify `='PTD'` in the cell in the fourth row of column **C**.
6. Copy the style of the column header of column B as follows:
   a. In the upper table, click the cell in the fourth row of column **B**.
   b. On the table toolbar, click **Copy Style**.

c. Click the cell in the fourth row of column **C**.

d. On the table toolbar, click **Paste Style**.

7. On the form toolbar, click **Save** to save your changes to the column set.

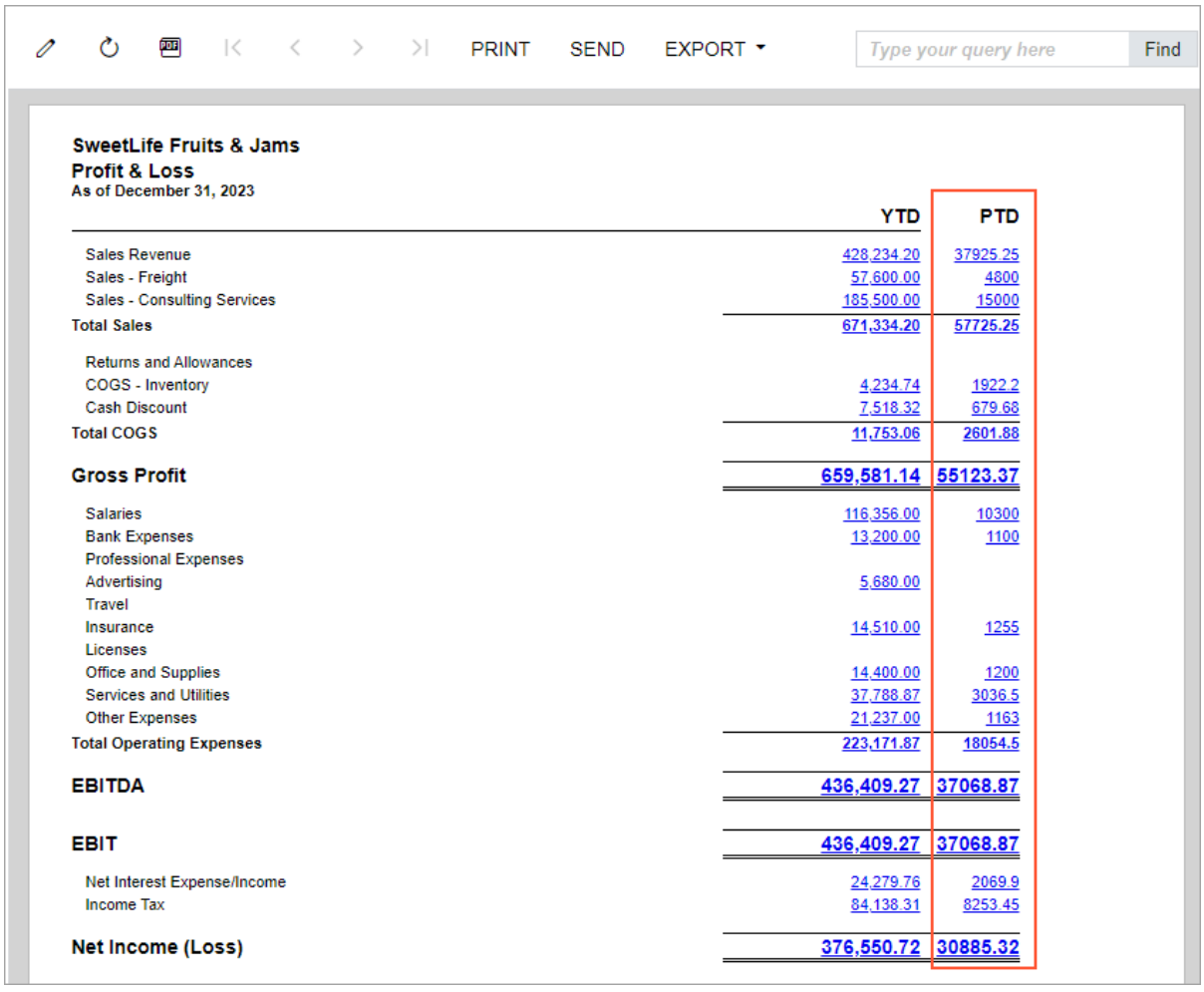
For the purposes of this activity, you do not need to make any other adjustments to the column set.

Step 3: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD6* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the column with PTD values is now displayed in the report.



	YTD	PTD
Sales Revenue	428,234.20	37925.25
Sales - Freight	57,600.00	4800
Sales - Consulting Services	185,500.00	15000
Total Sales	671,334.20	57725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1922.2
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2601.88
Gross Profit	659,581.14	55123.37
Salaries	116,356.00	10300
Bank Expenses	13,200.00	1100
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1255
Licenses		
Office and Supplies	14,400.00	1200
Services and Utilities	37,788.87	3036.5
Other Expenses	21,237.00	1163
Total Operating Expenses	223,171.87	18054.5
EBITDA	436,409.27	37068.87
EBIT	436,409.27	37068.87
Net Interest Expense/Income	24,279.76	2069.9
Income Tax	84,138.31	8253.45
Net Income (Loss)	376,550.72	30885.32

Figure: The column with the PTD values

Column Sets: To Add a Column with a Calculated Value

In this activity, you will add a column with values that are calculated based on data from other columns.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. You are currently building a profit and loss report that compares the YTD and PTD values of the current year with the values from the previous year.

You have already added the columns that show the necessary data for both years. Now you need to add two columns: one showing the change (in percentage) of the YTD values between the current year and the previous year, and the other showing the change (in percentage) of the PTD values between the current year and the previous year.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS7* column set has been created.
- On the *Row Sets* (CS206010) form, the *F350RS7* row set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD7* report definition has been created with the *F350CS7* column set and the *F350RS7* row set specified in this report definition.

Process Overview

In this activity, you will do the following:

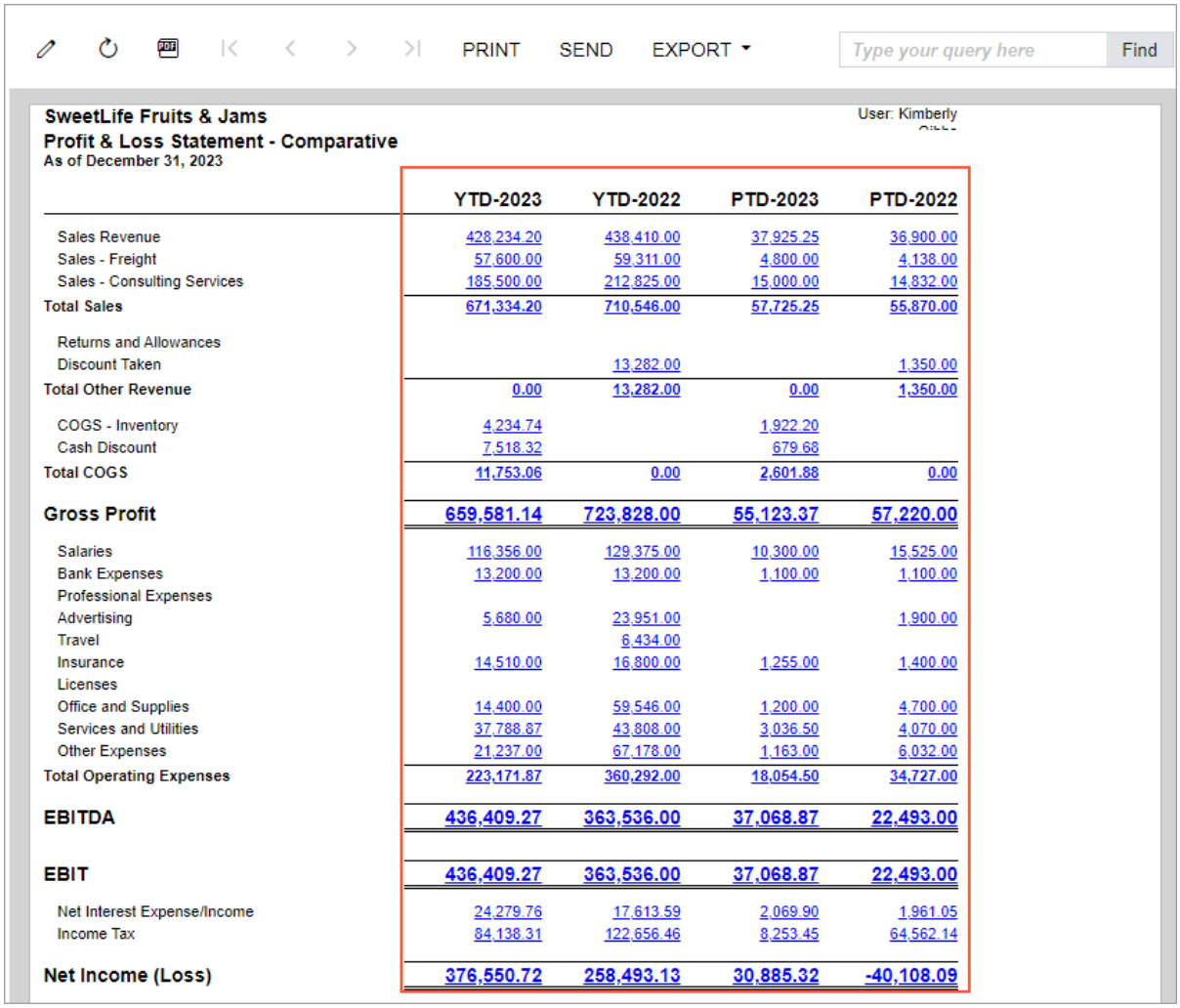
1. On the *Report Definitions* (CS206000) form, review the Profit & Loss - Comparative report.
2. On the *Column Sets* (CS206020) form, modify the column set to add two columns with the percentage values.
3. On the *Report Definitions* form, review the updated Profit & Loss - Comparative report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss - Comparative report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD7* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss - Comparative report opens in a pop-up window. Notice that the report displays four columns: YTD amounts for the current year (which is the year of the financial period selected in the report parameters), YTD amounts for the previous year, PTD amounts for the current year, and PTD amounts for the previous year. (See the following screenshot.)
5. Close the pop-up window.



	YTD-2023	YTD-2022	PTD-2023	PTD-2022
Sales Revenue	428,234.20	438,410.00	37,925.25	36,900.00
Sales - Freight	57,600.00	59,311.00	4,800.00	4,138.00
Sales - Consulting Services	185,500.00	212,825.00	15,000.00	14,832.00
Total Sales	671,334.20	710,546.00	57,725.25	55,870.00
Returns and Allowances				
Discount Taken		13,282.00		1,350.00
Total Other Revenue	0.00	13,282.00	0.00	1,350.00
COGS - Inventory	4,234.74		1,922.20	
Cash Discount	7,518.32		679.68	
Total COGS	11,753.06	0.00	2,601.88	0.00
Gross Profit	659,581.14	723,828.00	55,123.37	57,220.00
Salaries	116,356.00	129,375.00	10,300.00	15,525.00
Bank Expenses	13,200.00	13,200.00	1,100.00	1,100.00
Professional Expenses				
Advertising	5,680.00	23,951.00		1,900.00
Travel		6,434.00		
Insurance	14,510.00	16,800.00	1,255.00	1,400.00
Licenses				
Office and Supplies	14,400.00	59,546.00	1,200.00	4,700.00
Services and Utilities	37,788.87	43,808.00	3,036.50	4,070.00
Other Expenses	21,237.00	67,178.00	1,163.00	6,032.00
Total Operating Expenses	223,171.87	360,292.00	18,054.50	34,727.00
EBITDA	436,409.27	363,536.00	37,068.87	22,493.00
EBIT	436,409.27	363,536.00	37,068.87	22,493.00
Net Interest Expense/Income	24,279.76	17,613.59	2,069.90	1,961.05
Income Tax	84,138.31	122,656.46	8,253.45	64,562.14
Net Income (Loss)	376,550.72	258,493.13	30,885.32	-40,108.09

Figure: The Profit and Loss - Comparative report before changes

Step 2: Adding a Column for the YTD Change Percentage

To update the column set with a report column that will show the YTD change percentage over the previous year, do the following

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD7* code.
2. In the **Report Definition** section, click the Edit button to the right of the **Column Set** box.

   The *Column Sets* (CS206020) form opens with the *F350CS7* column set selected.
3. On the table toolbar of the lower table, click **New** to add a column. The added column is the rightmost column of both the upper table and the lower table—that is, column **F**.
4. In the upper table, click the cell in the first row of column **F**.
5. On the table toolbar of the upper table, click **Shift Left** twice.
6. In the lower table, click the cell in the first row of column **F**.
7. On the table toolbar of the lower table, click **Shift Left** twice.

   The column that you added to the report is now column **D** in both the upper table and the lower table. Notice that you have shifted the lower and upper parts of the column separately.
8. Specify the following attributes for column **D** in the lower table:

- **Type**: *Calc*
- **Cell Evaluation Order**: *Column*
- **Value**: `=(B-C)/B`
- **Format**: `#,##0%`
- **Width**: `60`
- **Hide Zero**: Selected

With the format specifier you have entered in the **Format** attribute, the numerical value will be rounded to the nearest whole number and formatted as a percentage, with a comma used as the thousand separator.

> You should use uppercase letters to specify columns in formulas, such as *A*, *B*, or *C*.

9. Double-click the **Style** attribute of column **D** and then click the magnifier button to open the Style dialog box.
10. In the dialog box, in the **Text Align** box, select *Right*.
11. Click **OK** to close the dialog box.
12. On the form toolbar, click **Save** to save your changes to the column set.

Step 3: Adding a Column for the PTD Change Percentage

To add a column for the YTD change percentage over the previous year, while you are still viewing the *Column Sets* (CS206020) form with the *F350CS7* column set selected, do the following

1. On the table toolbar of the lower table, click **New** to add a column. The added column is the rightmost column of both the upper table and the lower table—that is, column **G**.
2. Update the attributes of column **G** in the lower table as follows:
   - **Type**: *Calc*
   - **Cell Evaluation Order**: *Column*
   - **Value**: `=(E-F)/E`
   - **Format**: `#,##0%`
   - **Width**: `60`
   - **Hide Zero**: Selected
3. Double-click the **Style** attribute of column **G** and then click the magnifier button to open the Style dialog box.
4. In the dialog box, in the **Text Align** box, select *Right*.
5. Click **OK** to close the dialog box.
6. On the form toolbar, click **Save** to save your changes to the column set.

Step 4: Adding the Column Headers

To add the headers to the new columns, while you are still viewing the *Column Sets* (CS206020) form with the *F350CS7* column set selected, do the following:

1. In the upper table, click the cell in the fifth row of column **D**.
2. Click the magnifier button to open the Formula Editor.
3. In the lower pane of the Formula Editor, enter `='%'`.
4. Click **OK** to close the Formula Editor.
5. In the upper table, double-click the cell in the fifth row of column **G** and type `='%'`.

You have defined the column headers to display the % symbol.

6. On the form toolbar, click **Save**.

Step 5: Adjusting the Style of the Column Headers

To copy the style of the existing columns and apply it to the new columns, while you are still viewing the *Column Sets* (CS206020) form with the *F350CS7* column set selected, do the following:

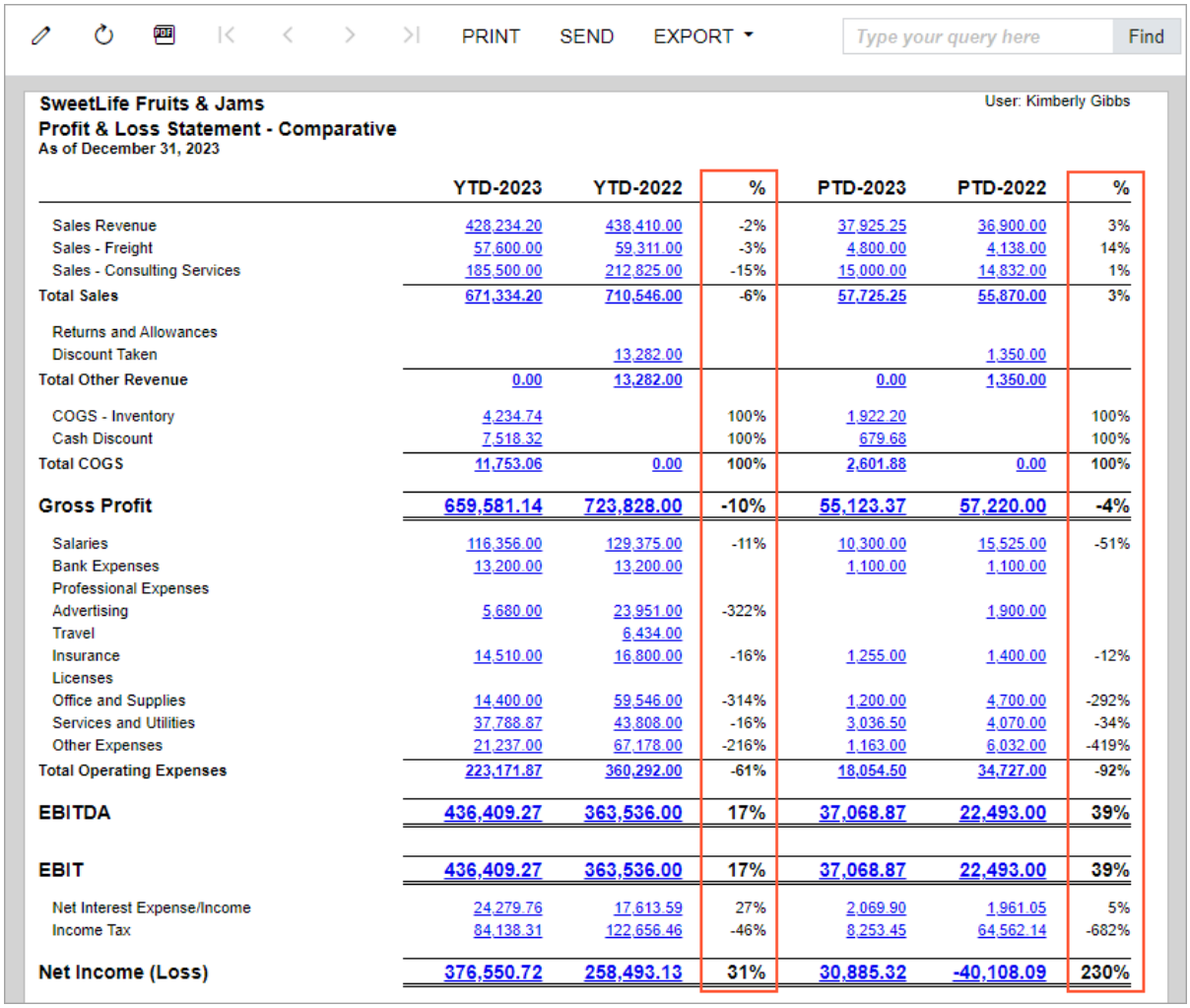
1. In the upper table, click the cell in the fifth row of column **C**.
2. On the table toolbar, click **Copy Style**.
3. Click the cell in the fifth row of column **D**.
4. On the table toolbar, click **Paste Style**.
5. Click the cell in the fifth row of column **G**.
6. On the table toolbar, click **Paste Style**.
7. Copy the style of the sixth row of column **C** to columns **D** and **G**.
8. On the form toolbar, click **Save**.

Step 6: Reviewing the Updated Report

To review the updated Profit & Loss - Comparative report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD7* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss - Comparative report opens in a pop-up window. Notice that the report now displays two percentage columns.



SweetLife Fruits & Jams
Profit & Loss Statement - Comparative
As of December 31, 2023

User: Kimberly Gibbs

	YTD-2023	YTD-2022	%	PTD-2023	PTD-2022	%
Sales Revenue	428,234.20	438,410.00	-2%	37,925.25	36,900.00	3%
Sales - Freight	57,600.00	59,311.00	-3%	4,800.00	4,138.00	14%
Sales - Consulting Services	185,500.00	212,825.00	-15%	15,000.00	14,832.00	1%
Total Sales	671,334.20	710,546.00	-6%	57,725.25	55,870.00	3%
Returns and Allowances						
Discount Taken		13,282.00			1,350.00	
Total Other Revenue	0.00	13,282.00		0.00	1,350.00	
COGS - Inventory	4,234.74		100%	1,922.20		100%
Cash Discount	7,518.32		100%	679.68		100%
Total COGS	11,753.06	0.00	100%	2,601.88	0.00	100%
Gross Profit	659,581.14	723,828.00	-10%	55,123.37	57,220.00	-4%
Salaries	116,356.00	129,375.00	-11%	10,300.00	15,525.00	-51%
Bank Expenses	13,200.00	13,200.00		1,100.00	1,100.00	
Professional Expenses						
Advertising	5,680.00	23,951.00	-322%		1,900.00	
Travel		6,434.00				
Insurance	14,510.00	16,800.00	-16%	1,255.00	1,400.00	-12%
Licenses						
Office and Supplies	14,400.00	59,546.00	-314%	1,200.00	4,700.00	-292%
Services and Utilities	37,788.87	43,808.00	-16%	3,036.50	4,070.00	-34%
Other Expenses	21,237.00	67,178.00	-216%	1,163.00	6,032.00	-419%
Total Operating Expenses	223,171.87	360,292.00	-61%	18,054.50	34,727.00	-92%
EBITDA	436,409.27	363,536.00	17%	37,068.87	22,493.00	39%
EBIT	436,409.27	363,536.00	17%	37,068.87	22,493.00	39%
Net Interest Expense/Income	24,279.76	17,613.59	27%	2,069.90	1,961.05	5%
Income Tax	84,138.31	122,656.46	-46%	8,253.45	64,562.14	-682%
Net Income (Loss)	376,550.72	258,493.13	31%	30,885.32	-40,108.09	230%

Figure: The updated Profit and Loss - Comparative report

Column Sets: To Add Budget Performance Columns

In this activity, you will build a report that compares budgeted and actual amounts.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. The company's management has requested a report that will compare the budget for the 2023 financial year with the actual amounts for this financial year. You have already added a column with the actual values to the column set. Now you need to add a column with the budgeted figures and a column for the budget performance percentage.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS8* column set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD8* report definition has been created with the *F350CS8* column set specified.

- On the *Budgets* (GL302010) form, a budget for the 2023 year has been added to the *BUDGET* budget ledger.
  On the *Release Budgets* (GL505510) form, the uploaded budget has been released.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the P&L Actual vs Budget report, which you will use as a basis of the new report.
2. On the *Column Sets* (CS206020) form, modify the column set to add a column with the budgeted figures and a column with the budget performance percentage.
3. On the *Report Definitions* form, review the new report.

Step 1: Reviewing the Existing Report

To review the existing P&L Actual vs Budget report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD8* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, set **Financial Period** to *12-2023*.
4. On the report form toolbar, click **Run Report**.

   The P&L Actual vs Budget report opens in a pop-up window. Notice that the report now contains only two columns, one with the row descriptions and the other with the actual amounts for the year 2023.
5. Close the pop-up window.

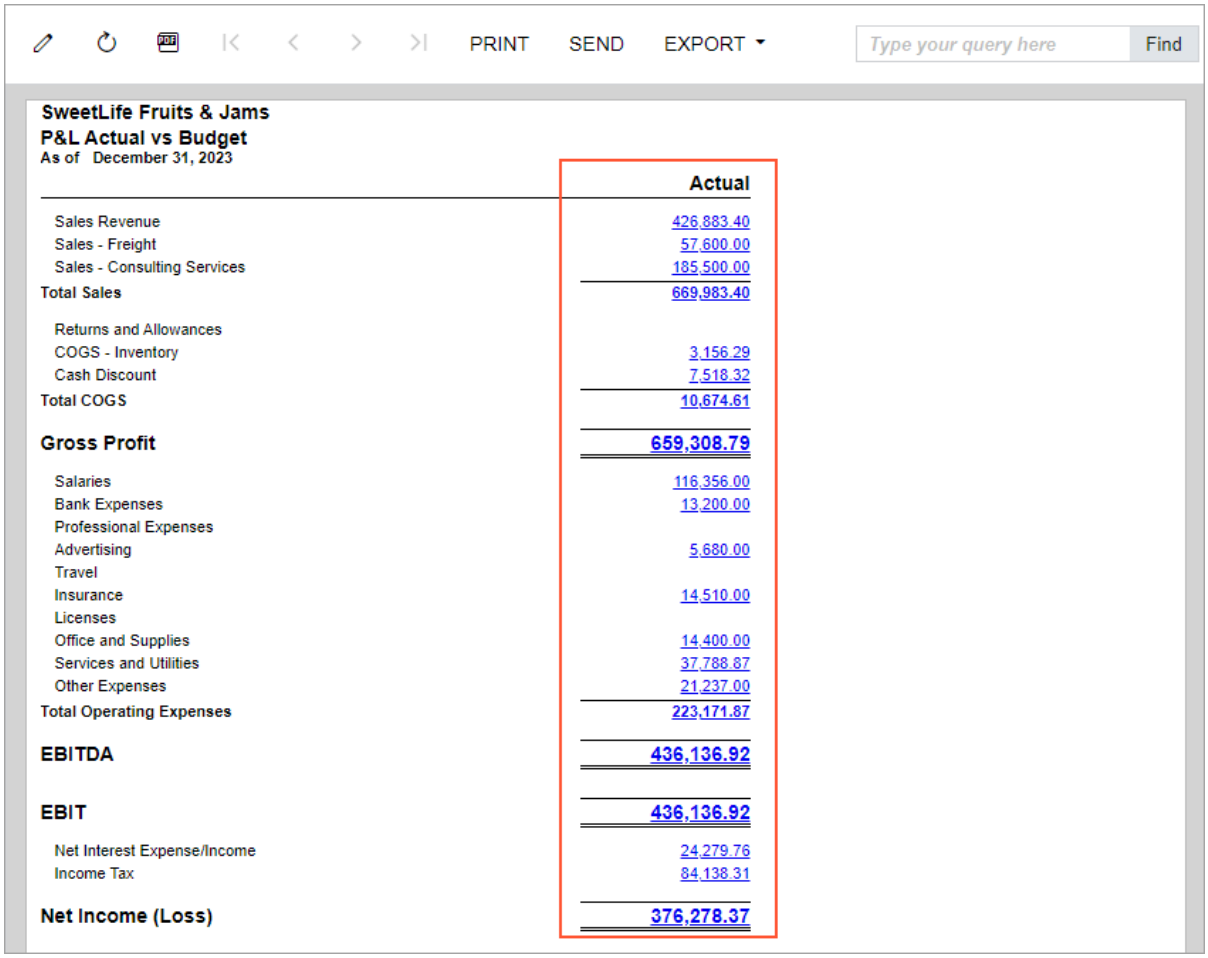


Figure: The P&L Actual vs Budget report before changes

Step 2: Adding a Column for the Budgeted Amounts

To add to the column set a new column that will show the budgeted amounts for 2023, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD8* code.
2. In the **Report Definition** section, click the Edit button to the right of the **Column Set** box.

   The *Column Sets* (CS206020) form opens with the *F350CS8* column set selected.
3. On the table toolbar of the lower table, click **New** to add a column. The added column is the rightmost column of both the upper table and the lower table—that is, column **C**.
4. In the upper table, double-click the cell in the fourth row of column **C**, and enter `='Budget'`.
5. In the lower table, specify the following attributes of column **C**:
   - **Format**: `#,##0.00`
   - **Width**: `120`

   With the format specifier you have entered in the **Format** attribute, the numerical value will be rounded to two decimal places and formatted with a comma used as the thousand separator and a period as the decimal separator. The format ensures that at least one digit is shown before the decimal point and exactly two digits are shown after the decimal point.
6. Double-click the cell of the **Style** attribute of column **C**, and then click the magnifier button.
7. In the Style dialog box, which opens, set **Text Align** to *Right*.

8. Click **OK** to close the Style dialog box.
9. Double-click the cell of the **Data Source** attribute of column **C**, and then click the magnifier button.
10. In the Data Source dialog box, specify the following settings:
    - **Company**: *SWEETLIFE*
    - **Ledger**: *BUDGET*
    - **Start Branch**: *HEADOFFICE*
    - **Amount Type**: *Ending Balance*

    These settings are similar to those of the **Actual** column, except that a budget ledger is specified instead of the actual ledger.
11. Click **OK** to close the Data Source dialog box.
12. On the form toolbar, click **Save**.

Step 3: Adding a Column for the Budget Performance Percentage

To calculate the percentage as a comparison of the values of the actual and budgeted YTD amounts for each report row, while you are still viewing the *Column Sets* (CS206020) form with the *F350CS8* column set selected, do the following:

1. On the table toolbar of the lower table, click **New** to add a column. The added column is column **D**.
2. In the upper table, in the cell in the fourth row of column **D**, type `='% Budget'`
3. In column **D** of the lower table, specify the following attributes:
    - **Type**: *Calc*
    - **Cell Evaluation Order**: *Column*
    - **Value**: `=B/C`
    - **Format**: `#,##0.00%`
    - **Width**: `120`
4. On the form toolbar, click **Save**.

Step 4: Formatting the Column Headers

Now you will improve the display of the headers of the new columns. While you are still viewing the *Column Sets* (CS206020) form with the *F350CS8* column set selected, do the following in the upper table:

1. Click the cell in the fourth row of column **B**, and click **Copy Style** on the table toolbar.
2. Click the cell in the fourth row of column **C**, and click **Paste Style** on the table toolbar.
3. Click the cell in the fourth row of column **D**, and click **Paste Style** on the table toolbar.
4. Click the cell in the fifth row of column **B**, and click **Copy Style** on the table toolbar.
5. Click the cell in the fifth row of column **C**, and click **Paste Style** on the table toolbar.
6. Click the cell in the fifth row of column **D**, and click **Paste Style** on the table toolbar.
7. On the form toolbar, click **Save** to save your changes.

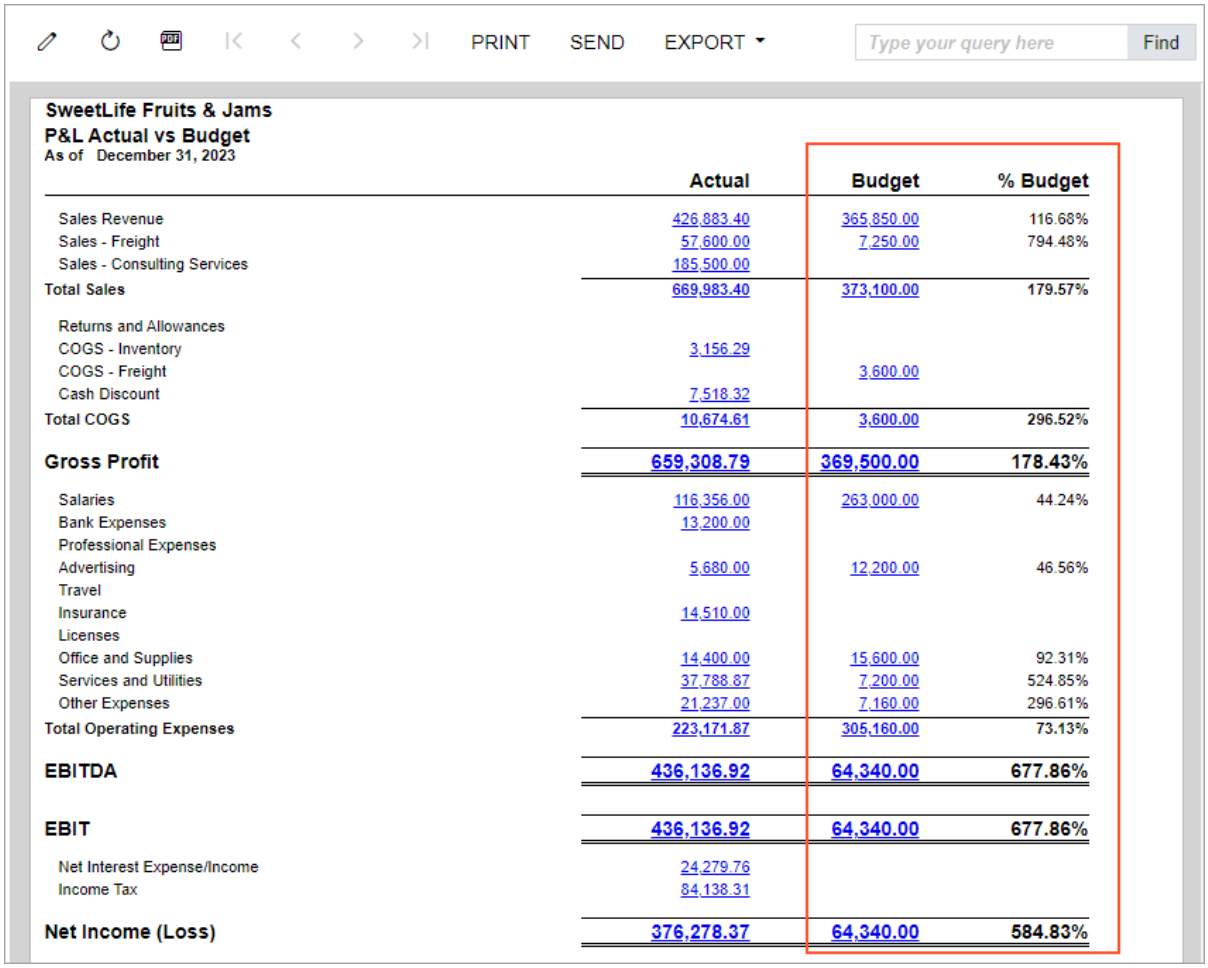
Step 5: Reviewing the Updated Report

To review the updated P&L Actual vs Budget report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD8* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.

3. On the **Report Parameters** tab of the report form, set **Financial Period** to *12-2023*.
4. On the report form toolbar, click **Run Report**.

   The P&L Actual vs Budget report is opened in a pop-up window. Notice that the report now shows additional columns with the budgeted data and the budget performance percentage.



SweetLife Fruits & Jams
P&L Actual vs Budget
As of December 31, 2023

	Actual	Budget	% Budget
Sales Revenue	426,883.40	365,850.00	116.68%
Sales - Freight	57,600.00	7,250.00	794.48%
Sales - Consulting Services	185,500.00		
Total Sales	669,983.40	373,100.00	179.57%
Returns and Allowances			
COGS - Inventory	3,156.29		
COGS - Freight		3,600.00	
Cash Discount	7,518.32		
Total COGS	10,674.61	3,600.00	296.52%
Gross Profit	659,308.79	369,500.00	178.43%
Salaries	116,356.00	263,000.00	44.24%
Bank Expenses	13,200.00		
Professional Expenses			
Advertising	5,680.00	12,200.00	46.56%
Travel			
Insurance	14,510.00		
Licenses			
Office and Supplies	14,400.00	15,600.00	92.31%
Services and Utilities	37,788.87	7,200.00	524.85%
Other Expenses	21,237.00	7,160.00	296.61%
Total Operating Expenses	223,171.87	305,160.00	73.13%
EBITDA	436,136.92	64,340.00	677.86%
EBIT	436,136.92	64,340.00	677.86%
Net Interest Expense/Income	24,279.76		
Income Tax	84,138.31		
Net Income (Loss)	376,278.37	64,340.00	584.83%

Figure: The updated P&L Actual vs Budget report

Column Sets: To Filter Data by Financial Periods

The following activity will walk you through the adding of columns with data pulled from specific financial periods.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. The management of the company requested a report that shows profits and losses from the first period of the selected financial year to the last period of the selected financial year, grouped by quarters. In SweetLife's system, financial periods have been configured to match the months of a year.

You need to modify the column set of an existing Profit & Loss report to show the account balances at the end of the previous financial year. You will also add four columns to display the turnover of each quarter of the selected financial year, and add a column to show the account balances at the end of the selected financial year.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS10* column set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD10* report definition has been created with the *F350CS10* column set.

Process Overview

In this activity, you will do the following:

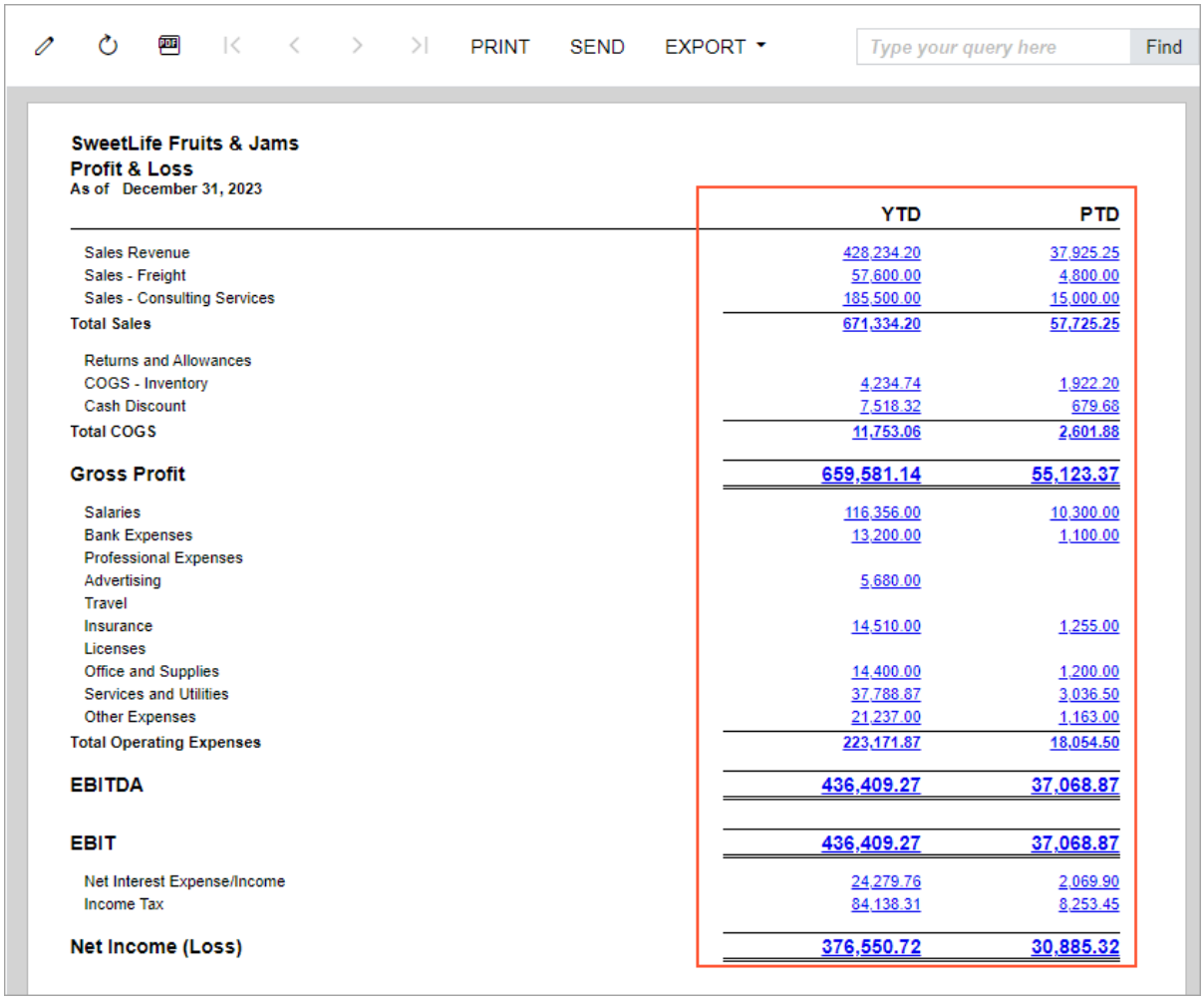
1. On the *Report Definitions* (CS206000) form, review the existing version of the report.
2. On the *Column Sets* (CS206020) form, change the *YTD* column to show the account balances at the end of the previous financial year. Then you will change the *PTD* column, and add three more columns to show the turnover of each quarter of the selected financial year. Finally, you will add a column to show the account balances at the end of the selected financial year.
3. On the *Report Definitions* form, review the updated version of the report.

Step 1: Reviewing the Updated Report

To review the existing Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD10* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The *Profit & Loss* report opens in a pop-up window (shown in the following screenshot). Notice that, apart from the column with row descriptions, the report displays only the **YTD** and **PTD** columns.
5. Close the pop-up window.



SweetLife Fruits & Jams
Profit & Loss
As of December 31, 2023

	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Freight	57,600.00	4,800.00
Sales - Consulting Services	185,500.00	15,000.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: The existing Profit & Loss report

Step 2: Changing the YTD Column

First, you will change the values of the *YTD* column to the ending balance of the last financial period of the previous financial year. Do the following:

1. On the *Column Sets* (CS206020) form, open the column set with the *F350CS10* code.
2. In the lower table, double-click the cell in the row with the **Data Source** attribute and column **B**, and click the magnifier button to open the Data Source dialog box.
3. In the dialog box, specify the following settings (see the following screenshot):
   - **Start Period**: `12`
   - **Offset (Year, Period)**: `-1` (year offset)
   - **End Period**: `12`
   - **Offset (Year, Period)**: `-1` (year offset)
   - **Amount type**: *Ending Balance*

   The following screenshot shows the data filtering criteria specified in the dialog box.

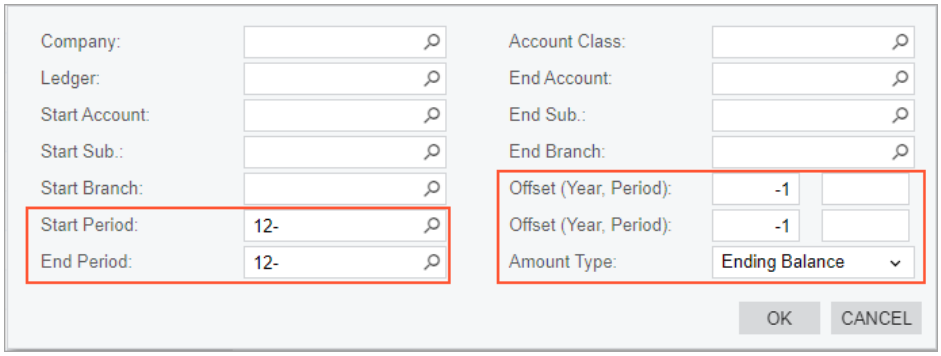


Figure: Data Source dialog box with the data filtering criteria

The identifier of each financial period is a combination of the period number and the financial year. For example, the identifier of the first period of 2024 is *01-2024*. You have used the mask *12* to get the last period of the selected financial year. You have also specified *-1* as the offset of the financial periods by a year to subtract this number from the year of the period.

Thus, the data that meets these filtering criteria is the account balances of the last financial period of the previous financial year relative to the selected financial period.

4. Click **OK** to save your changes and close the dialog box.
5. On the form toolbar, click **Save**.

Step 3: Showing Turnover for the First Quarter

To show the turnover amounts of the first quarter of the current financial year in the *PTD* column, while remaining on the *Column Sets* (CS206020) form with the *F350CS10* column set selected, do the following:

1. In the lower table, double-click the **Data Source** cell of column **C**, and click the magnifier button to open the Data Source dialog box.
2. In the dialog box, specify the following settings:
   - **Start Period**: `01`
   - **End Period**: `03`
   - **Amount Type**: *Turnover*
3. Click **OK** to save your changes and close the dialog box.
4. On the form toolbar, click **Save**.

Step 4: Showing Turnover for the Second Quarter

To add turnover for the second quarter, while you are still on the *Column Sets* (CS206020) form with the *F350CS10* column set selected, do the following:

1. In the lower table, click **New** to add a column.
2. In the added column, click the magnifier button in the row with the **Data Source** attribute.
3. In the Data Source dialog box, specify the following settings:
   - **Start Period**: `04`
   - **End Period**: `06`
   - **Amount Type**: *Turnover*
4. Click **OK** to save your changes and close the dialog box.
5. On the form toolbar, click **Save**.

Step 5: Showing Turnover for the Third Quarter

To add turnover for the third quarter, while you are still on the *Column Sets* (CS206020) form with the *F350CS10* column set selected, do the following:

1. In the lower table, click **New** to add a column.
2. In the added column, click the magnifier button in the row with the **Data Source** attribute.
3. In the Data Source dialog box, specify the following settings:
   - **Start Period**: `07`
   - **End Period**: `09`
   - **Amount Type**: *Turnover*
4. Click **OK** to save your changes and close the dialog box.
5. On the form toolbar, click **Save**.

Step 6: Showing Turnover for the Fourth Quarter

To show the turnover amounts of the fourth quarter of the current financial year, while you are still on the *Column Sets* (CS206020) form with the *F350CS10* column set selected, do the following:

1. In the lower table, click **New** to add a column.
2. In the added column, click the magnifier button in the row with the **Data Source** attribute.
3. In the Data Source dialog box, specify the following settings:
   - **Start Period**: `10`
   - **End Period**: `12`
   - **Amount Type**: *Turnover*
4. Click **OK** to save your changes and close the dialog box.
5. On the form toolbar, click **Save**.

When you specify an explicit range of periods in the data source and specify the end period number, you should consider the structure of your financial year and make sure that you have specified the greatest possible end number of a period. For example, if you had an adjustment period that was period 13 in the financial year, you would have to specify *13* in the **End Period** box of the Data Source dialog box to make the report cover all financial periods.

Step 7: Adding Ending Balances at the End of the Selected Year

To display the account balances at the end of the selected financial year, while you are still on the *Column Sets* (CS206020) form with the *F350CS10* column set selected, do the following:

1. In the lower table, click **New** to add a column.
2. In the added column, click the magnifier button in the row with the **Data Source** attribute.
3. In the Data Source dialog box, specify the following settings:
   - **Start Period**: `12`
   - **End Period**: `12`
   - **Amount Type**: *Ending Balance*
4. Click **OK** to save your changes and close the dialog box.

5. On the form toolbar, click **Save**.

Step 8: Modifying the Report and Column Headers

To modify the report header and add the missing column headers, while you are still viewing the *Column Sets* (CS206020) form with the *F350CS10* code selected, do the following:

1. In the second row of the upper table, change the value in column **A** to `='Profit & Loss Quarterly'`.
2. In the cell in the fourth row of column **B**, enter `='FY-'+Report.FormatYear(@StartPeriod, -1)`.

   The `FormatYear(period, shift)` function retrieves the year of the specified `period` and shifts the obtained year to the value of the `shift` attribute of the function. For example, if a user selects any financial period of the year 2024 as the start period, the expression you have specified returns *2023*.
3. In the fourth row, enter the following values in the listed columns:
   - **C**: `='Q1-'+Report.FormatYear(@StartPeriod)`
   - **D**: `='Q2-'+Report.FormatYear(@StartPeriod)`
   - **E**: `='Q3-'+Report.FormatYear(@StartPeriod)`
   - **F**: `='Q4-'+Report.FormatYear(@StartPeriod)`
   - **G**: `='FY-'+Report.FormatYear(@StartPeriod)`
4. On the form toolbar, click **Save**.

Step 9: Adjusting the Formatting of the Column Headers

To adjust the formatting of the column headers, while you are still viewing the *Column Sets* (CS206020) form with the *F350CS10* code selected, do the following in the upper table:

1. In the fourth row, click the cell in column **C**. Click **Copy Style** on the table toolbar.
2. Paste the style in columns **D**, **E**, **F**, and **G** of the row as follows:
   a. Click the cell in the fourth row of the column.
   b. On the table toolbar, click **Paste Style**.
3. In the fifth row, click the cell in column **C**. Click **Copy Style** on the table toolbar.
4. Paste the style in columns **D**, **E**, **F**, and **G** of the row as follows:
   a. Click the cell in the fifth row of each column.
   b. On the table toolbar, click **Paste Style**.
5. On the form toolbar, click **Save**.

Step 10: Adjusting the Formatting of Columns

In this step, you will specify the attributes to adjust the formatting of the columns. While you are still viewing the *Column Sets* (CS206020) form with the *F350CS10* code selected, do the following in the lower table:

1. Set the **Width** attribute of column **A** to `350`.
2. Set the **Width** attributes of columns **B**, **C**, **D**, **E**, **F**, and **G** to `100`.
3. Set the **Format** attributes of columns **D**, **E**, **F**, and **G** to `#,##0.00`.
4. Select any cell of column **C**, and then click **Copy Style** on the table toolbar.
5. Paste the style to columns **D**, **E**, **F**, and **G** as follows:
   a. Select any cell of the column.

b. On the table toolbar, click **Paste Style**.

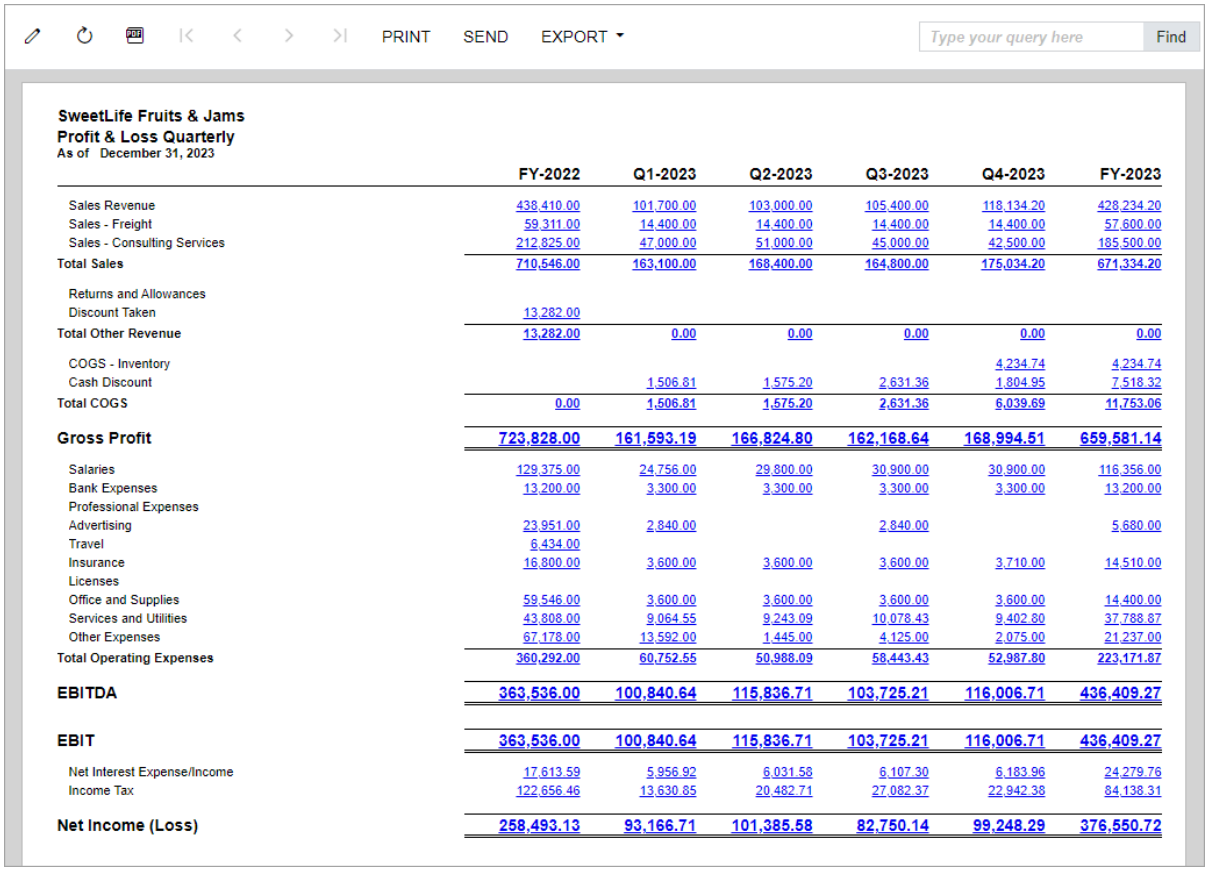
6. On the form toolbar, click **Save**.

Step 11: Reviewing the Updated Report

To review the updated Profit & Loss Quarterly report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD10* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The *Profit & Loss Quarterly* report is opened in a pop-up window (shown in the following screenshot).



SweetLife Fruits & Jams
Profit & Loss Quarterly
As of December 31, 2023

	FY-2022	Q1-2023	Q2-2023	Q3-2023	Q4-2023	FY-2023
Sales Revenue	438,410.00	101,700.00	103,000.00	105,400.00	118,134.20	428,234.20
Sales - Freight	59,311.00	14,400.00	14,400.00	14,400.00	14,400.00	57,600.00
Sales - Consulting Services	212,825.00	47,000.00	51,000.00	45,000.00	42,500.00	185,500.00
Total Sales	710,546.00	163,100.00	168,400.00	164,800.00	175,034.20	671,334.20
Returns and Allowances						
Discount Taken	13,282.00					
Total Other Revenue	13,282.00	0.00	0.00	0.00	0.00	0.00
COGS - Inventory					4,234.74	4,234.74
Cash Discount		1,506.81	1,575.20	2,631.36	1,804.95	7,518.32
Total COGS	0.00	1,506.81	1,575.20	2,631.36	6,039.69	11,753.06
Gross Profit	723,828.00	161,593.19	166,824.80	162,168.64	168,994.51	659,581.14
Salaries	129,375.00	24,756.00	29,800.00	30,900.00	30,900.00	116,356.00
Bank Expenses	13,200.00	3,300.00	3,300.00	3,300.00	3,300.00	13,200.00
Professional Expenses						
Advertising	23,951.00	2,840.00		2,840.00		5,680.00
Travel	6,434.00					
Insurance	16,800.00	3,600.00	3,600.00	3,600.00	3,710.00	14,510.00
Licenses						
Office and Supplies	59,546.00	3,600.00	3,600.00	3,600.00	3,600.00	14,400.00
Services and Utilities	43,808.00	9,064.55	9,243.09	10,078.43	9,402.80	37,788.87
Other Expenses	67,178.00	13,592.00	1,445.00	4,125.00	2,075.00	21,237.00
Total Operating Expenses	360,292.00	60,752.55	50,988.09	58,443.43	52,987.80	223,171.87
EBITDA	363,536.00	100,840.64	115,836.71	103,725.21	116,006.71	436,409.27
EBIT	363,536.00	100,840.64	115,836.71	103,725.21	116,006.71	436,409.27
Net Interest Expense/Income	17,613.59	5,956.92	6,031.58	6,107.30	6,183.96	24,279.76
Income Tax	122,656.46	13,630.85	20,482.71	27,082.37	22,942.38	84,138.31
Net Income (Loss)	258,493.13	93,166.71	101,385.58	82,750.14	99,248.29	376,550.72

Figure: The new Profit & Loss Quarterly report

Lesson 5: Using Overlapping Data Sources

Data Filtering: Data Sources That Overlap

By specifying the data filtering parameters on the row level, you define the data structure in the report. For example, if a group of lines in the report must display the calculated values for a specific period range, you should specify the start period and end period for each row included in this group of report lines. If some lines in the report must display the data related to a specific account, and the columns must display the values calculated for certain periods, you should specify the account on the row level, and specify the start period and end period of each period range on the column level.

To retrieve the amounts posted to general ledger accounts and subaccounts to a report, you specify the conditions in the data source of the report definition, row, column, or unit. If these data sources overlap, the system retrieves the data by using the following rules:

- Accounts, subaccounts, branches, and their ranges of all data sources are merged. The system retrieves the intersecting data that results from this merge. For example, if you have specified the 100 through 600 range of accounts for a row and the 400 through 900 range of accounts for a column, and you run a report that uses the row set and the column set with these settings, the system will retrieve the data for the 400 through 600 range of accounts. The image below illustrates this overlap.

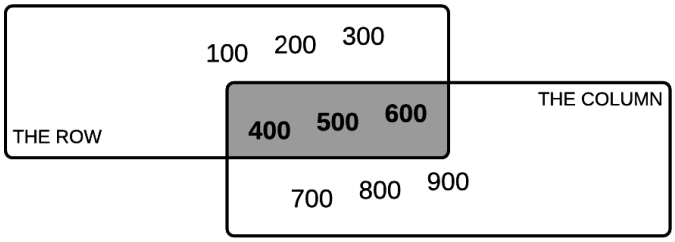


Figure: The overlap of accounts

- All of the following are used from only one data source: the ledger, the account class, the financial periods, the offsets of financial periods, and the amount type. If conditions overlap between the unit, row, column, and report definition, the system uses the condition specified for the unit (if any). If no condition is specified for the unit or there is no unit set in the report, the system uses the condition of the row. If no condition is specified for the row, the system uses the condition of the column. If no condition is specified in the unit, row, or column of the report, the condition from the report definition (if any) is used. Thus, the data sources of an analytical report have the following priority level, from the highest to the lowest:
  a. The unit
  b. The row
  c. The column
  d. The report definition

  The table below illustrates an example of how these rules work.

Data Source Parameters	The Unit	The Row	The Column	The Report Definition
Ledger	*ACTUAL*	*BUDGET*		
Account Class		*EXOFFICE*	*EXBANK*	

Data Source Parameters	The Unit	The Row	The Column	The Report Definition
Account Type			*Ending Balance*	*Turnover*
Start Period			*04-2023*	*01-2023*
End Period		*09-2023*		*12-2023*

Based on the sample data provided above, the system uses the following consolidated conditions in the report:

- **Ledger**: *ACTUAL* (from the unit)
- **Account Class**: *EXOFFICE* (from the row)
- **Account Type**: *Ending Balance* (from the column)
- **Start Period**: *04-2023* (from the column)
- **End Period**: *09-2023* (from the row)

Data Filtering: To Display Data from Different Ledgers in the Same Column

The following activity will walk you through the creation of a column that displays data from different ledgers.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for supporting analytical reports. The company's financial manager has requested that you prepare a modified version of the Profit & Loss report that will display the net income per employee ratio.

The employee headcount data is stored in a statistical ledger, *HEADCOUNT*, while the account amounts in other rows of the report are pulled from the *ACTUAL* ledger. You need to modify the existing Profit & Loss report to add a row with the employee headcount and a row with the net income per employee ratio.

Configuration Overview

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

- On the *Row Sets* (CS206010) form, the *F350RS15* row set has been created.
- On the *Column Sets* (CS206020) form, the *F350CS15* column set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD15* report definition has been created with the *F350RS15* row set and the *F350CS15* column set specified.
- On the *Journal Transactions* (GL301000) form, the number of SweetLife employees at the end of December 2023 has been posted to the *69500* account of the *HEADCOUNT* ledger.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.
2. On the *Row Sets* (CS206010) form, update the row set to add two rows.
3. On the *Report Definitions* form, review the modified Profit & Loss report.

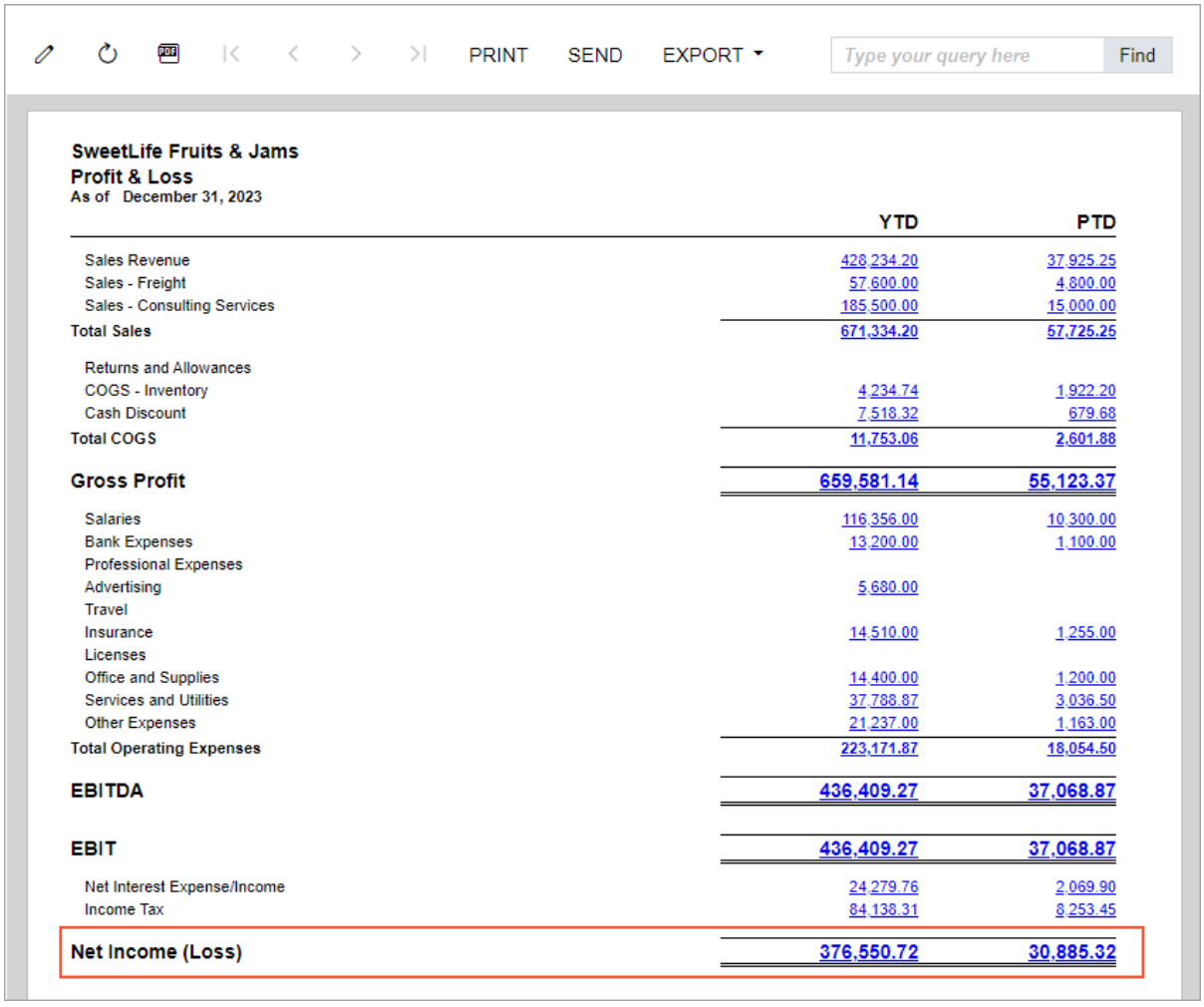
Step 1: Reviewing the Existing Report

To review the existing version of the *Profit & Loss* report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD15* code.

   In the **Default Data Source Settings** section, notice that the **Request** check box to the right of the **Ledger** box is selected.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report opens in a pop-up window. Review the rows of the report.
5. Close the pop-up window.



	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Freight	57,600.00	4,800.00
Sales - Consulting Services	185,500.00	15,000.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: The Profit & Loss report before changes

Step 2: Adding a Row with the Employee Headcount

To add a row with the employee headcount to the row set, do the following:

1. On the *Row Sets* (CS206010) form, open the row set with the *F350RS15* code.
2. On the table toolbar, click **New** to add a new row.
3. In the added row, specify the following settings:
   - **Code**: `0490`
   - **Description**: `Employee Headcount`
   - **Type**: *GL*
4. On the form toolbar, click **Save**.
5. In the row with the *0490* code, click the **Data Source** cell, and then click the magnifier button.
6. In the Data Source dialog box, which opens, specify the following settings:
   - **Ledger**: *HEADCOUNT*
   - **Start Account**: *69500*
   - **Amount Type**: *Ending Balance*

   You have specified *69500* as the start account because the number of employees has been posted to this account in the *HEADCOUNT* ledger.
7. Click **OK** to close the dialog box.
8. In the **Format** column of row *0490*, specify `d`.

   This format specifier converts the value to a string of decimal digits.
9. On the form toolbar, click **Save**.

Step 3: Adding a Row with the Net Income per Employee Ratio

To add a row that shows the net income per employee ratio, while you are still on the *Row Sets* (CS206010) form with the *F350RS15* row set selected, do the following

1. On the table toolbar, click **New** to add a new row.
2. In the added row, specify the following settings:
   - **Code**: `0500`
   - **Description**: `Net Income per Employee`
   - **Type**: *Total*
   - **Value**: `=@0480/@0490`

   In formulas, you must precede a row code with the @ character. The letters of row codes (if any) should always be uppercase.
3. Click **OK** to close the dialog box.
4. On the form toolbar, click **Save**.

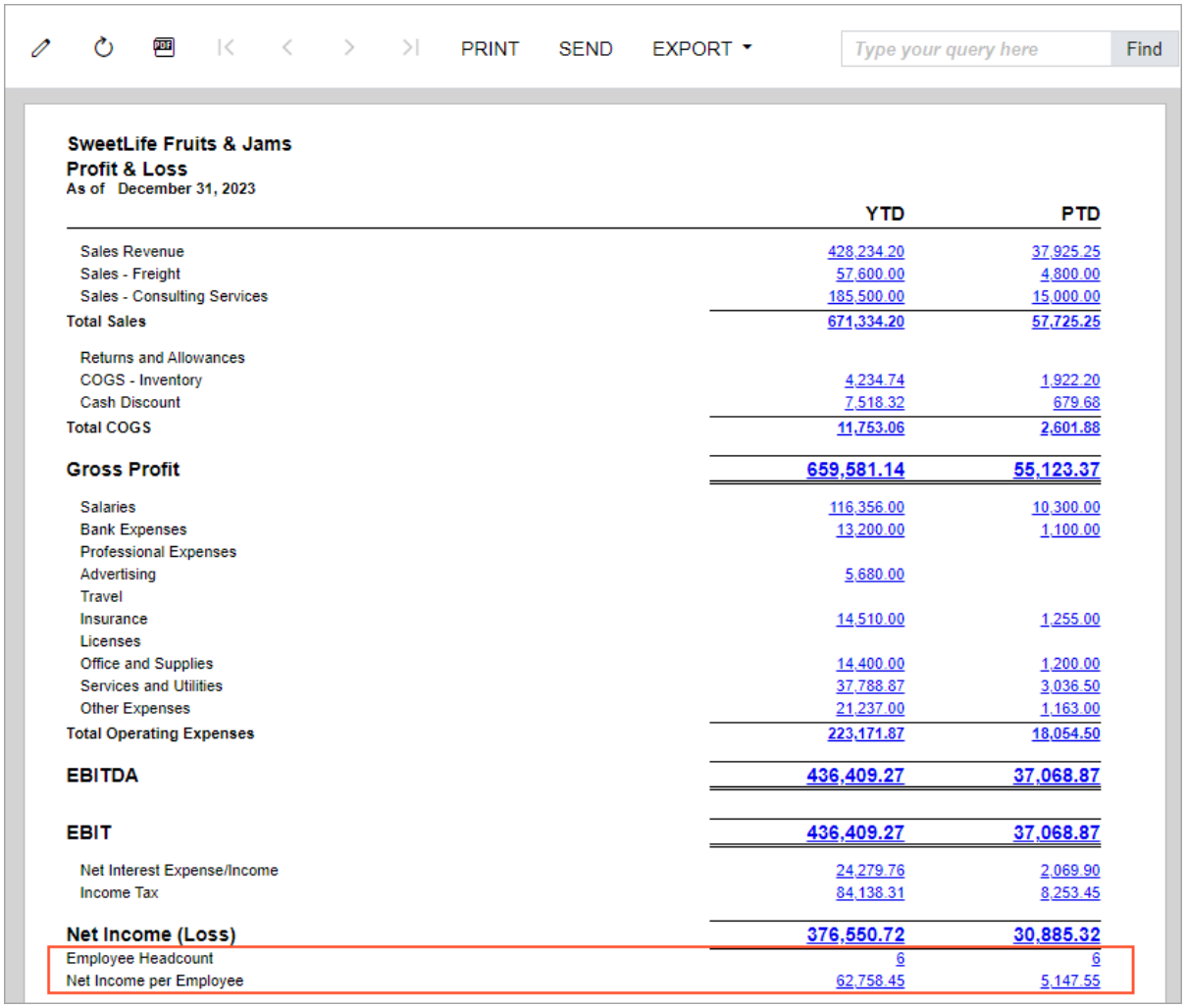
Step 4: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD15* code.

2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the report now displays two additional rows, *Employee Headcount* and *Net Income per Employee*. Although you have specified the *ACTUAL* ledger as the report parameter before running the report, the *Employee Headcount* row displays data from the *HEADCOUNT* ledger because the data source specified for a particular row has a higher priority than the data source specified for the columns or for the report definition.



SweetLife Fruits & Jams
Profit & Loss
As of December 31, 2023

	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Freight	57,600.00	4,800.00
Sales - Consulting Services	185,500.00	15,000.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32
Employee Headcount	6	6
Net Income per Employee	62,758.45	5,147.55

Figure: The Profit & Loss report with the added rows

Lesson 6: Working with Unit Sets

Unit Sets: General Information

A unit set defines the units that the user can use directly on the report to quickly filter or consolidate the report data. You create a unit set on the *Unit Sets* (CS206030) form.

Learning Objectives

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

- Create a unit set
- Define units within a unit set
- Apply a unit set to a report

Applicable Scenarios

Unit sets might be useful if you need to develop reports for an organization with a hierarchical structure and would like an ability to quickly filter or consolidate data in the report for a particular organizational unit (such as a branch, a company, or a group of companies).

The Code and Description of a Unit Set

In the Summary area of the *Unit Sets* (CS206030) form, you specify the code, description, and type of the data source for the unit set.

In the **Type** box, you select the *GL* type to display in your report accounting data from the general ledger, or the *PM* type to display project accounting data. The **Code** and **Description** properties of the unit set help you to uniquely identify the unit set in the system and to add it to the report definition.

Properties of a Unit

On the *Unit Sets* (CS206030) form and in each analytical report that uses the unit set, the units are organized in a hierarchical structure and ordered by unit code, which is illustrated by the following screenshot.

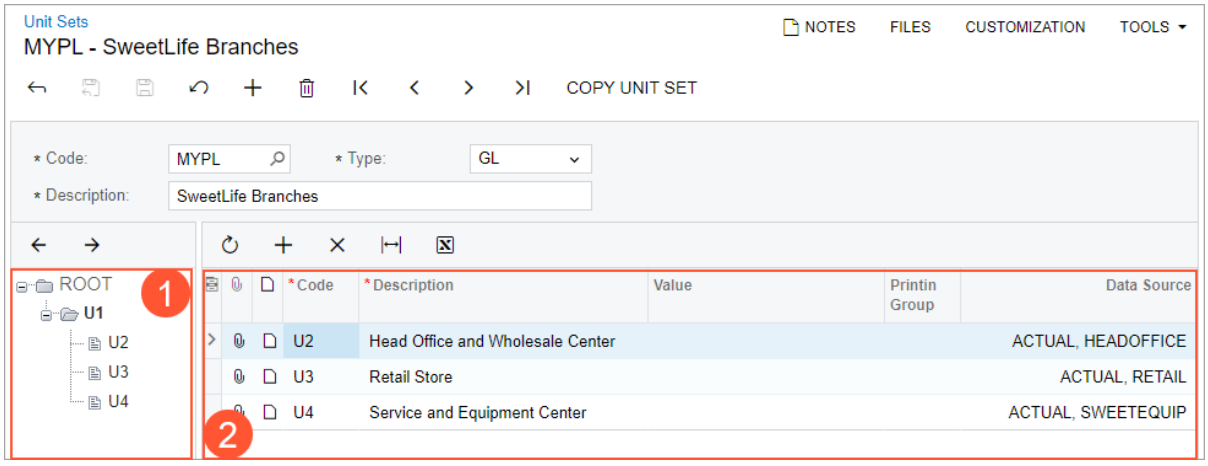


Figure: A unit set configured on the Unit Sets form

This hierarchical structure is reflected in the left pane of the *Unit Sets* form (Item 1 in the screenshot above). You can select a unit in the left pane, and add child units to it in the right pane (Item 2). In the corresponding report, the descriptions of the units will be shown.

The topmost unit is applied to the report by default when you run the report. You can select any unit to be applied to the report by default by selecting this unit in the **Start Unit** box on the *Report Definition* (CS206000) form.

Although you can have an unlimited number of units in a unit set, keep in mind that having too many units can significantly slow the performance of the report, because the system generates the report corresponding to every single unit defined for the report when you run the report.

The Code and Description of a Unit

When you add a unit to the unit set on the *Unit Sets* (CS206030) form, you specify a code for it in the **Code** column. The unit code is used to identify the unit within the unit set. References in the formulas defined for the unit can also include the unit code.

The units in the unit sets are sorted by the unit code in ascending order, and this is the order they appear in the hierarchical structure on the *Unit Sets* form. The value of the **Code** column can be modified manually.

We do not recommend using successive values as the codes of new units added to the unit set so that it is easier to add new units between the existing ones.

The Value of a Unit

For every unit, you need to specify either the formula (in the **Value** column) or the **Data Source** to define the data processing rules for the report.

By specifying the **Value** attribute of a unit, you can define a certain calculated value to be displayed in the report. The values in the units can be predefined parameters or computed values that the system calculates by using formulas. Values are frequently used to insert sums and totals into the report.

The formulas used to calculate the data in the units usually include references to other units. The expressions defined for the units can also use parameter queries to select the values from the data source and insert them in the column cells.

The values defined for the units in the analytical reports usually specify the report structure and follow up the user defined unit's hierarchical structure. The units from the top hierarchical level are usually based on the calculated

values from the units on the lower hierarchical levels. The higher hierarchical levels can include the aggregated values based on the units from the lower hierarchical levels.

The Printing Group of a Unit

You can display particular columns and rows in some units and hide those columns and rows for other units. To do this, you specify a custom code in the **Printing Group** column for a unit. This code, consisting of only numbers and letters, and can be up to 10 characters in length. Then you can specify this code as the **Unit Group** of the rows on the *Row Sets* (CS206010) form and as the **Unit Group** of the columns on the *Column Sets* (CS206020) form. These rows and columns will be hidden for other units.

Unit Sets: To Filter Data with Unit Sets

In this activity, you will create a unit set and apply it to a report to be able to filter data in the executed report.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. The management of the company has requested a profit and loss report that shows data for the entire company and for each of these branches. You need to create a unit set to reflect the company's structure and apply it to the existing *Profit & Loss* report.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS9* column set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD9* report definition has been created with *F350CS9* selected as the column set.

Process Overview

In this activity, you will do the following:

1. On the *Unit Sets* (CS206030) form, you will create a unit set with four units, one for the SweetLife company, and one for each of the company's branches.
2. On the *Report Definitions* (CS206000) form, you will add the unit set to the report definition. You will also hide the **Ledger** parameter on the report form, because the ledgers used will be determined by the settings of the units.

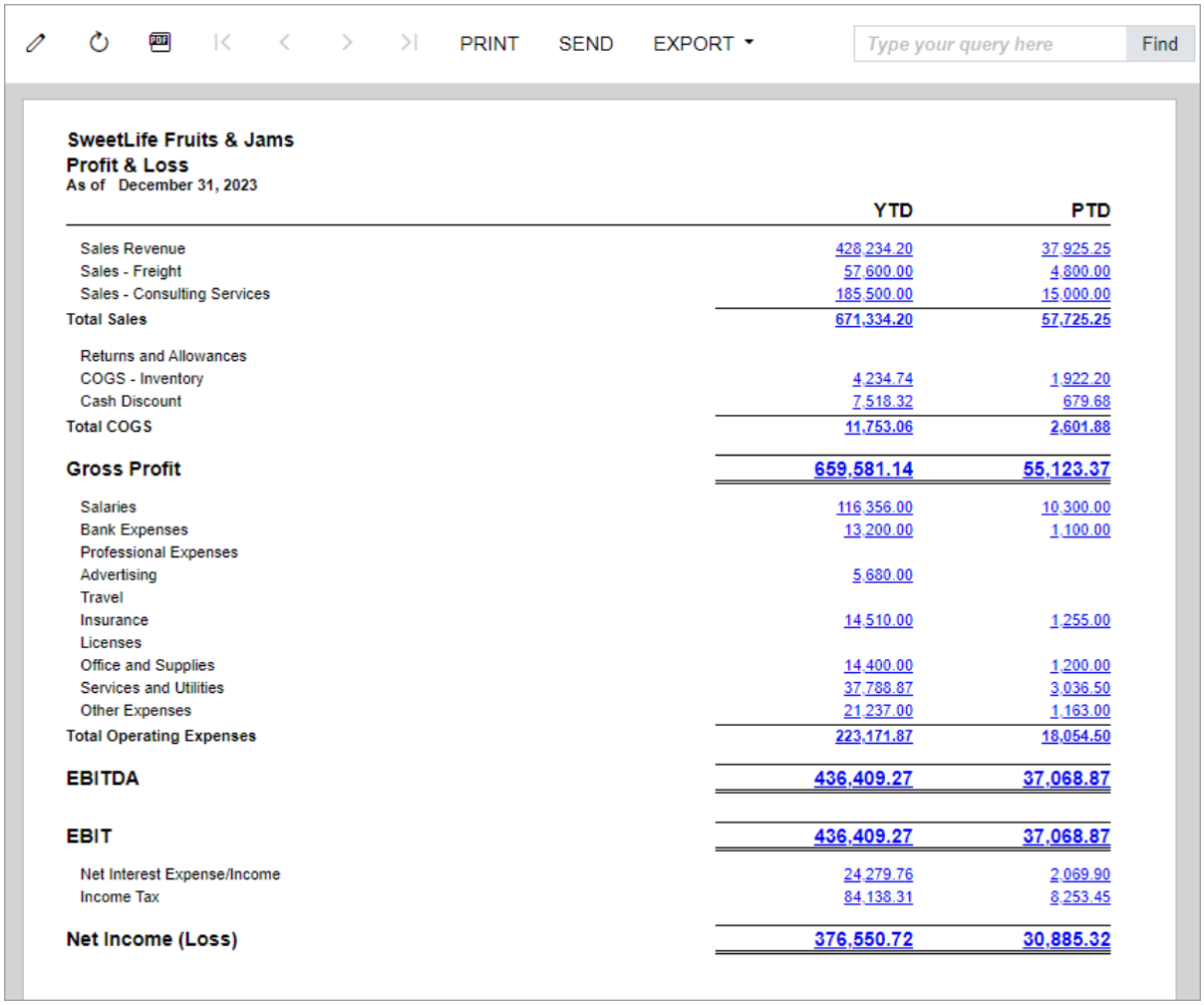
Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD9* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

The Profit & Loss report is opened in a pop-up window (as shown in the following screenshot).

5. Close the pop-up window.



SweetLife Fruits & Jams
Profit & Loss
As of December 31, 2023

	YTD	PTD
Sales Revenue	428,234.20	37,925.25
Sales - Freight	57,600.00	4,800.00
Sales - Consulting Services	185,500.00	15,000.00
Total Sales	671,334.20	57,725.25
Returns and Allowances		
COGS - Inventory	4,234.74	1,922.20
Cash Discount	7,518.32	679.68
Total COGS	11,753.06	2,601.88
Gross Profit	659,581.14	55,123.37
Salaries	116,356.00	10,300.00
Bank Expenses	13,200.00	1,100.00
Professional Expenses		
Advertising	5,680.00	
Travel		
Insurance	14,510.00	1,255.00
Licenses		
Office and Supplies	14,400.00	1,200.00
Services and Utilities	37,788.87	3,036.50
Other Expenses	21,237.00	1,163.00
Total Operating Expenses	223,171.87	18,054.50
EBITDA	436,409.27	37,068.87
EBIT	436,409.27	37,068.87
Net Interest Expense/Income	24,279.76	2,069.90
Income Tax	84,138.31	8,253.45
Net Income (Loss)	376,550.72	30,885.32

Figure: The existing Profit & Loss report

Step 2: Creating the Unit Set

To create the unit set, do the following:

1. On the *Unit Sets* (CS206030) form, add a new record.
2. In the Summary area, specify the following settings:
   - **Code**: `MYPL`
   - **Description**: `SweetLife Branches`
3. In the left pane, click the **ROOT** node of the unit set, which is the topmost system node and is not shown in the report.
4. In the right pane, click **Add Row** on the table toolbar and specify the following settings in the added row:
   - **Code**: `U1`
   - **Description**: `SweetLife - All Branches`
5. Save your changes to the unit set. A node for the **U1** unit appears in the left pane.
6. In the left pane, click the **U1** node.

7. In the table in the right pane, add three rows with the settings shown in the following table.

> The Data Source dialog box opens when you click the cell in the **Data Source** column and then click the magnifier button.

Code	Description	The Ledger box in the Data Source dialog box	The Start Branch box in the Data Source dialog box
U2	Head Office and Wholesale Center	*ACTUAL*	*HEADOFFICE*
U3	Retail Store	*ACTUAL*	*RETAIL*
U4	Service and Equipment Center	*ACTUAL*	*SWEETEQUIP*

8. On the form toolbar, click **Save**. The created unit set should look like the one shown in the following screenshot.

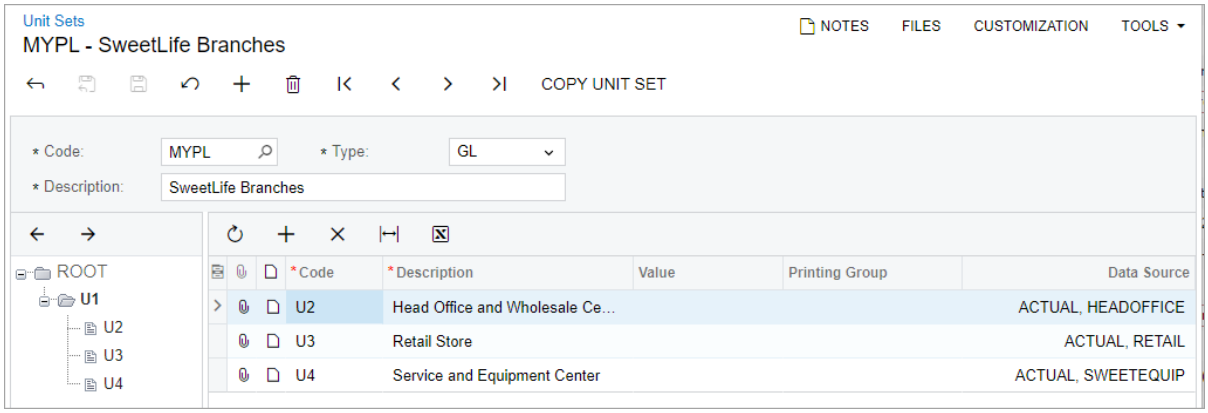


Figure: The created unit set

Step 3: Defining the First Unit of the Unit Set

To define the first unit, while you are still viewing the *MYPL* unit set on the *Unit Sets* (CS206030) form, do the following:

1. In the left pane, click the **ROOT** node.
2. In the table of the right pane, specify the following expression in the **Value** column in the row for unit *U1*: `=@U2+@U3+@U4`

   The expression `=@U2+@U3+@U4` consolidates the data for all branches.

> In formulas, you must precede a unit code with the @ character, as you have done in the `=@U2+@U3+@4` expression. The letters of codes are always uppercase, so you must use the appropriate letter case in formulas to avoid the system returning an exception.
>
> Alternatively, you can specify the **Ledger** and **Company** in the **Data Source** attribute of this unit. This way, you will be able to use the drill-down functionality when displaying the report for this unit.

3. On the form toolbar, click **Save**.

Step 4: Applying the Unit Set and Changing the Report Form

To apply the unit set to the report and modify the report parameters, do the following:

1. On the *Report Definitions* (CS206000) form, select the definition with the *F350RD9* code.
2. In the **Unit Set** box, select *MYPL* to apply the unit set.
3. Modify the default report parameters as follows:
   a. Clear the **Company** box and the **Request** check box to the right of this box.
   b. Clear the **Ledger** box and the **Request** check box to the right of this box.
4. On the form toolbar, click **Save**.

Step 5: Modifying the Report Header

To modify the report name to display the name of the unit for which data is displayed, do the following:

1. On the *Column Sets* (CS206020) form, open the column set with the *F350CS9* code.
2. In the second row of the upper table, change the value in column **A** to `='P&L: '+@UnitText`.

   The `@UnitText` parameter returns the unit description specified on the *Unit Sets* (CS206030) form. Based on the expression you have specified, the report header will be changed when you select a unit.
3. On the form toolbar, click **Save**.

Step 6: Reviewing the Updated Report

To run the updated *Profit & Loss* report and review your changes, do the following:

1. On the *Report Definitions* (CS206000), open the report definition with the *F350RD9* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, set **Financial Period** to *12-2023*.
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report opens in a pop-up window.
5. On the report toolbar, click the **Groups** button to open the left pane with the report units (see the following screenshot). Notice that the *SweetLife - All Branches* unit is selected by default. Because you have specified a formula that combines amounts from all branches as the value of this unit, you cannot drill down to the account details.

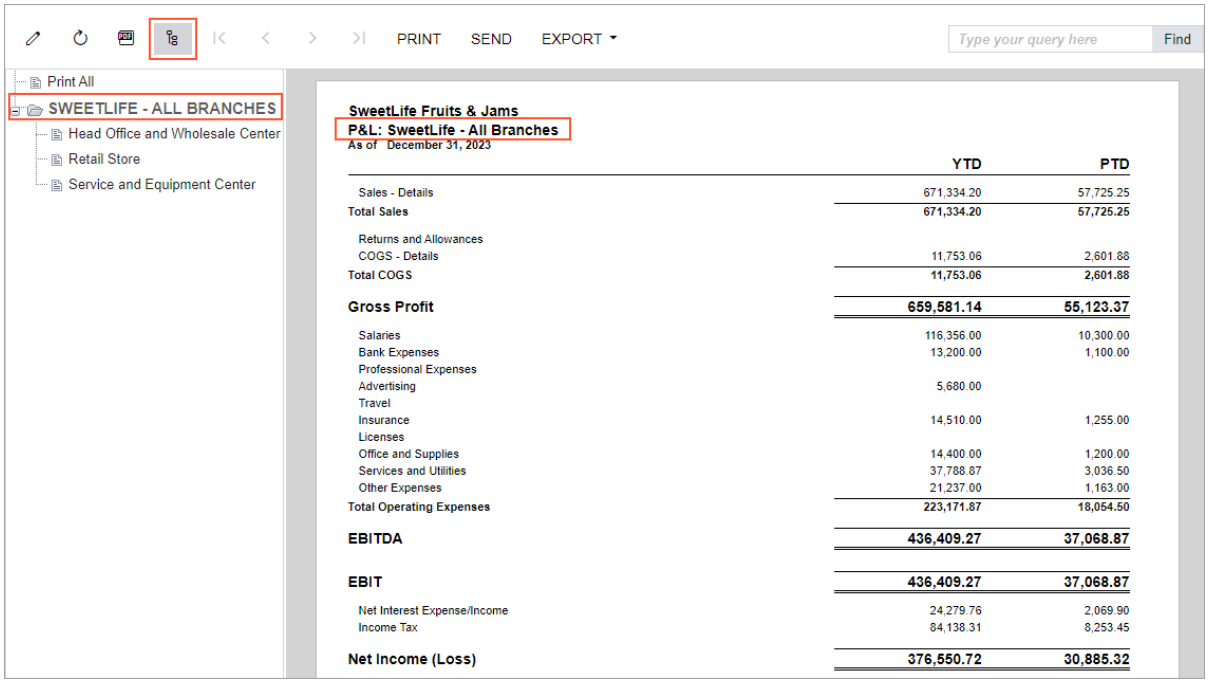


Figure: The Profit & Loss report showing data for the whole company

6. In the left pane, click *Head Office and Wholesale Center*, which corresponds to the *U2* unit, as shown in the following screenshot, and review the report.

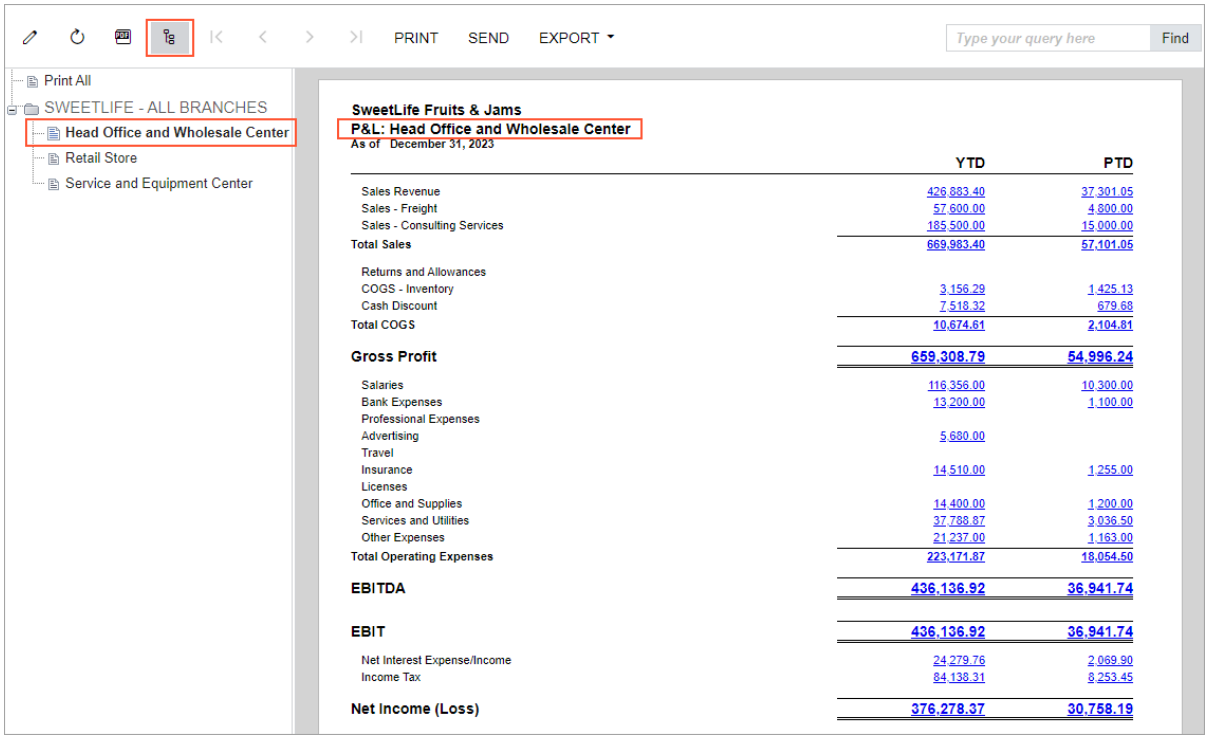


Figure: The Profit & Loss report showing data for a single branch

Lesson 7: Using Formulas in a Report

Formulas: General Information

You can use formulas to calculate the values to be displayed in the rows and columns of each report. Formulas give you the ability to use advanced calculations and data transformation functions if some values in the report rows and columns are calculated or depend on the data from other sources (such as rows, columns or individual cells included in the report).

The formulas used in the analytical reports are much like the formulas used in Excel. You can define parameters and construct a formula by using operators and functions. You can select the parameters used in the formula from the list of predefined parameters or enter them into the formula.

Learning Objectives

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

- Use formulas in a report
- Use formula functions
- Use formula operators
- Use formula parameters

Applicable Scenarios

You may want to use formulas in the following circumstances:

- You are responsible for developing and modifying reports to give users the information they need to do their jobs.
- You need to perform calculations on data or transformation of data before presenting it.

Using Formulas to Assign Values

To define formulas in analytical reports, you use the Formula Editor dialog box. You invoke this dialog box by clicking the magnifier button in the appropriate **Value** cell on the *Row Sets* (CS206010), *Column Sets* (CS206020), or *Unit Sets* (CS206030) form.

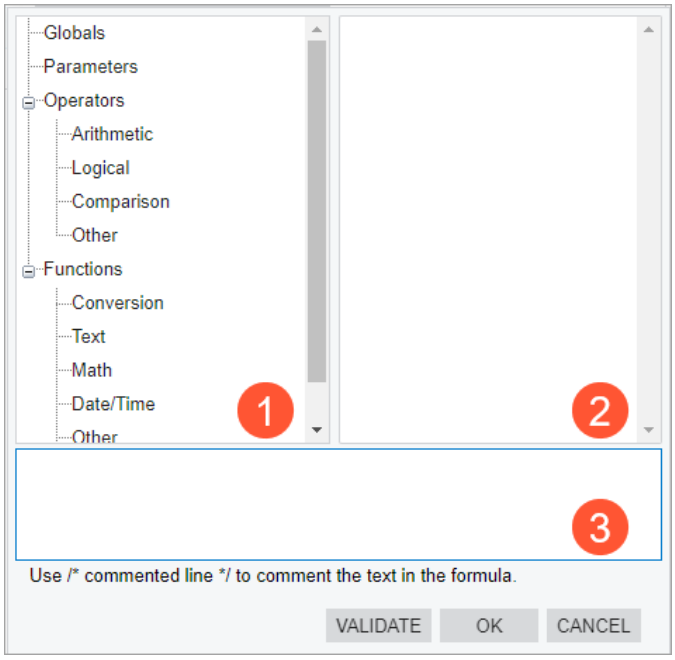


Figure: Formula Editor dialog box

The Formula Editor dialog box, which is shown in the screenshot above, includes the following panes:

1. Component Type pane: Displays the types of parameters, operators, and functions that can be used as formula components. Click any of the types to display the corresponding list of available components in the Component Selection pane.
2. Component Selection pane: For the component type selected in the Component Types pane, displays the list of available components. Click a component to add it to the formula to the Formula Text pane.
3. Formula Text pane: Contains the text of the formula, which you can edit manually. The formula may include the selected components, arguments of manually inserted components, and other elements, all arranged in accordance with the syntax of the formula.

You can check if the syntax of the formula is correct by clicking **Validate**.

Formulas: Functions

You use functions to perform specific tasks that facilitate data processing for reports. Many functions available in the Analytical Report Manager process data selected from the data source and return the values to be used in the report.

To use functions in a formula, you can enter them directly in the formula editing area or select them from the list of functions provided in the Formula Editor dialog box.

The following table lists some of the functions that are frequently used in analytical reports of the *GL* type.

Table: Frequently Used Functions

Function	Description and Examples
IIf(*expression*, *truePart*, *falsePart*)	Returns one of two values, depending on the evaluation of the expression: If the expression evaluates to `True`, the function returns the *truePart* value; otherwise, it returns the *falsePart* value. **Example:** `=IIf((A10-B10)<>0), CStr(A12), 'No data available')` (where *A10*, *A12*, and *B10* are the links used as a function arguments)
Sort(*from*, *to*, *column*)	Returns the values in the specified range of rows in the specified column sorted in ascending order. **Example:** `Sort('0100','0145','B')` (the values in rows from 0100 to 0145 in the *B* column will be sorted in ascending order)
SortD(*from*, *to*, *column*)	Returns the values in the specified range of rows in the specified column sorted in descending order. **Example:** `SortD('0100','0145','B')` (the values in rows from 0100 to 0145 in the *B* column will be sorted in descending order)
Sum(from, to)	Returns the sum of the values in the specified interval. **Example:** `=Sum('A11','A100')` (where *A11* and *A100* are the links used in a function argument)
Switch(*expression_1*, *value_1*, *expression_2*, *value_2*, ...)	Returns the value (*value_n*) that corresponds to the first expression (*expression_n*) that evaluates to `True`. For example, *expression_1* and *expression_2* are Boolean expressions. **Example:** `=Switch(((A10-B10)<>0), A12, ((A10-B10)>0), B35)`

GetDefUI(*object field*)	Gets the default value of the *object field* parameter in the UI format.
	Examples:
	`=Report.GetDefUI('RowAccessInfo.DisplayName')`
	`=Report.GetDefUI('RowCompanyBAccount.AcctName')`

Left(*string*, *length*)	Returns a string containing a specified number of characters from the left side of a string. If *string* contains the null value, the null value is returned. **Example:** `=Left(CStr(A12), 3)` (where *A12* is the link used in a function argument)
Right(*string*, *length*)	Returns a string containing a specified number of characters from the right side of a string. If *string* contains a null value, the null value is returned. **Example:** `=Right(CStr(A12), 3)` (where *A12* is the link used in a function argument)
FormatYear(*object period*)	Retrieves the year part of the *object period* and converts it into the UI format. This function is used to get the period defined by the report's `@StartPeriod` and `@EndPeriod` dates.

For more information about functions in analytical reports, see *Formula Functions*.

Formulas: Parameters

A formula may include parameters that reference the data you want to use in calculating the values in a report. There are two types of parameters: predefined parameters; and links to specific rows, columns, or individual report cells.

Predefined Parameters

The predefined parameters are application-specific and refer to the report parameters that you specify on other ARM forms, such as the *Report Definitions* (CS206000) form or the *Row Sets* (CS206010) form. For example, the `@StartPeriod` parameter refers to the value specified in the **Start Period** box on the *Report Definitions* form (or on the report form), and the `@BaseRowCode` parameter refers to the value specified in the **Base Row** box on the *Row Sets* form. All available predefined parameters are listed in the *Data Source Editor* dialog box.

The table below contains some of the predefined parameters that are frequently used in reports of the *GL* type.

Parameter	Description
`@AccountCode`	The code of the current account if the *Account* option is selected in the **Expand** box in the Data Source Editor dialog box. This is the code of the current subaccount if the *Sub* option is selected in the **Expand** box.
`@AccountDescr`	The description of the current account if the *Account* option is selected in the **Expand** box in the Data Source Editor dialog box. This is the description of the current subaccount if the *Sub* option is selected in the **Expand** box.
`@BaseRowCode`	The row code specified for the selected row in the **Base Row** column on the *Row Sets* form. This row code is referred to by this parameter, which you use in the formula in the **Value** box on the *Column Sets* (CS206020) form to retrieve the value specified in this row for computing another value in the report.
`@BookCode`	The code of the ledger whose data is used in the report. This parameter refers to the value in the **Ledger** box in the **Default Data Source Settings** section.
`@BranchName`	The company branch identifier in the current tenant. For more information on company branches, see *Branches* (CS102000) form.
`@ColumnCode`	The code of the current column in the report.
`@ColumnIndex`	The index of the current column in the report.
`@ColumnSetCode`	The code of the current column set in the report.
`@ColumnText`	The description of the current column in the report.

Parameter	Description
@EndAccount	The last account in the range of accounts used in the report. This parameter refers to the value in the **End Account** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@EndBranch	The last branch in the range of branches used in the report. This parameter refers to the value in the **End Branch** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@EndPeriod	The end period of the report. This parameter refers to the value in the **End Period** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@EndSub	The last subaccount in the range of subaccounts used in the report. This parameter refers to the value in the **End Sub** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@StartAccount	The first account in the range of accounts used in the report. This parameter refers to the value in the **Start Account** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@StartBranch	The first branch in the range of branches used in the report. This parameter refers to the value in the **Start Branch** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@StartPeriod	The start period of the report. This parameter refers to the value in the **Start Period** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@StartSub	The first subaccount in the range of subaccounts used in the report. This parameter refers to the value in the **Start Sub** box on the report form or in the **Default Data Source Settings** section of the *Report Definitions* form.
@ReportDescr	The report description that the system prints in the column set header.
@RowCode	The code of the current row in the report.
@RowIndex	The index of the current row in the report.
@RowSetCode	The code of the current row set in the report.
@RowText	The description of the current row in the report.
@UnitCode	The code of the current unit in the report.
@UnitSetCode	The code of the current unit set in the report.
@UnitText	The description of the current unit in the report.

Links to Rows

You can use the links to the rows in the formulas to define the parameters. The links to the rows are used when a formula is defined for the row to calculate its values, and the referenced rows are the parameters used in

these calculations. For example, when a row is a summed value of the other two rows, the formula includes the references to the rows to be summed.

The following is an example of a formula using links to the rows (where *110* and *120* are the row codes).

```
=@110+@120
```

Links to Columns

You can use the links to the columns in the formulas to define the parameters. You use the links to the columns when a formula is defined for the column to calculate its values, and the referenced columns are the parameters used in these calculations. For example, when a column is a summed value of the other two columns, the formula includes the references to the columns to be summed.

To reference a column, replace its code in the formula with a parameter.

The following is an example of a formula with links to the columns (where *A*, *B*, and *D* are the column codes).

```
=A+B+D
```

Links to Cells

You can use the links to the report cells in the formulas to define the parameters. You use these links when a formula is defined for the column or row to calculate its values, and the referenced cells are the parameters used in these calculations.

To reference a cell, add its code to the formula as a parameter.

The following is an example of a formula using links to the cells.

```
=A60+B30+D20
```

In this example, *A*, *B*, and *D* are the column codes, while *20*, *30*, and *60* are the row codes. The cells located in the specified rows of the columns indicated by the first letters are used as the parameters in this formula.

Formulas: Operators

Comparison Operators

Comparison operators, which are described below, compare two expressions and return a Boolean value that represents the result of the comparison.

Operator	Description and Examples
=	The equality operator. **Example:**`=(A10=B10)` In this example, *A10* and *B10* are cell references. If the value in the *A10* cell is equal to the value in *B10*, then the expression evaluates to *True*; otherwise, the expression evaluates to *False*.

Operator	Description and Examples
<>	The inequality operator. **Example:** =(C10<>A10) (where *A10* and *C10* are the links used as formula parameters) In this example, *A10* and *C10* are cell references. If the value in the *C10* cell is not equal to the value in *A10*, then the expression evaluates to *True*; otherwise, the expression evaluates to *False*.
<	The *less than* operator. **Example:** =(@10<@12) (where @10 and @12 are the links to cells in the current column) In this example, @10 and @12 are the links to cells in the current column. If the value in the @10 cell is less than the value in @12, then the expression evaluates to *True*; otherwise, the expression evaluates to *False*.
>	The *greater than* operator. **Example:** =(C10>A10) (where *A10* and *C10* are the links used as formula parameters) In this example, *A10* and *C10* are cell references. If the value in the *C10* cell is greater than to the value in *A10*, then the expression evaluates to *True*; otherwise, the expression evaluates to *False*.
<=	The *less than or equal to* operator. **Example:** =(C10<=A10) (where *A10* and *C10* are the links used as formula parameters) In this example, *A10* and *C10* are cell references. If the value in the *C10* cell is less than or equal to the value in *A10*, then the expression evaluates to *True*; otherwise, the expression evaluates to *False*.
>=	The *greater than or equal to* operator. **Example:** =(A10>=C10) (where *A10* and *C10* are the links used as formula parameters) In this example, *A10* and *C10* are cell references. If the value in the *A10* cell is greater than or equal to the value in *C10*, then the expression evaluates to *True*; otherwise, the expression evaluates to *False*.

Other Operators

The table below describes the operators of the *Other* type.

Operator	Description and Examples
In (a binary operator)	This operator is used in an elementary logical expression that evaluates the search results and returns *True* when the parameter matches one of the elements from the set of values. **Example**: =(A20 In (10, 50, 57)) (where *A20* is the link used as a formula parameter)
True (a binary constant)	This operator is used as a parameter in logical expressions. **Example**: =((D30<A30)=True) (where *D30* is the link used as a formula parameter)

Operator	Description and Examples
False (a binary constant)	This operator is used as a parameter in logical expressions. **Example:** = `((C10=E10)=False)` (where *C10* and *E10* are the links to the data)
Null (a value)	This operator is used as a parameter in logical expressions. **Example:** = `(@20=Null)` (where `@20` is the cell in the current column and 10th row)

Formulas: To Display a Column Header Based on the Selected Period

The following activity will walk you through the process of modifying a column set so that its header is based on the selected financial period.

Story

Suppose that the SweetLife Fruits & Jams company reports profits and losses each quarter. The company's financial manager has requested that you modify the Profit & Loss report to display the quarter for which the report displays data as the column header.

Acting as a technical specialist who is responsible for building and supporting analytical reports in SweetLife, you need to modify the column set of the Profit & Loss report to change the column header based on the selected financial period.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS16* column set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD16* report definition has been created with the *F350CS16* column set specified.

Process Overview

In this activity, you will do the following:

1. On the *Report Definitions* (CS206000) form, review the Profit & Loss report.
2. On the *Column Sets* (CS206020) form, modify the column set to display the column header based on the selected range of periods.
3. On the *Report Definitions* form, update the report parameters and then review the updated Profit & Loss report.

Step 1: Reviewing the Existing Report

To review the existing version of the Profit & Loss report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD16* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*

- **Ledger**: *ACTUAL*
- **Financial Period**: *12-2023*

4. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the report displays one column with the YTD amounts.

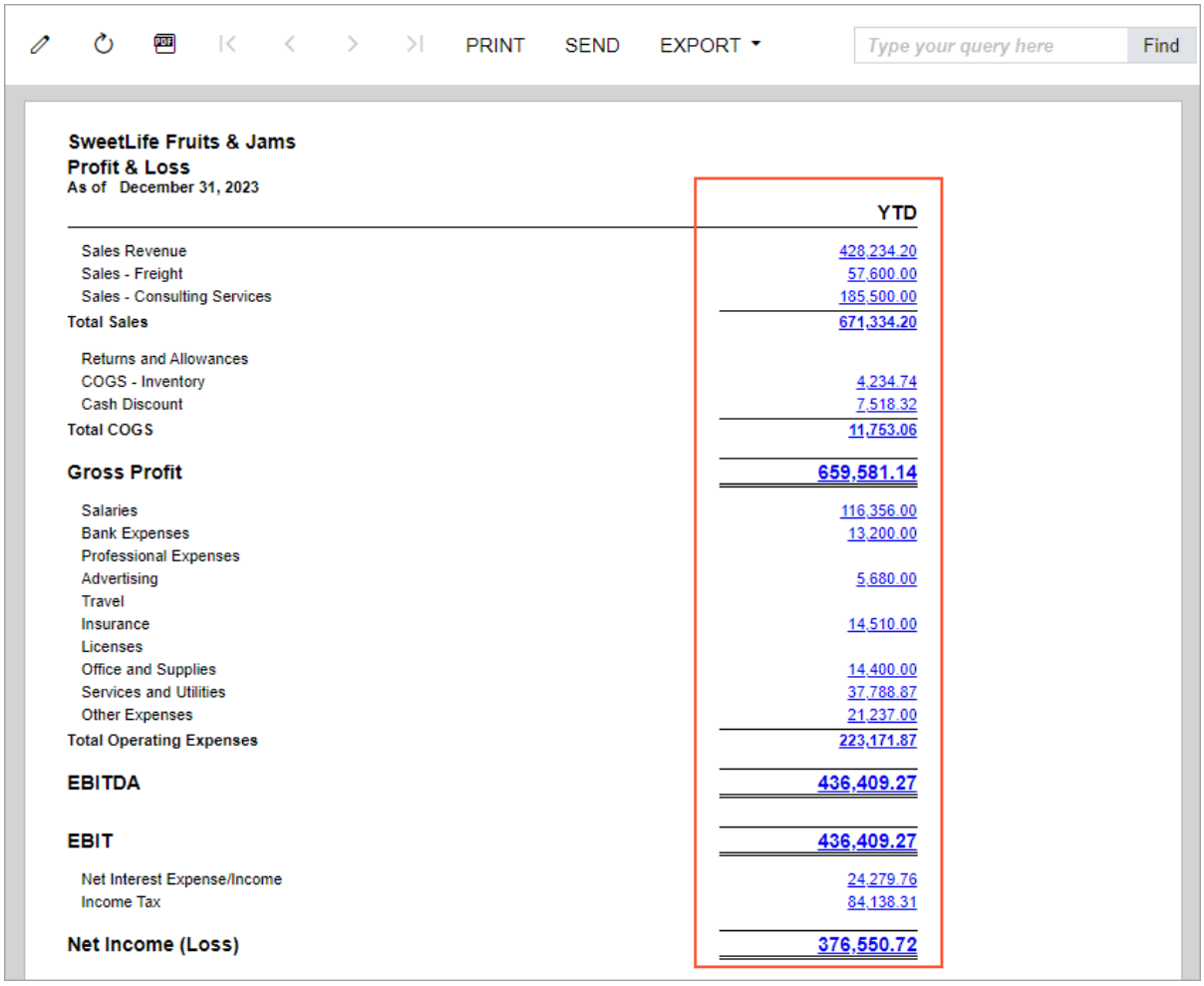


Figure: The Profit & Loss report before changes

Step 2: Updating the Column Header

To update the column header in the report, do the following:

1. On the *Column Sets* (CS206020) form, open the column set with the *F350CS16* code.
2. In the upper table, double-click the cell in the fourth row of column **B**, and then click the magnifier button to open the Formula Editor.
3. In the lower pane of the Formula Editor, replace the existing value with the following formula:

```
=Report.FormatYear(@EndPeriod) + ' ' + 'Q' + switch(Left(@EndPeriod,2)<=3,
'1', Left(@EndPeriod,2)>=4 and Left(@EndPeriod,2)<=6,
'2', Left(@EndPeriod,2)>=7 and Left(@EndPeriod,2)<=9, '3',
Left(@EndPeriod,2)>=10 and Left(@EndPeriod,2)<=12, '4')
```

   This expression displays the year of the selected financial period followed by a space, then *Q*, and the number of the quarter.

The `Report.FormatYear(period)` function retrieves the year of the financial period. Instead of specifying a particular period, you have entered `@EndPeriod`, which corresponds to the end period specified in the report parameters.

The `Left(@EndPeriod,2)` function returns the first two characters of the end period.

The `switch` function returns the value that corresponds to the first expression that evaluates to `True`. The expression that you have entered as the first argument of the `switch` function compares the first two characters of the financial period with *3* and returns *1* if the expression is true.

4. Click **Validate**.
5. Click **OK** to close the Formula Editor.
6. On the form toolbar, click **Save**.

Step 3: Updating the Amount Type

To display only turnover amounts for the selected quarter in the report, while you are still on the *Column Sets* (CS206020) form with the *F350CS16* code selected, do the following:

1. In the lower table, double-click the cell in the row with the **Data Source** attribute and column **B**, and click the magnifier button to open the Data Source dialog box.
2. In the dialog box, set **Amount Type** to *Turnover*.
3. Click **OK** to close the dialog box.
4. On the form toolbar, click **Save**.

Step 4: Updating the Report Parameters

To modify the default report parameters, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD16* code.
2. In the **Default Data Source Settings** section, in the drop-down list to the right of the **End Period** box, select *Request*.
3. In the **Start Period** box, clear the predefined value.
4. On the form toolbar, click **Save**.

Step 5: Reviewing the Updated Report

To review the updated version of the Profit & Loss report, while you are still viewing the *F350RD16* report definition on the *Report Definitions* (CS206000) form, do the following:

1. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
2. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Start Period**: *01-2023*
   - **End Period**: *03-2023*
3. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the column header is *2023 Q1*.

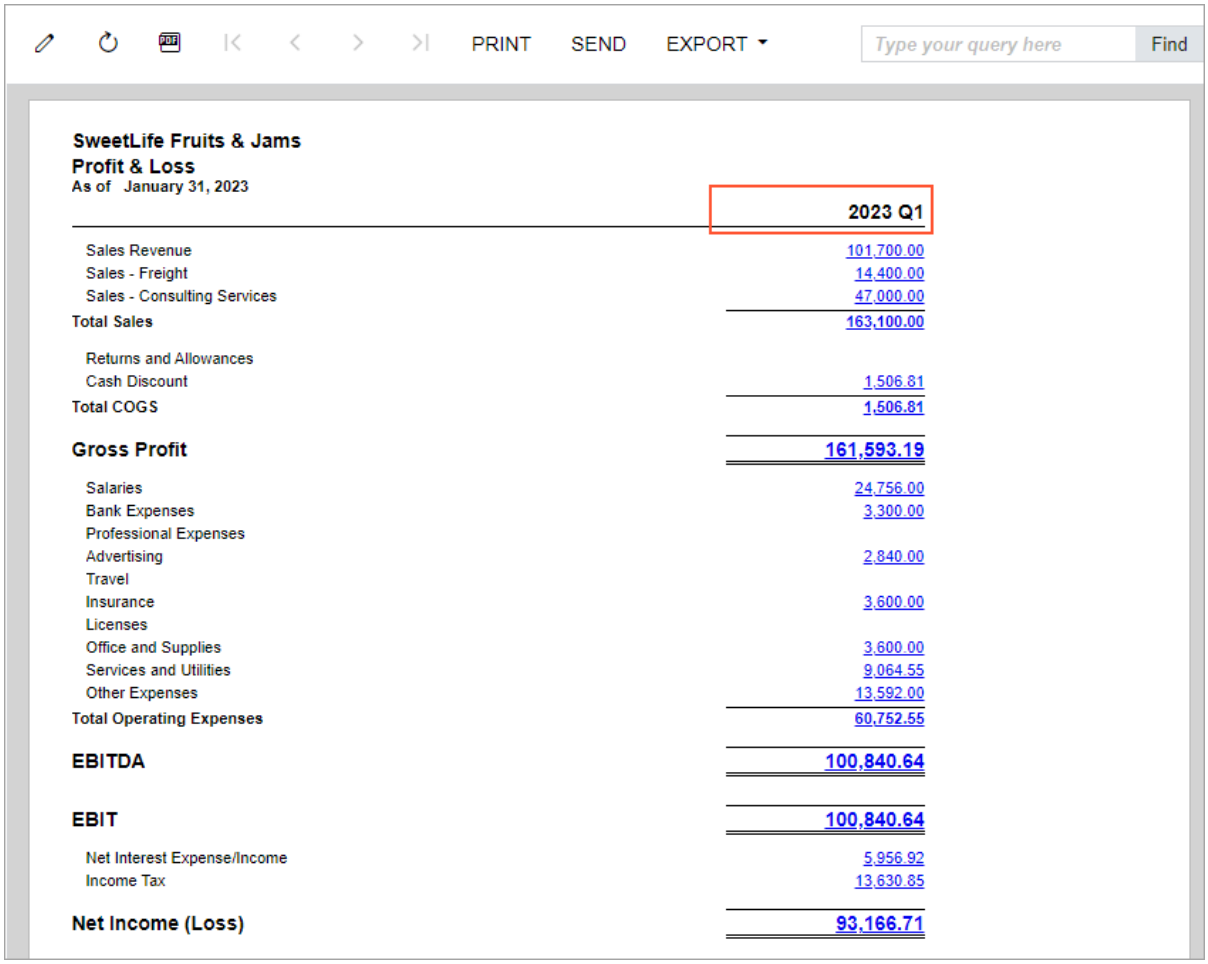
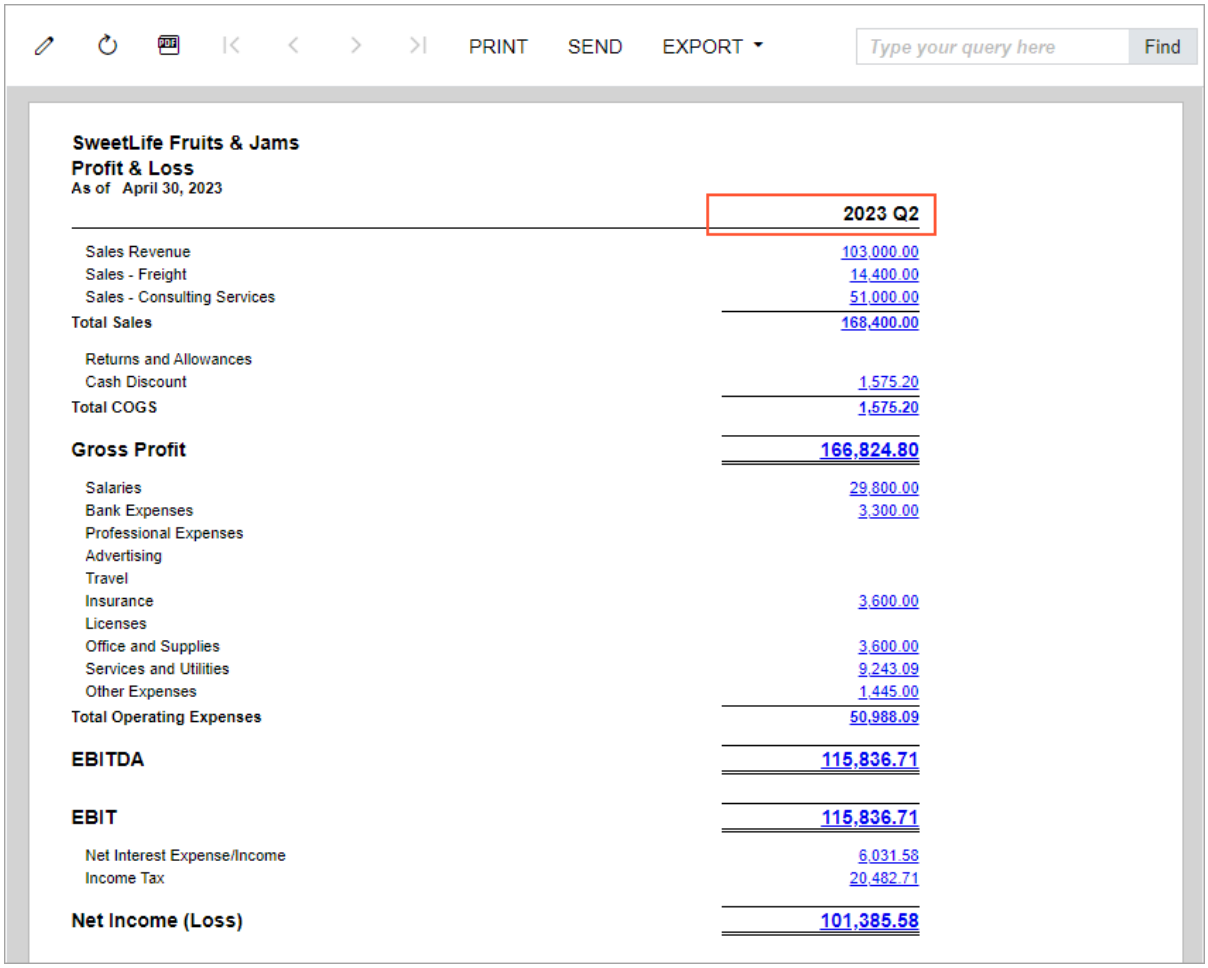


Figure: The updated Profit & Loss report displaying data for the first quarter of 2023

4. On the report toolbar, click **Parameters**.
5. On the report form, change the parameters as follows:
   - **Start Period**: *04-2023*
   - **End Period**: *06-2023*
6. On the report form toolbar, click **Run Report**.

   The Profit & Loss report is opened in a pop-up window. Notice that the column header is *2023 Q2*.



SweetLife Fruits & Jams
Profit & Loss
As of April 30, 2023

	2023 Q2
Sales Revenue	103,000.00
Sales - Freight	14,400.00
Sales - Consulting Services	51,000.00
Total Sales	168,400.00
Returns and Allowances	
Cash Discount	1,575.20
Total COGS	1,575.20
Gross Profit	166,824.80
Salaries	29,800.00
Bank Expenses	3,300.00
Professional Expenses	
Advertising	
Travel	
Insurance	3,600.00
Licenses	
Office and Supplies	3,600.00
Services and Utilities	9,243.09
Other Expenses	1,445.00
Total Operating Expenses	50,988.09
EBITDA	115,836.71
EBIT	115,836.71
Net Interest Expense/Income	6,031.58
Income Tax	20,482.71
Net Income (Loss)	101,385.58

Figure: The updated Profit & Loss report displaying data for the second quarter of 2023

Lesson 8: Formatting a Report

Formatting: Row Displaying Settings

Multiple printing control properties are used to control the displaying of values in a particular row.

Suppress Empty and Hide Zero

The **Suppress Empty** row attribute prevents the displaying of empty rows in the report. The **Hide Zero** attribute prevents the displaying of zero values in the row.

Printing Control

In the **Printing Control** column of the *Row Sets* (CS206010) form, you can specify the row's position in the report and the way the row displaying will be controlled. You can select one of the following options:

- *Line Break*: Use this option to show the next row in a new line.
- *Hidden*: Use this option to hide the row. You may need to use this option if you want to use the values of the row in some calculations but do not need to display the row itself.
- *Merge Next*: Use this option to merge the data in the row with the data in the next row. You can use this option in a sequence of rows if you need to merge the data of multiple rows. The description of the merged row corresponds to the description of the first row with the *Merge Next* option. You may need to merge the data in rows if you need to display a row with the data from different data sources.
- *Start Box*: Use this option to show the data of the row in a frame whose upper border is placed above the row with the *Start Box* option.
- *End Box*: Use this option to show the data of the row in a frame whose lower border is placed under the row with the *End Box* option. If *End Box* is not specified in the **Printing Control** column in any row below the row with the *Start Box* option, then all the rows from the row with the *Start Box* option to the last row in the row set are displayed in the frame.

Linked Row

You can use linked rows when some rows of the report should be displayed depending on whether a particular row is displayed. If the linked row is not displayed in the report, all the rows with the code of the linked row in the **Linked Row** column of the *Row Sets* (CS206010) form will not be displayed in the report either.

Column Group

In the **Column Group** column of the *Row Sets* (CS206010) form, you specify the group of columns where the values from the current row will be printed. Every column group selected for the current row can include one column or multiple columns. When a column group is specified for the current row, the same value should be specified as the **Printing Group** attribute for the columns that will be included in this analytical report where the values from the current row will be inserted.

For example, if the values from the row with the *R01* code should be displayed in columns *A* and *B*, the **Column Group** column of the row should have the same value as the **Printing Group** attribute defined for columns *A* and *B*.

Formatting: Column Displaying Settings

Multiple printing control properties are used to control the displaying of values in a particular column.

Suppress Empty and Hide Zero

The **Suppress Empty** column attribute prevents the displaying of empty columns in the report. The **Hide Zero** attribute prevents the displaying of zero values in the column.

Printing Group

You use the **Printing Group** attribute to define the group of rows where the values from the current column will be printed. Every printing group can include one row or multiple rows, and can be assigned to a single column set or multiple sets. When a column group attribute is specified for the current row, the same column group should be assigned to the **Printing Group** attribute for the column set that will be included in this analytical report.

Unit Group

You use the **Unit Group** attribute to include the current column in the unit group. Unit groups are used to generate summarized or aggregated reports; they define the groups of columns to be displayed in some specific reports. Unit groups include the column sets and row sets in hierarchically organized units that can be used to summarize the values in the report formed from the various column sets and row sets.

Printing Control

You use the **Printing Control** attribute to specify how the columns will be displayed in the report:

- *Print*: The column will be displayed in the report.
- *Hidden*: The column will be hidden from the report and used only to store some values.
- *Merge Next*: The column will be merged with the next one in the report.

Visible Formula

You use the **Visible Formula** attribute to define the conditions of hiding a column when you run the report. If you do not want to have needless columns (for example, those with no data) in the report, you can hide a column or multiple columns by specifying appropriate hiding conditions in the **Visible Formula** box.

Hiding a column does not remove the column or its data at all. The column will be displayed when the report is generated outside the specified conditions.

For example, suppose you have an annual report that has twelve columns, each of which accumulates data by month. If you run the report in March, it will contain the data for the three months (from January to March), so only three columns will contain data. In that case, there is no need to display other columns that have no data. Thus, you can specify conditions to hide the columns depending on the period of time when you run the report.

For the **Visible Formula** attribute, you can specify such values as *=True* (for displaying the column), *=False* (for hiding the column), or a formula with specific conditions for hiding the column depending on the `@StartPeriod` parameter.

Formatting: Formatting of Cells

Format Specifiers

You use format specifiers as the value of the **Format** attribute on the *Column Sets* (CS206020) form (for a column cell) and on the *Row Sets* (CS206010) form (for a row cell) to convert the data selected from the data source to the string value used in the executed report. To specify the format for the column or row cells, you can use the standard formats defined for the format function in .Net.

The following table contains the format specifiers that are frequently used in analytical reports of the *GL* type.

Format Specifier	Name	Description
0	Zero placeholder	If the value being formatted has a digit in the position where the *0* appears in the format string, then that digit is copied to the result string. The position of the leftmost *0* before the decimal point and the rightmost *0* after the decimal point determines the range of digits that are always present in the result string. The *00* specifier causes the value to be rounded to the nearest digit preceding the decimal, where rounding away from zero is always used. For example, formatting 34.5 with *00* would result in the value 35.
#	Digit placeholder	If the value being formatted has a digit in the position where the *#* appears in the format string, then that digit is copied to the result string. Otherwise, nothing is stored in that position in the result string. Note that this specifier never displays the *0* character if it is not a significant digit, even if *0* is the only digit in the string. This specifier displays the *0* character if it is a significant digit in the number being displayed. The *##* format string causes the value to be rounded to the nearest digit preceding the decimal, where rounding away from zero is always used. For example, formatting 34.5 with *##* would result in the value 35. **Example**: Applying the `,##0.00` format specifier will result in the following value: *12,345.60*.
.	Decimal point	The first . character in the format string determines the location of the decimal separator in the formatted value; any additional . characters are ignored. The actual character used as the decimal separator is determined by the regional settings.

Format Specifier	Name	Description
,	Thousand separator and number scaling	This character serves two purposes. First, if the format string contains a , character between two digit placeholders (0 or #) and to the left of the decimal point if one is present, then the output will have thousand separators inserted between each group of three digits (counting from the right) to the left of the decimal separator. The actual character used as the decimal separator in the result string is determined by the regional settings. Second, if the format string contains at least one , character immediately to the left of the decimal point, then the number will be divided by the number of , characters multiplied by 1000 before it is formatted. For example, the format string *0,,* will represent 100 million as simply 100. The , character indicates that scaling does not include thousand separators in the formatted number. Thus, to scale a number by 1 million and insert thousand separators, you would use the format string *#,##0,,*.
%	Percentage placeholder	The presence of the % character in a format string causes a number to be multiplied by 100 before it is formatted. The appropriate symbol is inserted in the number itself at the location where the % appears in the format string. The percent character used is dependent on the regional settings.
C or *c*	Currency	The numbers in the report row or column will be converted to strings that represent the currency amounts. The precision specifier indicates the number of decimal places to be shown. **Examples**: *c*, *c2* You can use a currency symbol in the report rows, such as the U.S. dollar symbol ($) or the Euro symbol (€). To set up the required symbol, use the format string as shown in the following example. **Example (for Euro)**: *\€ #,##0.00* Any symbol that you type after the backslash (\) will be printed as it is.
D or *d*	Decimal	This format is supported for integral types only. The number is converted to a string of decimal digits (0 to 9), preceded by a minus sign if the number is negative. The precision specifier indicates the minimum number of digits in the resulting string. If required, the number is padded with zeros to its left to produce the number of digits given by the precision specifier. **Examples**: *d*, *d4*

For more information about cell formatting, see *Cell Formatting*.

Cell Format Order

Sometimes the row and the column defining a cell may have a format specified. In this case, you must define the **Cell Format Order** attribute of the column, which determines the source of the format that will be applied to the cell. You can select either of the following options:

- *Row*: The format from the row will be used.
- *Column*: The format from the column will be used.

Rounding of Column Values

By specifying the Rounding attribute, you set up the level of rounding that will be used in each particular column of your report to round the values. You can select one of the following types of rounding for a column and get the result shown:

- *No Rounding*: 1,234,567,891.23
- *Whole Dollars*: 1,234,567,891
- *Thousands*: 1,234,567.9
- *Whole Thousands*: 1,234,568
- *Millions*: 1,234.6
- *Whole Millions*: 1,235
- *Billions*: 1.2
- *Whole Billions*: 1

Formatting: Layout Settings

Printing style settings determine how the text in the report will be formatted. The style parameters include the text formatting options you can specify for the report pages and for the individual rows and columns.

Report Formatting Parameters

You can set up the page structure (including the report page and margin sizes), select the font attributes (the font name, size, style, and color), and set up the text alignment and background color attributes for the text lines in the report. The formatting settings defined for the whole report include the report attributes for the page formatting, and the printing style for the report text. You specify the report formatting parameters, described in the following table, on the *Report Definitions* (CS206000) form of the Analytical Report Manager.

Report Layout Parameter	Description
Margins	Includes elements you can use to specify the margin size settings for the report page, which can be set in pixels, points, picas, centimeters, millimeters, or inches. You can specify the following margins: • **Left**: The size of the left margin of the report page. • **Top**: The size of the top margin of the report page. • **Bottom**: The size of the bottom margin of the report page. • **Right**: The size of the right margin of the report page.
Print Area	Includes elements you can use to specify the size of the report page, which can be set in pixels, points, picas, centimeters, millimeters, or inches. You can specify the following sizes: • *Width*: The report page width. • *Height*: The report page height.
Default Font Style	Includes elements you can use to specify the style parameters, including font formatting, background color, and text align options, for the report. These parameters are the same as the settings specified for the row and column **Style** parameters used to define the printing style for the rows and columns.

Report Layout Parameter	Description
Paper Kind	The paper kind used to print the report. Select the appropriate kind from the extensive list of available options.
Landscape	A check box that indicates (if selected) that the report should have landscape orientation, with the shorter side running top to bottom so wider columns can be accommodated. If the check box is cleared, portrait orientation is used, which means that the longer side runs top to bottom.

Row Formatting Parameters

On the *Row Sets* (CS206010) form, you can set up any particular row in the report to visually emphasize it by using text alignment, font name, size, style, color, and background color. The formatting parameters defined on the row level include setting up the row attributes for the row formatting, and defining the printing style for the text in the row. To define the row formatting, set the following row parameters.

Row Formatting Parameter	Description
Page Break	A check box that, if selected, indicates that a page break should be inserted after the line in the printed report.
Height	The row height in the printed report (in pixels).
Indent	The indent value used for the row in the printed report (in pixels).
Line Style	The line style used when the *Line* option is selected for the row type in the **Type** box.

Column Formatting Parameters

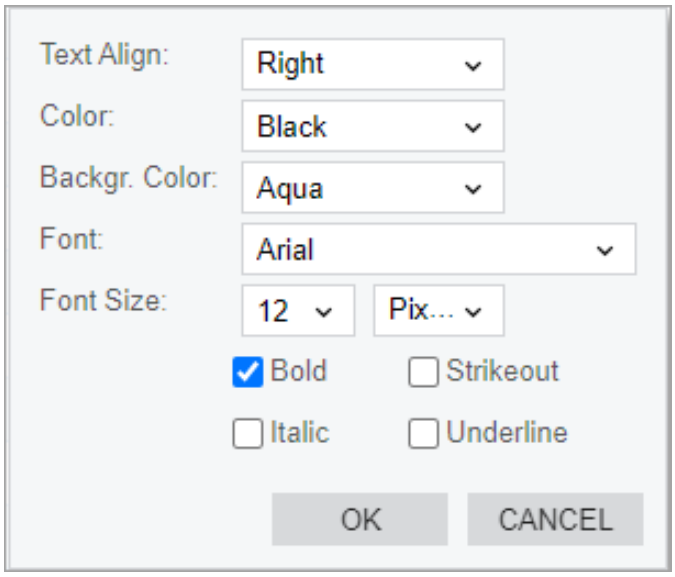
On the *Column Sets* (CS206020) form, you can set up any particular column in the report to visually emphasize it by using text alignment, font name, size, style, color, and background color attributes. The formatting parameters defined on the column level include setting up the column formatting, and defining the printing style for the text in the column. Column formatting is frequently used to highlight some columns in the report (for example, when the highlighted columns display totals calculated for some reporting periods, and they must have a notable formatting). To define the column formatting, set the following column attributes.

Column Formatting Parameter	Description
Width	The column width (in pixels).
Auto Height	A check box that indicates (if selected) that the height of the cell in the selected column should be adjusted. You can use this attribute when you need to move a long string of text to the next line inside the cell.
Extra Space	The extra space added to the column (in pixels).
Suppress Line	A check box that indicates (if selected) that lines should not be displayed.

Style Parameters

Style parameters are the text formatting parameters specified for the entire report or for individual row or column.

You specify the text formatting parameters for a report, row, or column in the style section of the *Report Definitions* (CS206000) form or in the style dialog box (shown below), which you invoke from the *Row Sets* (CS206010) or *Column Sets* (CS206020) form.



In the style dialog box, you can specify the following formatting parameters.

Formatting parameter	Description
Text Align	The alignment for the text in the report lines.
Color	The text color.
Backgr. Color	The background color.
Font	The font name.
Font Size	The font size.
Bold	A check box that indicates (if selected) that the value of the cell should be bold.
Italic	A check box that indicates (if selected) that the value of the cell should be italicized.
Strikeout	A check box that indicates (if selected) that the value of the cell should be struck out.
Underline	A check box that indicates (if selected) that the value of the cell should be underlined.

Formatting: To Display Totals in a Separate Column

The following activity will walk you through the process of modifying a report to display totals in a separate column.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. The company's accountant has requested that you move the totals of the Balance Sheet report to a separate column.

The functionality of ARM reports does not allow you to move the data of specific rows to specific columns, but you can manage the printing of specific rows in specific columns by using column groups. That is, you can display particular rows in only particular columns (for example, display the totals in a separate column and do not display them with the source data).

Configuration Overview

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

- On the *Row Sets* (CS206010) form, the *F350RS12* row set has been created.
- On the *Column Sets* (CS206020) form, the *F350CS12* column set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD12* report definition has been created with the *F350RS12* row set and the *F350CS12* column set specified.

Process Overview

You will modify the row set and the column set of a copy of the Balance Sheet report on the *Row Sets* (CS206010) and *Column Sets* (CS206020) forms, respectively, to move the totals to a separate column. You will then review the updated report on the *Report Definitions* (CS206000) form.

Step 1: Reviewing the Existing Report

First, you will review the existing version of the Balance Sheet (Separate Totals) report, which is a copy of the Balance Sheet report. Do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD12* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Balance Sheet (Separate Totals) report is opened in a pop-up window. The following screenshot highlights the totals that you are going to move to the new column.

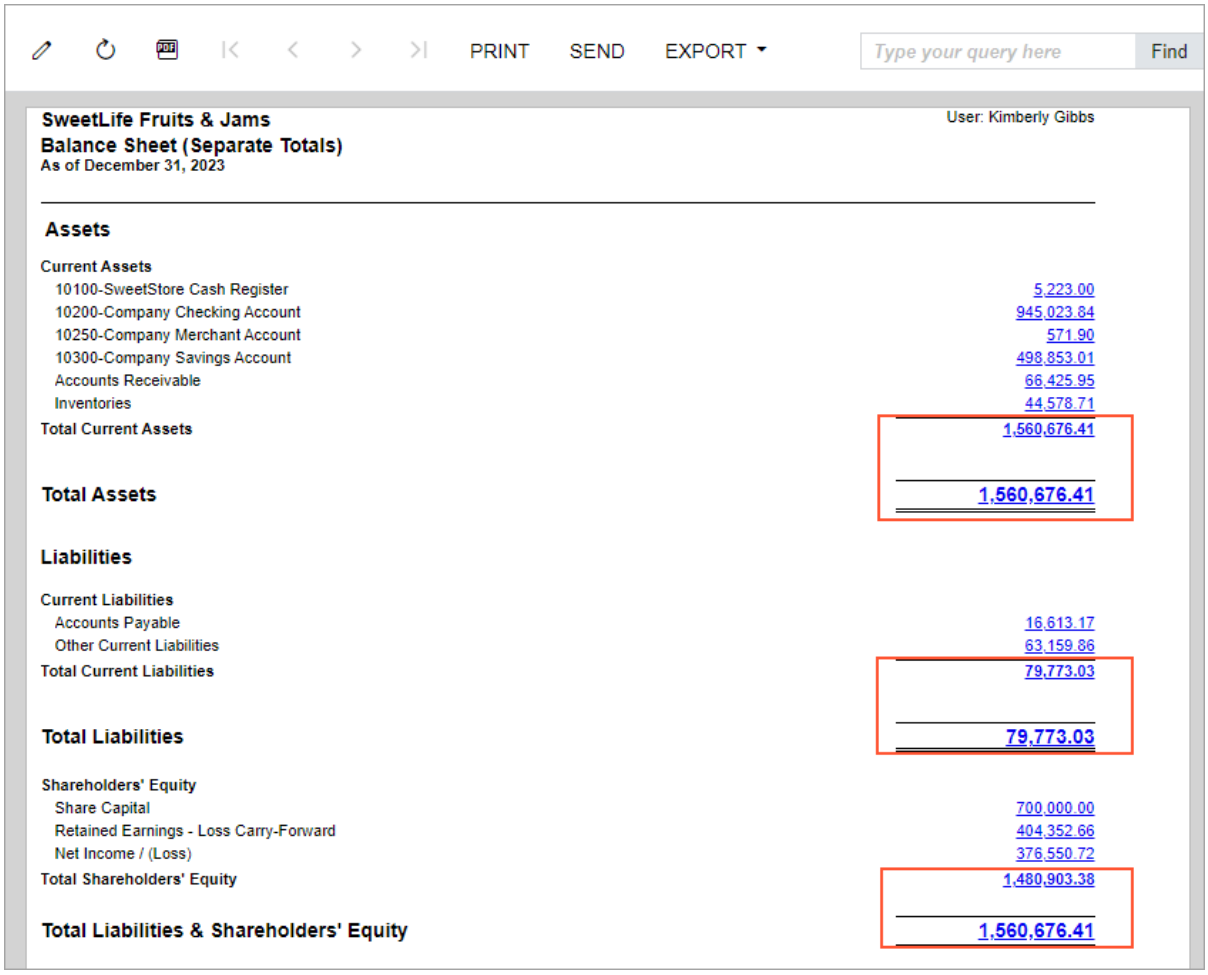


Figure: The report before modification

Step 2: Assigning Column Groups to Rows of the Row Set

As part of moving totals to a new column, you need to assign separate column groups to all rows of the *GL* type, which represent the source data, and to all columns of the *Total* type, which represent the totals in the printed report.

To assign column groups to rows of the row set, do the following:

1. On the *Row Sets* (CS206010) from, open the row set with the *F350RS12* code.
2. For each row of the *GL* type, type `DATA` in the **Column Group** column.
3. For each row of the *Total* type, type `TOTAL` in the **Column Group** column.
4. On the form toolbar, click **Save**.

Step 3: Assigning Printing Groups to Columns of the Column Set

To display the GL rows in one column and the total rows in another, modify the column set of the Balance Sheet (Separate Totals) report as follows:

1. On the *Column Sets* (CS206020) form, open the *F350CS12* column set.
2. On the table toolbar of the lower table, click **New** to create a new column (column **C**).
3. Set the **Printing Group** attribute of column **B** to *DATA*.

Only the rows with the *DATA* column group or no column group will be displayed in this column.

4. Set the **Printing Group** attribute of column **C** to *TOTAL*.

   Only the rows with the *TOTAL* column group or no column group will be displayed in this column.

5. On the form toolbar, click **Save**.

Step 4: Adjusting the Column Settings and Layout

To adjust the settings and layout of the columns, while you are still on the *Column Sets* (CS206020) form with the *F350CS12* column set open, do the following:

1. Assign the attributes of column **C** the following values (so that they are exactly the same as the settings of column **B**):
   - **Format**: `#,##0.00;(#,##0.00)`
   - **Width**: `140`
2. Click the **Style** attribute of column **B**.
3. On the form toolbar of the lower table, click **Copy Style**.
4. Click the **Style** attribute of column **C**.
5. On the form toolbar of the lower table, click **Paste Style**.

   You can click the cell of any attribute of a column to copy the column's style or paste the copied style.

6. Double-click the **Data Source** attribute of column **C**, and click the magnifier button to open the Data Source dialog box.
7. In the dialog box, set **Amount Type** to *Ending Balance*.
8. Click **OK** to close the dialog box.
9. Change the **Width** attribute of column **A** to `460`. This will reduce the original width by the width of the new column so that the report can still fit the paper size after the modification.
10. On the form toolbar, click **Save**.

Step 5: Reviewing the Changes in the Report

To review the changes you have made to the report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD12* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Balance Sheet (Separate Totals) report is opened in a pop-up window. Although the totals are now displayed in a separate column and the original column does not show these totals, the total values became zero. Also, the modified report has almost no descriptions in the first column.

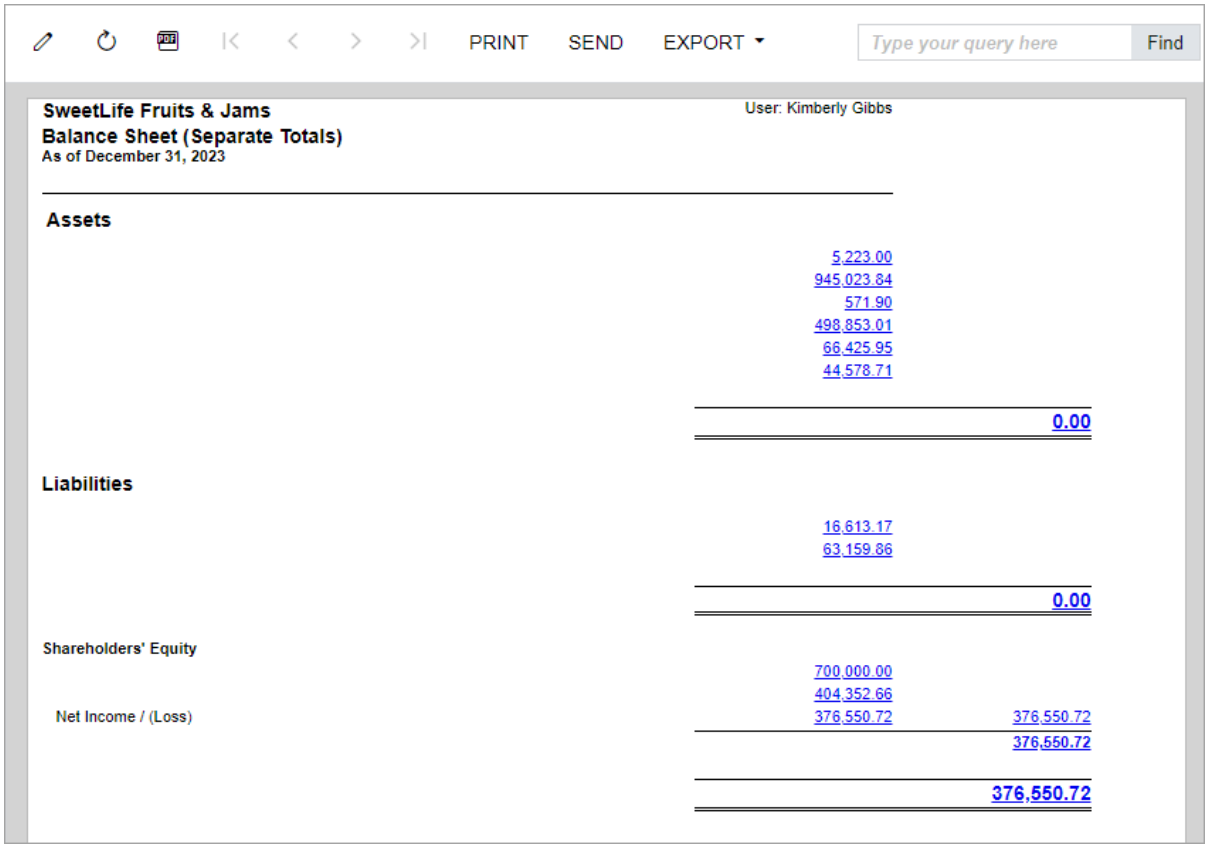


Figure: The updated report with the moved totals

Step 6: Displaying the Row Descriptions

The modified report has only a few row descriptions in the first column because the first column of the column set has no printing group defined. Only the rows with no column group defined are displayed in this column.

To display row descriptions in the first column, do the following:

1. On the *Column Sets* (CS206020) form, open the column set with the *F350CS12* code.
2. In the **Printing Group** attribute of column **A**, specify `DATA`.

   With this setting, only the rows with the *DATA* column group or with no column group will be displayed in this column. Rows with the *TOTAL* column group will not be displayed in this column.
3. On the table toolbar of the lower table, click **New**.

   A new column, **D**, is added.
4. Click any attribute of column **D**.
5. On the table toolbar of the lower table, click **Shift Left** twice.
6. Click any cell of column **D** in the upper table.
7. On the table toolbar of the upper table, click **Shift Left** twice.

   The new column **D** is now column **B**. The column to display the data of the GL has become **C**, and the total column has now become **D**.
8. In the lower table, specify the following settings in column **B** so that they match the settings of column **A**:
   - **Type**: *Calc*
   - **Cell Evaluation Order**: *Column*
   - **Value**: `=@RowText`

- **Width**: `460`
- **Extra Space**: `10`
- **Suppress Line**: Selected

9. In the **Printing Group** attribute of column **B**, specify `TOTAL`.

   With this setting, only the rows with the *TOTAL* column group or with no column group will be displayed in this column.

10. On the form toolbar, click **Save**.

Now the report has all the needed row descriptions in two different columns (**A** and **B**); however, you need them to be displayed in a single column.

Step 7: Displaying Different Column Groups in a Single Column

To display both column groups in one column, while you are still on the *Column Sets* (CS206020) form with the *F350CS12* column set open, do the following:

1. In the **Printing Control** attribute of column **A**, select *Merge Next*.
2. In the **Printing Control** attribute of column **B**, select *Hidden*.

   With these settings, column **B** will be hidden in the printed report, and its values will be merged to column **A**.

3. On the form toolbar, click **Save**.

Step 8: Reviewing the Changes in the Report

To review the changes you have made to the report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD12* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Balance Sheet (Separate Totals) report opens in a pop-up window. Your report should look similar to the one shown in the following screenshot. The row descriptions for both the GL rows and the total rows have appeared in the report. The total amounts are still zero.

5. Close the pop-up window.

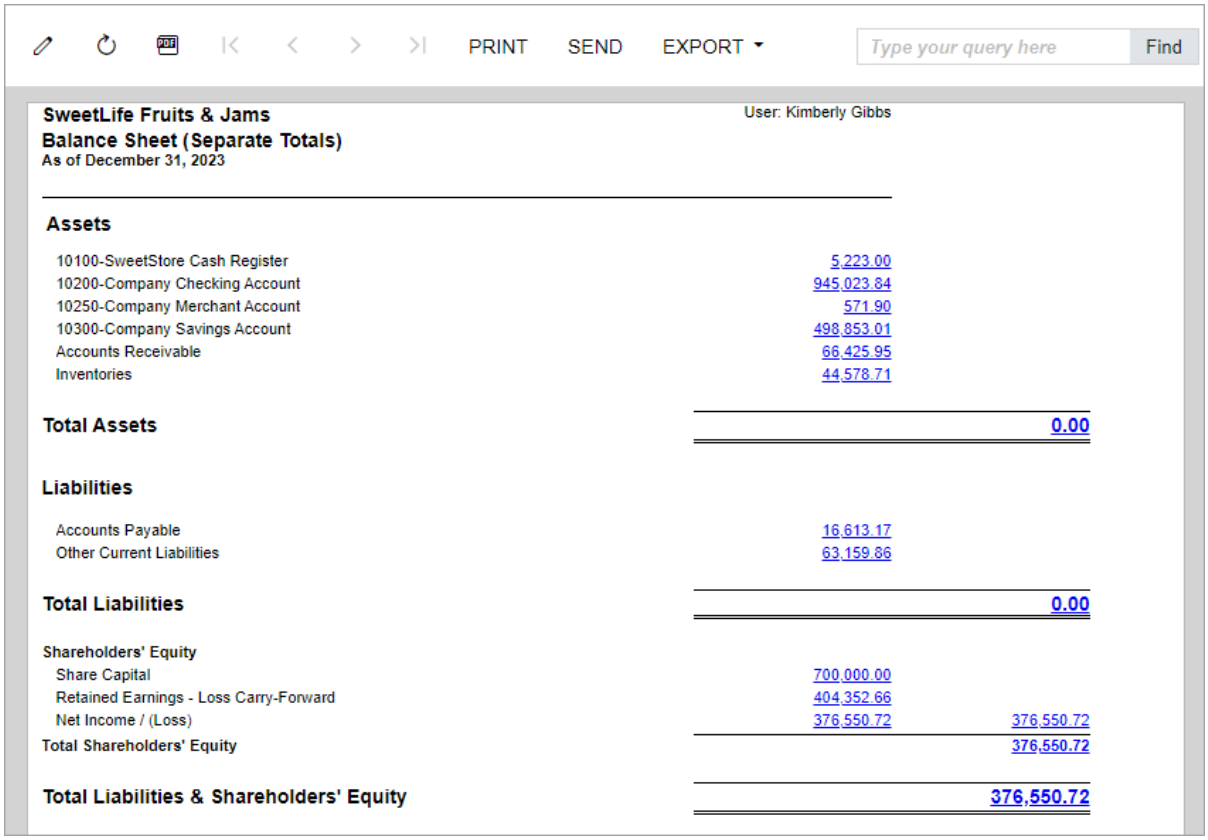


Figure: The updated report with row descriptions

Step 9: Getting Row Values from Particular Columns

The totals in your report are zero because in the row set, the formulas for totals depend on the values of other rows. For example, the total for current assets is calculated with the following formula: `=sum('00100', '00196')`. This formula adds the amount of all the rows of the row set, from the *00100* row up to the *00196* row. (These are the GL rows.) The system gets the values from these rows in the same column of the generated report but because of different column groups in the modified report, these rows are not printed in the same column with totals anymore, so the sum is zero.

Instead of combining the row values with the `=sum('00100', '00196')` or the `=@00100 + @00120 + ...` formula, add the values of particular cells by using the `value(row , column)` function. With the `value()` function, you can get the value from a particular row (`'00100'`, `'00120'`, and so on) and a particular column. For GL rows, you need to get values from column **C**. For already calculated totals, you need to get values from column **D**.

To fix the calculation of totals, do the following:

1. On the *Row Sets* (CS206010) form, open the row set with the *F350RS12* code.
2. Modify the **Value** attribute of the total rows as follows:
   - *Total Current Assets* (code *00198*): `=value('00110', 'C') + value('00120', 'C') + value('00121', 'C') + value('00125', 'C') + value('00130', 'C') + value('00135', 'C') + value('00136', 'C') + value('00140', 'C')`
   - *Total Assets* (code *00350*): `=value('00198', 'D') + value('00205', 'C') + value('00210', 'C') + value('00215', 'C') + value('00220', 'C') + value('00225', 'C') + value('00230', 'C') + value('00235', 'C')`

- *Total Current Liabilities* (code *00498*): `=value('00415', 'C') + value('00420', 'C') + value('00425', 'C') + value('00430', 'C') + value('00435', 'C') + value('00440', 'C') + value('00445', 'C')`
- *Total Liabilities* (code *00598*): `=value('00498', 'D') + value('00515', 'C') + value('00520', 'C') + value('00525', 'C') + value('00530', 'C') + value('00535', 'C')`
- *Total Shareholders' Equity* (code *00698*): `=value('00615', 'C') + value('00620', 'C') + value('00625', 'C') + value('00630', 'C') + value('00633', 'C') + value('00635', 'C') + value('00640', 'C') + value('00645', 'C')`
- *Total Liabilities & Shareholders' Equity* (code *00750*): `=value('00598', 'D') + value('00698', 'D')`

3. On the form toolbar, click **Save**.

Step 10: Reviewing the Updated Report

To review the updated report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD12* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, specify the following report parameters:
   - **Company**: *SWEETLIFE*
   - **Ledger**: *ACTUAL*
   - **Financial Period**: *12-2023*
4. On the report form toolbar, click **Run Report**.

   The Balance Sheet (Separate Totals) report is opened in a pop-up window. Your report should look similar to the one shown in the following screenshot.

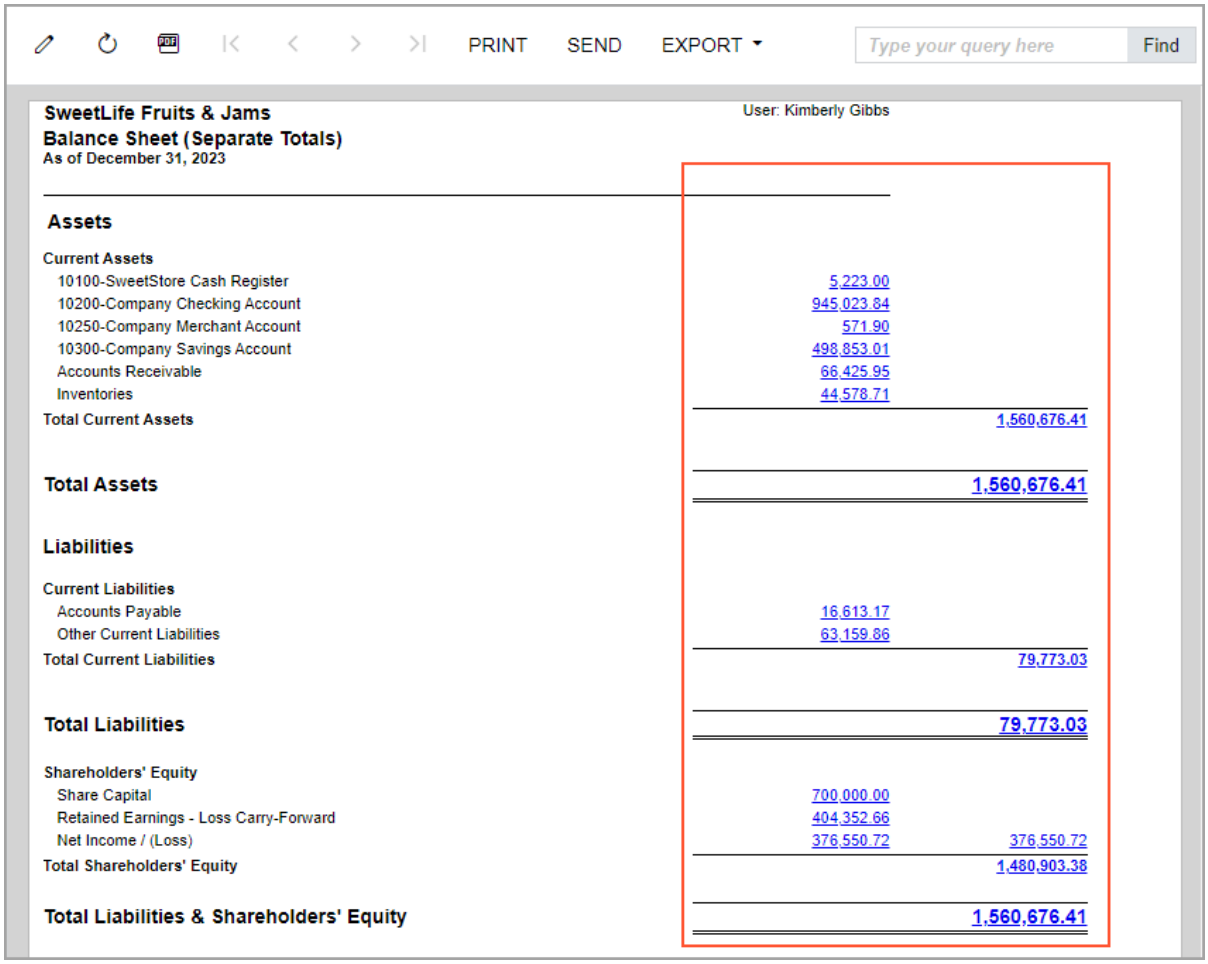


Figure: The updated Balance Sheet report

Formatting: To Display a Column for a Particular Unit

In this activity, you will add a column that will be displayed only when a particular unit of a unit set is selected.

Story

Suppose that you are a technical specialist at SweetLife Fruits & Jams who is responsible for building and supporting analytical reports. The company's management has requested that you modify the existing Profit & Loss Quarterly report to display the consolidated data for the whole company and the detailed quarterly amounts for each of its branches. They also need the report to show the year-over-year annual performance.

Configuration Overview

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

- On the *Column Sets* (CS206020) form, the *F350CS14* column set has been created.
- On the *Unit Sets* (CS206030) form, the *F350US14* unit set has been created.
- On the *Report Definitions* (CS206000) form, the *F350RD14* report definition has been created with the *F350CS14* column set and the *F350US14* unit set specified.

Process Overview

In this activity, you will do the following:

1. On the *Unit Sets* (CS206030) form, you will assign a printing group to each of the units in the unit set.
2. On the *Column Sets* (CS206020) form, you will add a column to the column set to calculate the percentage, which compares the account balances of the selected financial year to the account balances of the previous financial year. You will then define this column to be displayed for only the first unit of the unit set.
3. On the *Report Definitions* (CS206000) form, you will review the resulting report.

Step 1: Reviewing the Existing Report

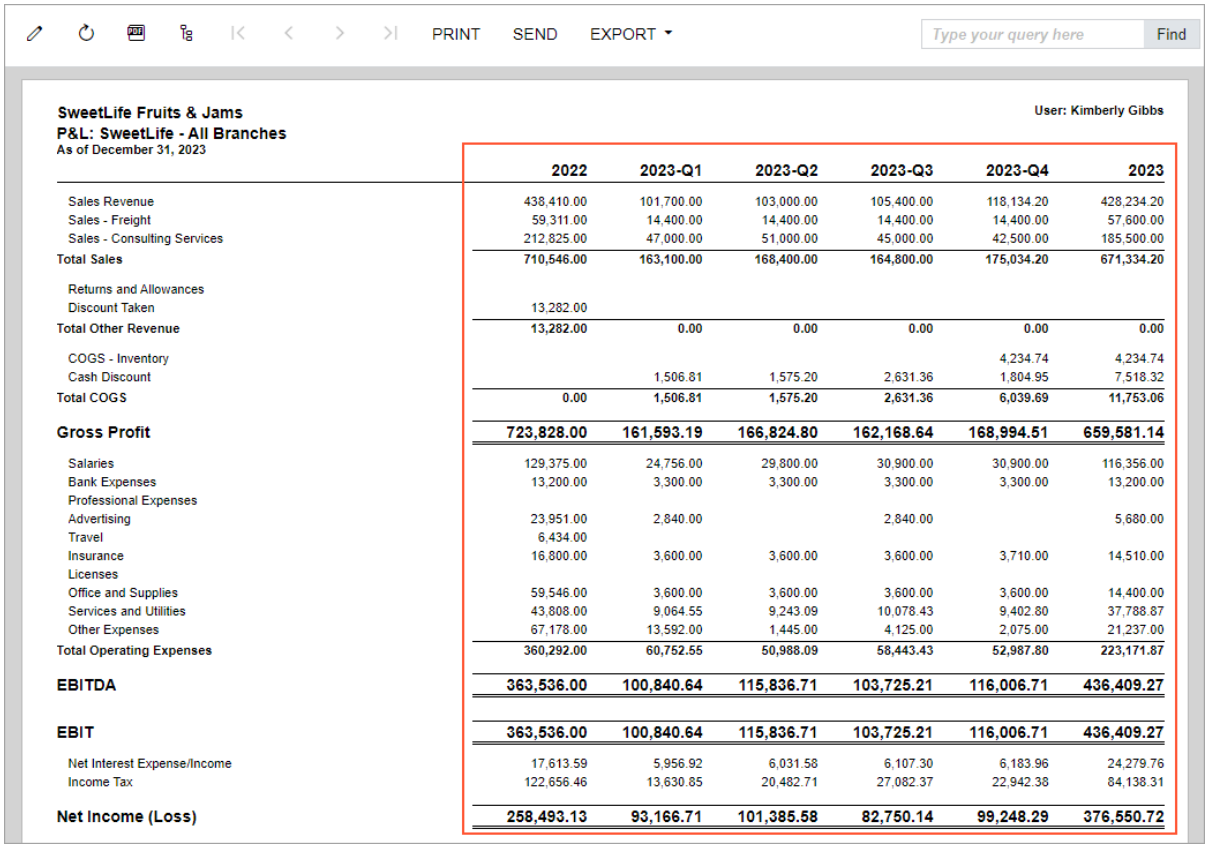
To review the existing version of the Profit & Loss - Quarterly report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD14* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window.
3. On the **Report Parameters** tab of the report form, set **Financial Period** to *12-2023*.
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss - Quarterly report opens in a pop-up window.
5. On the report form toolbar, click the **Groups** button to open the left pane with the report units (see the following screenshot).

   Notice that six columns are displayed for the whole company (which is the first unit of the defined unit set).
6. Close the pop-up window.

Figure: The Profit & Loss - Quarterly report before modification



SweetLife Fruits & Jams
P&L: SweetLife - All Branches
As of December 31, 2023

User: Kimberly Gibbs

	2022	2023-Q1	2023-Q2	2023-Q3	2023-Q4	2023
Sales Revenue	438,410.00	101,700.00	103,000.00	105,400.00	118,134.20	428,234.20
Sales - Freight	59,311.00	14,400.00	14,400.00	14,400.00	14,400.00	57,600.00
Sales - Consulting Services	212,825.00	47,000.00	51,000.00	45,000.00	42,500.00	185,500.00
Total Sales	**710,546.00**	**163,100.00**	**168,400.00**	**164,800.00**	**175,034.20**	**671,334.20**
Returns and Allowances						
Discount Taken	13,282.00					
Total Other Revenue	**13,282.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
COGS - Inventory					4,234.74	4,234.74
Cash Discount		1,506.81	1,575.20	2,631.36	1,804.95	7,518.32
Total COGS	**0.00**	**1,506.81**	**1,575.20**	**2,631.36**	**6,039.69**	**11,753.06**
Gross Profit	**723,828.00**	**161,593.19**	**166,824.80**	**162,168.64**	**168,994.51**	**659,581.14**
Salaries	129,375.00	24,756.00	29,800.00	30,900.00	30,900.00	116,356.00
Bank Expenses	13,200.00	3,300.00	3,300.00	3,300.00	3,300.00	13,200.00
Professional Expenses						
Advertising	23,951.00	2,840.00		2,840.00		5,680.00
Travel	6,434.00					
Insurance	16,800.00	3,600.00	3,600.00	3,600.00	3,710.00	14,510.00
Licenses						
Office and Supplies	59,546.00	3,600.00	3,600.00	3,600.00	3,600.00	14,400.00
Services and Utilities	43,808.00	9,064.55	9,243.09	10,078.43	9,402.80	37,788.87
Other Expenses	67,178.00	13,592.00	1,445.00	4,125.00	2,075.00	21,237.00
Total Operating Expenses	**360,292.00**	**60,752.55**	**50,988.09**	**58,443.43**	**52,987.80**	**223,171.87**
EBITDA	**363,536.00**	**100,840.64**	**115,836.71**	**103,725.21**	**116,006.71**	**436,409.27**
EBIT	**363,536.00**	**100,840.64**	**115,836.71**	**103,725.21**	**116,006.71**	**436,409.27**
Net Interest Expense/Income	17,613.59	5,956.92	6,031.58	6,107.30	6,183.96	24,279.76
Income Tax	122,656.46	13,630.85	20,482.71	27,082.37	22,942.38	84,138.31
Net Income (Loss)	**258,493.13**	**93,166.71**	**101,385.58**	**82,750.14**	**99,248.29**	**376,550.72**

Step 2: Assigning Printing Groups to Units

To assign a printing group to each unit of the unit set, do the following:

1. On the *Unit Sets* (CS206030) form, select the unit set with the *F350US14* code.
2. In the left pane, click the **ROOT** node of the unit set.
3. In the table row of the table (which is the row of the *U1* unit), enter `1` in the **Printing Group** column.
4. On the form toolbar, click **Save**.
5. In the left pane, click the **U1** unit.
6. In the table row in the right table, enter `2` in the **Printing Group** column for units *U2*, *U3*, and *U4*.
7. On the form toolbar, click **Save**.

Step 3: Adding a Column with Year-over-Year Performance Data

To add a column that will display the year-over-year annual performance, do the following:

1. On the *Column Sets* (CS206020) form, open the column set with the *F350CS14* code.
2. On the table toolbar of the lower table, click **New** to add a column.
3. In the new column (which will be the rightmost column **H**), specify the following attributes:
   - **Type**: *Calc*
   - **Cell Evaluation Order**: *Column*
   - **Value**: `=G/B`
   - **Format**: `#,##0.00%`

- **Width**: `100`

4. In the upper table, do the following:
   a. In the cell of the fourth row of column **H**, type the following header: `='% YOY'`.
   b. Copy the style of the fourth row of column **G** to the fourth row of column **H**.
   c. Copy the style of the fifth row of column **G** to the fifth row of column **H**.
5. In the lower table, do the following:
   a. Select any attribute of column **G**.
   b. On the table toolbar, click **Copy Style**.
   c. Select any attribute of column **H**.
   d. On the table toolbar, click **Paste Style**.
6. On the form toolbar, click **Save**.

Step 4: To Display Columns for Particular Units

You need to display column **H** only for the first unit, and columns **C** through **F** for all other units. While you are still on the *Column Sets* (CS206020) form with the *F350CS14* column set open, do the following:

1. In column **H** of the lower table, specify the **Unit Group** value as `1`, which is the **Printing Group** value that you specified for unit *U1* of the unit set.
2. In columns **C** through **F**, specify the **Unit Group** value as `2`, which is the **Printing Group** value that you specified for units *U2*, *U3*, and *U4* of the unit set.
3. On the form toolbar, click **Save**.

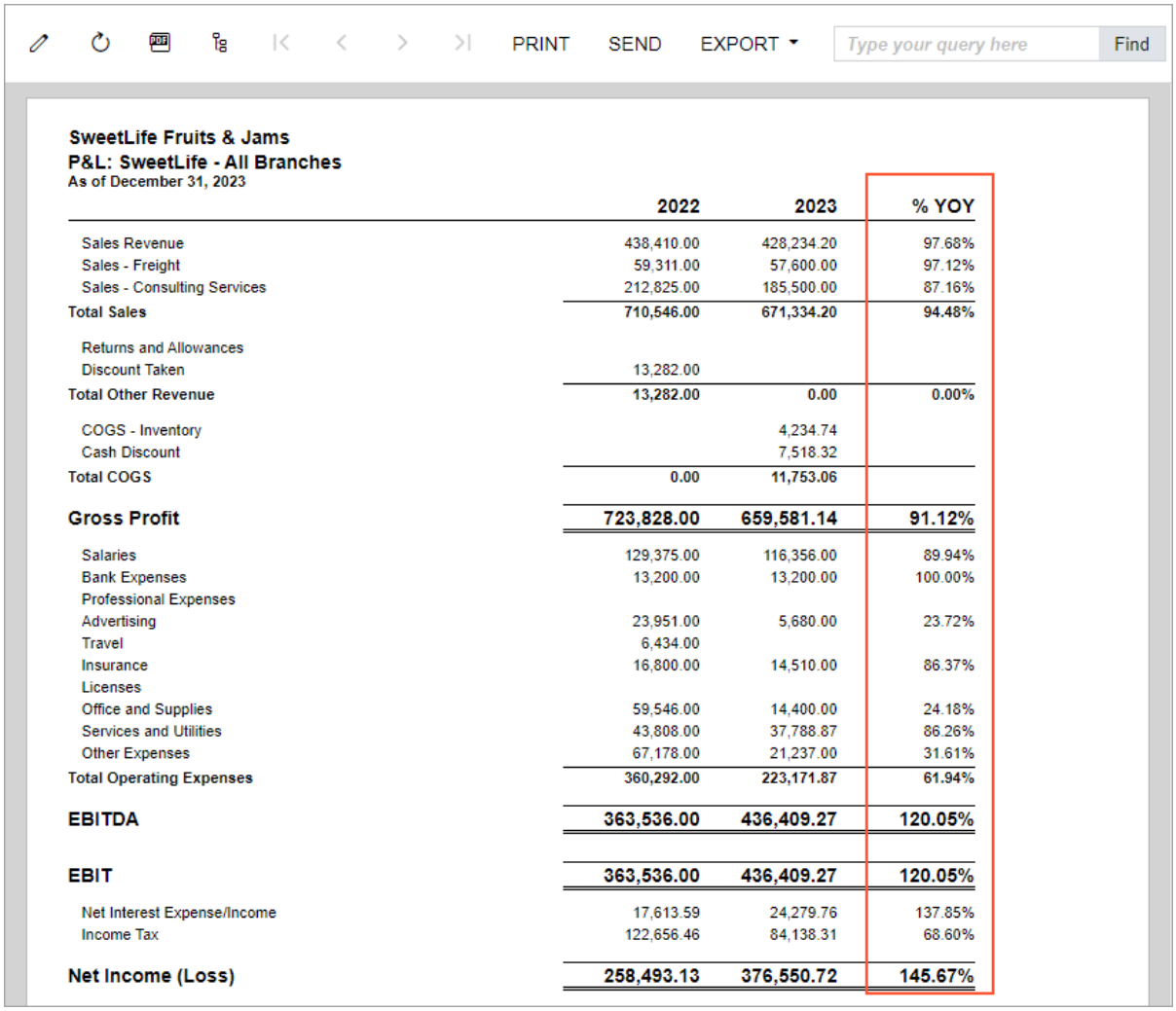
Step 5: Reviewing the Updated Report

To review the updated version of the Profit & Loss - Quarterly report, do the following:

1. On the *Report Definitions* (CS206000) form, open the report definition with the *F350RD14* code.
2. On the form toolbar, click **Preview**. The report form opens in a pop-up window
3. On the **Report Parameters** tab of the report form, set **Financial Period** to *12-2023*.
4. On the report form toolbar, click **Run Report**.

   The Profit & Loss - Quarterly report is opened in a pop-up window.
5. On the report toolbar, click the **Groups** button to open the left pane with the report units.

   Notice that only the columns with yearly data and year-over-year performance are displayed for the whole company (see the following screenshot).

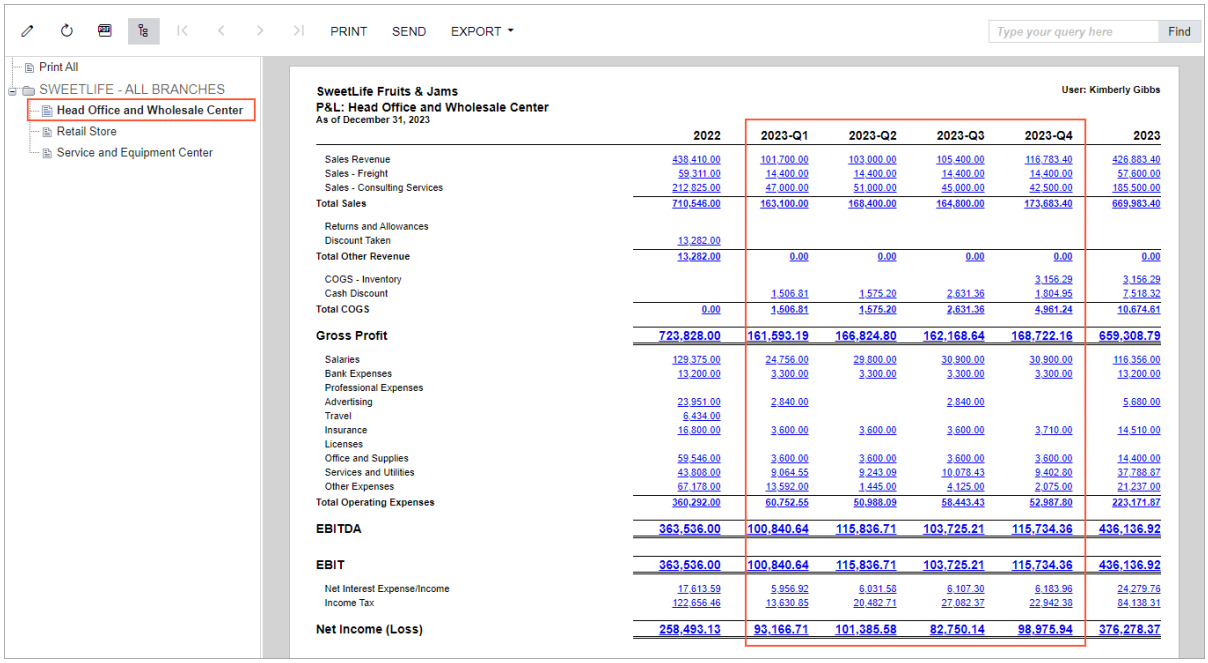


SweetLife Fruits & Jams
P&L: SweetLife - All Branches
As of December 31, 2023

	2022	2023	% YOY
Sales Revenue	438,410.00	428,234.20	97.68%
Sales - Freight	59,311.00	57,600.00	97.12%
Sales - Consulting Services	212,825.00	185,500.00	87.16%
Total Sales	**710,546.00**	**671,334.20**	**94.48%**
Returns and Allowances			
Discount Taken	13,282.00		
Total Other Revenue	**13,282.00**	**0.00**	**0.00%**
COGS - Inventory		4,234.74	
Cash Discount		7,518.32	
Total COGS	**0.00**	**11,753.06**	
Gross Profit	**723,828.00**	**659,581.14**	**91.12%**
Salaries	129,375.00	116,356.00	89.94%
Bank Expenses	13,200.00	13,200.00	100.00%
Professional Expenses			
Advertising	23,951.00	5,680.00	23.72%
Travel	6,434.00		
Insurance	16,800.00	14,510.00	86.37%
Licenses			
Office and Supplies	59,546.00	14,400.00	24.18%
Services and Utilities	43,808.00	37,788.87	86.26%
Other Expenses	67,178.00	21,237.00	31.61%
Total Operating Expenses	**360,292.00**	**223,171.87**	**61.94%**
EBITDA	**363,536.00**	**436,409.27**	**120.05%**
EBIT	**363,536.00**	**436,409.27**	**120.05%**
Net Interest Expense/Income	17,613.59	24,279.76	137.85%
Income Tax	122,656.46	84,138.31	68.60%
Net Income (Loss)	**258,493.13**	**376,550.72**	**145.67%**

Figure: The Profit & Loss - Quarterly report for SweetLife (unit U1) after modification

6. In the left pane, click **Head Office and Wholesale Center**, which corresponds to unit *U2*, as shown in the following screenshot, and review the report.



SweetLife Fruits & Jams
P&L: Head Office and Wholesale Center
As of December 31, 2023

User: Kimberly Gibbs

	2022	2023-Q1	2023-Q2	2023-Q3	2023-Q4	2023
Sales Revenue	438,410.00	101,700.00	103,000.00	105,400.00	116,783.40	426,883.40
Sales - Freight	59,311.00	14,400.00	14,400.00	14,400.00	14,400.00	57,600.00
Sales - Consulting Services	212,825.00	47,000.00	51,000.00	45,000.00	42,500.00	185,500.00
Total Sales	710,546.00	163,100.00	168,400.00	164,800.00	173,683.40	669,983.40
Returns and Allowances						
Discount Taken	13,282.00					
Total Other Revenue	13,282.00	0.00	0.00	0.00	0.00	0.00
COGS - Inventory					3,156.29	3,156.29
Cash Discount		1,506.81	1,575.20	2,631.36	1,804.95	7,518.32
Total COGS	0.00	1,506.81	1,575.20	2,631.36	4,961.24	10,674.61
Gross Profit	723,828.00	161,593.19	166,824.80	162,168.64	168,722.16	659,308.79
Salaries	129,375.00	24,756.00	29,800.00	30,900.00	30,900.00	116,356.00
Bank Expenses	13,200.00	3,300.00	3,300.00	3,300.00	3,300.00	13,200.00
Professional Expenses						
Advertising	23,951.00	2,840.00		2,840.00		5,680.00
Travel	6,434.00					
Insurance	16,800.00	3,600.00	3,600.00	3,600.00	3,710.00	14,510.00
Licenses						
Office and Supplies	59,546.00	3,600.00	3,600.00	3,600.00	3,600.00	14,400.00
Services and Utilities	43,808.00	9,064.55	9,243.09	10,078.43	9,402.80	37,788.87
Other Expenses	67,178.00	13,592.00	1,445.00	4,125.00	2,075.00	21,237.00
Total Operating Expenses	360,292.00	60,752.55	50,988.09	58,443.43	52,987.80	223,171.87
EBITDA	363,536.00	100,840.64	115,836.71	103,725.21	115,734.36	436,136.92
EBIT	363,536.00	100,840.64	115,836.71	103,725.21	115,734.36	436,136.92
Net Interest Expense/Income	17,613.59	5,956.92	6,031.58	6,107.30	6,183.96	24,279.76
Income Tax	122,656.46	13,630.85	20,482.71	27,082.37	22,942.38	84,138.31
Net Income (Loss)	258,493.13	93,166.71	101,385.58	82,750.14	98,975.94	376,278.37

Figure: The Profit & Loss - Quarterly report for the head office (unit U2) after modification

Additional Materials: Best Practices

We recommend that you heed the following suggestions when you are developing an Analytical Report Manager (ARM) report.

Using Proper Naming Conventions and Descriptions

You should develop naming conventions so that you can easily identify the report definitions, row sets, and column sets that are used together in the same reports. If you have multiple column sets that are used with the same row set in different report definitions, you can name the column sets with a prefix that helps you identify the row set with which each column set is used. For example, the names (codes) of the report definition, the row set, and the column set of each report can be similar. For the predefined reports in the system, all of these codes start with *D*. Thus, for your reports, we recommend that you start the codes with any character except *D*.

Also, you should specify a report description that matches the report title. On the *Report Definitions* (CS206000) form, specify a description that matches the title of the report in the **Site Map** section of this form. This will help you find the report when you select its report definition code.

Creating Copies of Reports Before Modifying Them

If you want to modify a default report, you should create a copy of it, including the row set and the column set, and modify the copy. This way, the changes you make will not affect the existing reports.

Saving and Reviewing Reports Frequently

While you are modifying a report, we recommend that you regularly save each portion of your changes to the row set or the column set. For example, save the row set after you have added each new row.

You should review your report regularly to see the changes you have made. These reviews will ease troubleshooting, because you can detect issues sooner and trace them to their causes more easily.

Reserving Codes for Future Use

When you are creating a report, you should reserve row codes—that is, omit a particular number or a range of numbers after each row code. For example, if the code of the first row of your row set is *0010*, omit the numbers *0011* through *0019*, and add the next row with the *0020* code. Similarly, you should then omit the numbers *0021* through *0029* and use the *0030* code for the next row; you then continue using multiples of 10 as the codes.

The order of rows in a row set depends on their codes. If you do not specify any sorting conditions for the row set, the rows are displayed in the report in the order in which they are listed in the row set. Reserving row codes gives you the ability to add new rows between existing ones. For example, if you decide to expand a row of an existing report, you will be able to add a subtotal after this row.

Keeping Sorting Conditions in a Row Set Together

You should keep all rows with sorting conditions together in a particular row set. The location of rows with sorting conditions in the row set does not affect sorting conditions. For easier maintenance of row sets, we recommend that you add the rows with sorting conditions to the end of each row set and keep all conditions listed together.

Using Templates for Quicker Report Execution

We recommend that you save the parameters of a particular report, which are specified on the report form, as a template so that you can run the report quickly. For example, for test scenarios, you can save the report parameters to be used for testing as the default report template for the specific report. Because you have created the default

template, you can just open the report and then run it immediately without needing to remember and specify all the report parameters. You can use templates for other routine tasks as well.

You can also specify default values of the report parameters in the report definition. If you do, and if the values were specified for testing purposes, remember to clear these default values when you finish developing the report.

Using Account Classes

You may want to use account classes to aggregate the data of some accounts instead of using complicated masks. Selecting accounts by account classes is a flexible approach that is also easy to use and maintain. Moreover, the selection of data by account classes works faster than the selection by account-subaccount ranges specified in the data source does.

When you define the chart of accounts or any time after, you can define account classes and then use them in analytical reports. To select a set of particular accounts in the data source of a report row or a report column, you can create an account class and assign this class to the needed accounts. You can define any number of custom account classes.

We recommend that only accounts of the same type be grouped into an account class. Retrieving data of an account class that includes accounts of different types to be displayed in a single row of an analytical report may lead to unexpected results.

Using Appropriate Formulas for the Reversed Sign of the Trial Balance

You need to use appropriate formulas for analytical reports if the balances should be shown in them with the reversed sign. The **Sign of the Trial Balance** option, which is specified on the *General Ledger Preferences* (GL102000) form, defines how the trial balance is displayed on reports and inquiries:

- If the sign of the trial balance is normal, the credit balances for liability and income accounts are displayed with the plus sign, so that the following equation is adhered to: `Assets + Expenses = Liabilities + Income`.

  YTD Net Income is excluded from these equations.

- If the sign of the trial balance is reversed, the credit balances for liability and income accounts are displayed with the minus sign, so that the following equation is correct: `Assets + Expenses + Liabilities + Income = 0`. However, the reversed sign of the trial balance does not affect analytical reports, because analytical reports do not consider the type of accounts. That is, the second equation is not correct for analytical reports, which always show the credit balance of liabilities and income with the positive sign.

Using Uppercase for Row Codes and Unit Codes in Formulas

You should use uppercase when referring to the codes of rows and units in formulas. The codes of rows in row sets and units in unit sets can be up to 10 alphanumeric characters. The letters of codes are always uppercase. Thus, it is very important to use the appropriate letter case of codes in formulas. For example, the expression `=@RowCode1+@RowCode2` in a formula would return an exception because lowercase letters are specified in the codes.

Preceding Row Codes and Unit Codes with @ in Formulas

In formulas, you have to precede a row code and a unit code with the @ character, such as `=@UNITCODE1+@UNITCODE2`. However, you should not use the @ character with a row code or a unit code in functions. Thus, for example, you would use `=Sum('ROWCODE01', 'ROWCODE10')` in this function rather than `=Sum(@ROWCODE01, @ROWCODE10)`.

Taking Advantage of Merging ARM Reports

Acumatica ERP supports merging multiple ARM reports to be sent as a single HTML or PDF file.