Reporting

S150 Report Designer

Training Guide

Acumatica
The Cloud ERP

Last Revision: 04/22/2021
Acumatica ERP 2021 R1

Contents

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Software Version: 2021 R1

Last Updated: 04/22/2021

How to Use This Course

This course introduces the functionality of the Acumatica Report Designer. The course is based on a set of examples demonstrating data retrieval and processing to form data representations. The course is intended for advanced Acumatica ERP users who are familiar with the user interface and main principles of the system. Acumatica ERP application specialists and engineers might find the course useful as well. On completing the course, you will have an understanding of how to use the Acumatica Report Designer to create reports.

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

You perform the following general steps to complete the course:

1. You prepare an Acumatica ERP 2021 R1 instance, as described in *How to Create a Tenant with the U100 Dataset*.
2. You install the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
3. In the prepared tenant with the *U100* dataset preloaded, you complete all the lessons.
4. At Partner University, you take S150 Certification Test.
5. At Partner University, you complete the course survey to finish the course and get the Partner University certificate of course completion.

What Is in This Guide

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

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

What is in Each Lesson

Each lesson describes a concept you are learning and includes at least one activity that you have to complete in the Acumatica Report Designer to practice the use of the functionality described in the concept. Each activity in a lesson provides a story describing a particular user scenario, a brief overview of the process that should be performed to complete the described scenario, and instructions that guide you through the process in the Acumatica Report Designer.

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

What Are the Documentation Resources

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, you can click the **Open Help** button in the top pane to bring up a form-specific Help menu; you can use the links on this menu to quickly access form-related concepts and procedures and to open a reference topic with detailed descriptions of the form elements.

What Files Are Provided with the Course

The S150_Files_for_Training.zip archive file is provided with this course. It includes files (copies of predefined reports and an image) that you will use in the lessons of this course.

How to Create a Tenant with the *U100* Dataset

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

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

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

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

Licensing Info

For the educational purposes of this course, you will use Acumatica ERP under the trial license, which doesn't require activation and provides all available features. For production, you have to activate the purchased license; each particular feature may be a subject to additional licensing; please consult the Acumatica ERP sales policy for details.

Company Story

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

Company Structure

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

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

Operational Activity

The company has been operating starting in the *01-2020* financial period. In November 2020, the company started using Acumatica ERP as an ERP and CRM system and migrated all data of the main office and retail store to Acumatica ERP. Because the company has grown, the equipment center has begun its operations in *01-2021*.

Company Purchases

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

Company Sales and Services

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

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

- Service and Equipment Sales Center: This branch assembles juicers, sells juicers, provides training on equipment use, and offers equipment installation, including site review and maintenance services. The branch performs one-time endeavors as well as complex projects with their own budgets.

Lesson 1: Getting Started with the Report Designer

Report Designer: General Information

The Acumatica Report Designer is a Windows application that provides visual tools to design custom reports. With the Report Designer, you can select data for a report, calculate required values based on the selected data, and customize the layout of the report.

Learning Objectives

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

- Install the Acumatica Report Designer
- Start the Acumatica Report Designer and explore its interface
- Open and view existing reports
- Copy existing reports

Applicable Scenarios

You may want to use the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You need to deliver different reports that your colleagues may need for getting their jobs done. By using the Acumatica Report Designer, you can develop reports based on the Acumatica ERP data.

Installation of the Report Designer

You install Acumatica Report Designer by using the Acumatica ERP Installer wizard. In the wizard, the **Install Report Designer** check box is selected by default, as shown in the following screenshot.

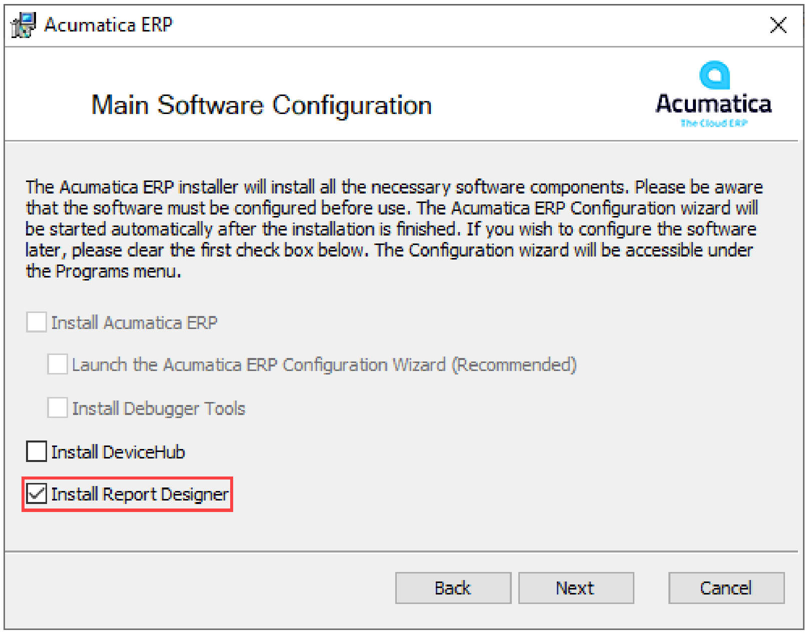


Figure: The Acumatica ERP Installer wizard

The Report Designer receives all information required for a report from the Acumatica ERP application server. You do not need to install Acumatica ERP locally to change or develop the report; you can just connect to a remote server by using the appropriate URL.

The User Interface of the Report Designer

To open the Report Designer, you use the following path: **Start > All Programs > Acumatica > Report Designer**. This opens the main window, shown in the following screenshot.

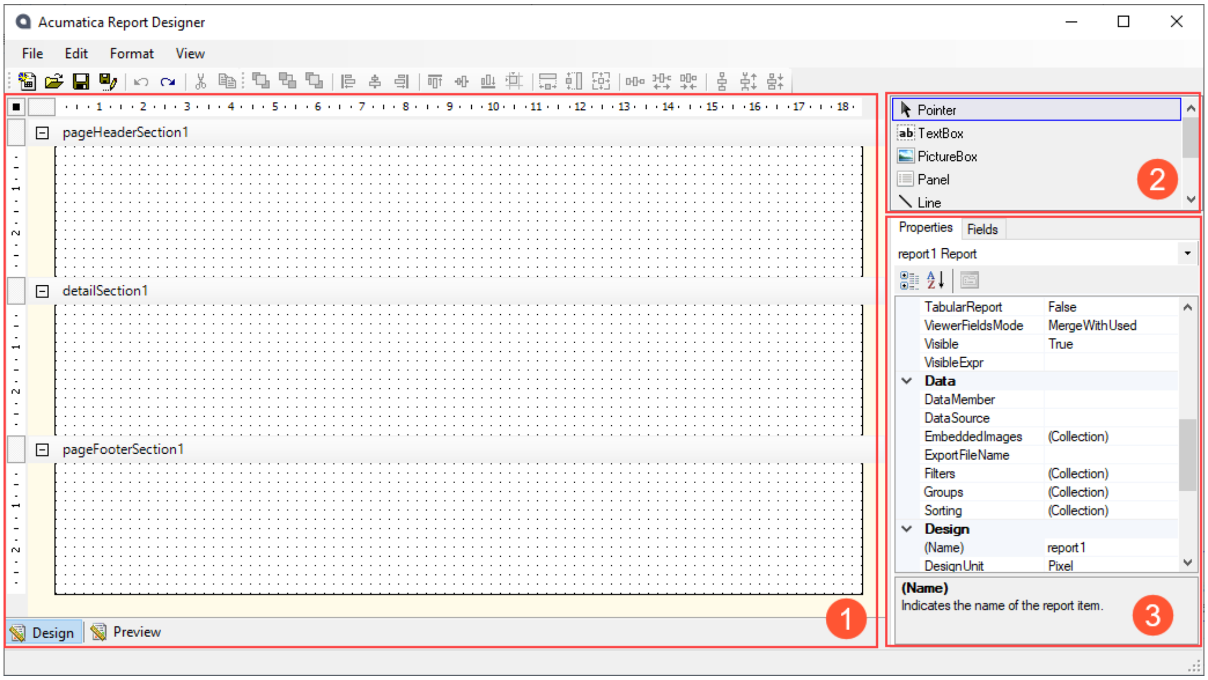


Figure: The main window of the Report Designer

The main window of the Acumatica Report Designer includes the following panes:

- The Design pane on the left part of the window (Item 1 in the screenshot above), which includes the following tabs:
  - **Design**: Displays the report layout.
  - **Preview**: Gives you the ability to preview the report you are designing to control the intermediate results. If your report requires parameters, they are ignored, and the report is displayed with random data.
- The Tools pane in the top right of the window (Item 2), which provides access to the elements and tools that you can use to design the layout of the report and add its content.
- The Properties pane in the bottom right of the window (Item 3), which includes the following tabs:
  - **Properties**: Displays the properties of the report element selected in the Design pane. When you select a report element in the drop-down list, the set of properties in the properties list corresponds to the selected element. By using the buttons above the properties list, you can change the order of the properties according to the categories of the properties or in alphabetical order of the names of properties.
  - **Fields**: Lists all the fields of the data access classes selected as the source of data for the report.

The Report Designer window toolbar, shown in the following screenshot, provides single-click access to common actions, which are also accessible in the Report Designer menu bar.

Figure: Report Designer window toolbar

Predefined and Custom Reports in Acumatica ERP

In Acumatica ERP, you can find a number of predefined reports for any part of the system's functionality. These predefined reports are delivered with the system. By using the Acumatica Report Designer, you can expand the set of reports that satisfy your company needs by creating new reports and customizing existing ones.

> We recommend that you leave predefined reports intact; if you want a report that is similar to an existing one, make a copy of the existing report, and modify this copy.

You can view reports published in the system in the Acumatica ERP interface. In most workspaces, predefined reports are listed in the **Reports** category. You can add reports that you develop with the Report Designer to this category of any workspace.

The Location of Reports

You can store reports that you develop by using the Report Designer either locally or on the Acumatica ERP server. (We recommend that you store reports on the server.) For more details about the location of reports, see *Report Creation: General Information*.

Report Designer: To Install the Acumatica Report Designer

In the following activity, you will learn how to install and launch the Acumatica Report Designer.

Story

Suppose that you are a technical specialist in your company who is working on customizations. An accountant of the company has requested a number of reports that are not among the predefined reports. You need an application to develop reports based on the data of Acumatica ERP and have decided to use the Acumatica Report Designer, which is included in the Acumatica ERP installation package.

Process Overview

In this activity, you will start the installation. In the Acumatica ERP Installer wizard, you will select the option to install the Acumatica Report Designer. After the application is installed, you will start it.

System Preparation

Download `AcumaticaERPInstall.msi` from the following folder: `http://acumatica-builds.s3.amazonaws.com/index.html?prefix=builds/<buildNumber>`, where *buildNumber* is the build that corresponds to the build of Acumatica ERP that is installed in your company.

Step 1: Installing the Acumatica Report Designer

To install the Acumatica Report Designer, do the following:

1. On your computer, start `AcumaticaERPInstall.msi`.

   The Acumatica ERP Installer wizard starts.

2. On the **Main Software Configuration** step, be sure the **Install Report Designer** check box is selected (the default setting), and clear the other check boxes.
3. Continue the installation process.
4. When the installation is finished, close the window of the Acumatica ERP Installer wizard.

Step 2: Starting the Acumatica Report Designer

To start the Acumatica Report Designer, do the following:

On the Windows Start menu, select **All Programs > Acumatica > Report Designer**.

The Acumatica Report Designer is displayed.

Report Designer: To Copy an Existing Report

In the following activity, you will learn how to copy an existing report, which can be a predefined report or a report designed through the Acumatica Report Designer (for example, a report created by a colleague who works on customizations).

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

Story

Suppose that you are a technical specialist in your company, and you are working on customizations. An accountant of the company has requested a report that displays the AR register. You have offered the predefined *AR Register* (AR621500) report, which is predefined in Acumatica ERP, but the accountant has asked for modifications to the report. You have decided to make a copy of the report and change the copy in the Report Designer rather than directly modifying the predefined report. As a first step, you will create and save the copy of the report.

Process Overview

In this activity, you will first open and examine the *AR Register* (AR621500) report in Acumatica ERP. Then you will open the report in the Acumatica Report Designer and save a copy of it with a different name.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
    - Username: *gibbs*

- Password: *123*

> The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Step 1: Opening and Viewing the Existing Report in Acumatica ERP

To open and view the existing *AR Register* (AR621500) report in Acumatica ERP, do the following:

1. On the main menu, click the **Receivables** menu item.
2. In the **Reports** category of the **Receivables** workspace, click the *AR Register* link to open the report.

   Notice that in the address bar of the browser, the `ScreenId` parameter is *AP621500*. This is the form identifier of the report.
3. On the form toolbar, click **Run Report**.

   The resulting report is displayed.

Step 2: Opening the Existing Report in the Acumatica Report Designer

To open the existing report in the Acumatica Report Designer, do the following:

1. On the Windows Start menu, select **All Programs > Acumatica > Report Designer**.
2. On the Report Designer menu bar, click **File > Open From Server**.
3. In the **Open Report from Server** dialog box, which opens, do the following:
   - In the **Enter Web Service URL to Load Reports List** box, type the URL of your Acumatica ERP website in the following format: *http://<URL>*, where *<URL>* is the actual URL of your instance. The URL can be your local website or an external URL of Acumatica ERP.
   - In the **Login** box, type your username as follows: `gibbs@U100`.

     Make sure that your instance is named *U100*; otherwise, use your instance name instead of *U100* in the username.

     If your instance contains one tenant in the **Login** box, you can specify only username.
   - In the **Password** box, type your password as follows: `123`.
   - Click the **Load Reports List** button to load the list of reports from the website.
   - In the **Select Report to Load** box, select *AR621500.rpx*, and click **OK**.

> You can start the Report Designer and open the existing report while you are viewing this report in Acumatica ERP. To do this, while the report form is opened in Acumatica ERP, select the **Report Versions** tab and click **Edit Versions**. The **Open Report from Server** dialog box is displayed with all the boxes filled in, except **Password**, Type your password and click **OK**.

The dialog box is closed, and the opened report file is displayed in the Design pane of the Report Designer.

Step 3: Saving a Copy of the Opened Report on the Acumatica ERP Server

To save the opened report in the Acumatica Report Designer report to the Acumatica ERP server, do the following:

1. On the Report Designer menu bar, click **File > Save To Server**. The **Save Report on Server** dialog box opens.
2. In the **Enter Report Name to Save** box, type `AP6215C1.rpx`, and click **OK**.

The copy of the report is saved on the server.

Lesson 2: Creating a Report

Report Creation: General Information

By using the Acumatica Report Designer, you design a report to collects particular data from the Acumatica ERP database, using any report parameters that the user has specified. The report groups, sorts, filters, and displays results according to the settings you specify when designing the report, so that a user running the report does not have to perform all these steps manually. Because the Report Designer provides so much flexibility, you can gear the report design process and the resulting report to your user-specific business needs.

Learning Objectives

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

- Create a report
- Publish and view a report

Applicable Scenarios

You may want to use the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You need to deliver different reports that your colleagues may need for getting their jobs done.

Report Development Stages

To develop a report in the Report Designer, you need to complete the following stages in the specified order:

1. *Preparation*: You determine which data you need for the report and find the underlying data access classes (DACs) and the corresponding data fields. For more information about DACs, see *Discovering DACs: General Information*.
2. *Data loading*: You load the database schema, select the DACs that you have determined during the previous stage, and specify relationships between DACs.
3. *Layout definition*: You add sections to the report layout (or delete unneeded sections from it), add any of the visual elements available in the Tools pane of the Report Designer main window, specify the visibility of the report sections and elements, and define the style and colors of the report. This stage can follow the *Data modification* stage instead of preceding it.

   For more information about adding elements on report layout, see *Report Content: General Information*. For more information about report style, see *Report Style: General Information*.
4. *Data modification* (optional): You define parameters, filters, and sorting and grouping for the data in the report. This stage can precede the *Layout definition* stage instead of following it.

   For more information about sorting and grouping, see *Data Sorting and Grouping: General Information*. For details about parameters and filters, see *Parameters and Filters: General Information*.
5. *Saving*: You save the report on the server or locally.

6. *Publishing*: You preview the report and make sure that it satisfies all the requirements. If it does not, you modify the report. When it is ready, you publish the report: add it to the site map to make it available in a workspace for users.

> Only users with the *Report Designer* role are allowed to preview, save, and publish reports.

Data for a Report

You can load the database schema of all available data access classes from the application server you use to work with Acumatica ERP. To load the database schema, you use the Schema Builder, which you invoke by clicking **File > Build Schema** on the Report Designer menu bar. On the tab, you specify the following settings:

1. The connection string (see Item 1 in the screenshot below). You use the following format: *https://<URL of your Acumatica ERP server>/<InstanceName>/*, where you replace *<URL of your Acumatica ERP server>* with the actual URL to your Acumatica ERP server, and `<InstanceName>` with the name of your Acumatica ERP instance.

2. Your username and password in the Acumatica ERP instance (Item 2). If your application contains more than one company, you type the appropriate company name with the username in the following format: `<username>@<company name>`. The company name is the name you select when you sign in to Acumatica ERP.

When you click the **Load Schema** button (Item 3), the Report Designer connects to the application server and loads the schema. When the schema is retrieved, the list of all data access classes defined in Acumatica ERP is displayed (Item 4).

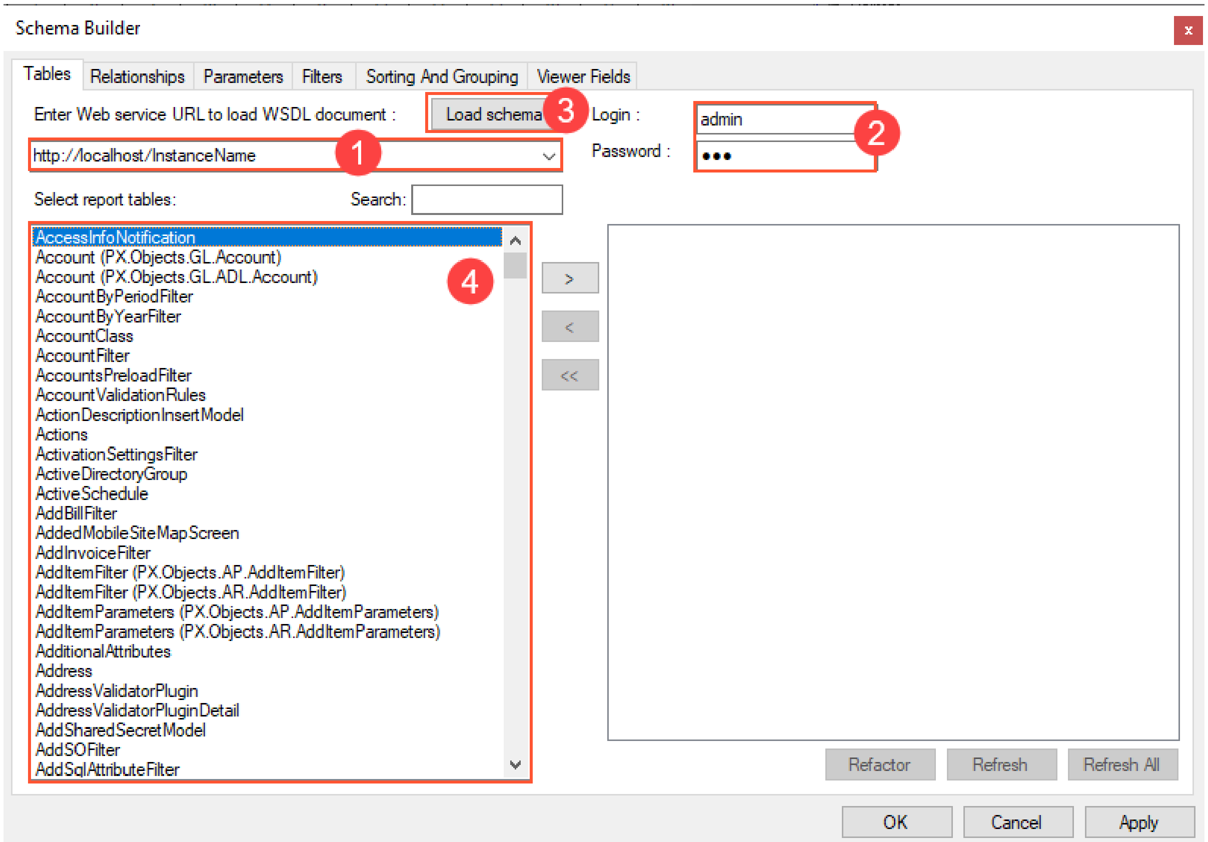


Figure: Loading of the schema of the data access classes

When you have loaded the database schema, you can select the data access classes you found for the report. If your report will be based on multiple data access classes, you should specify relationships between them. On the **Relationships** tab of the Schema Builder wizard, you specify the relationships between a pair of DACs and for each pair of DACs, you specify the links between them.

Sections in a Report Layout

A layout of any newly created report consists of the following main sections:

- The page header section (see Item 2 in the screenshot below)
- The page footer section (Item 4)
- The detail section (Item 6)

Within the report, you can add group sections, which can be nested. For each group, you have the group header (Item 3) and the group footer (Item 5) sections, and the detail section is always nested into the innermost group. You can also add the report header (Item 1) and report footer (Item 7) sections. All these sections are briefly described below:

- The detail section is the central part of the report, containing its main data. Unlike other sections, it cannot be deleted. For example, if your report outlines sales orders, you would put a list of orders in the detail section.
- The group header and group footer sections are shown at the beginning and end of, respectively, each group of the report data. These sections are a good place for information that applies to all

data in the detail section of the report. For example, if you group sales orders by customer, you could place detailed information about the customer in the group header section and use the group footer section to calculate subtotals for the customer.

- The page header and page footer sections, located at the top and bottom of every page of the report, are the best place for information that the reader may need when reading every page. For example, you can use the page header to display the column headers of a table that is continued from the previous page. You can use the page footer to display the number of the current page.
- The report header and report footer sections are the only types of report sections that are printed once per report. The report header is the second section of the report on the first page; when the report is printed, the report header is placed right after the page header. The report header is the best place to display the report name, the company logo, the date range of the report, and similar information. The report footer finalizes the informative part of the report and is placed before the page footer on the last page of the report. It is a good place for totals or conclusions.

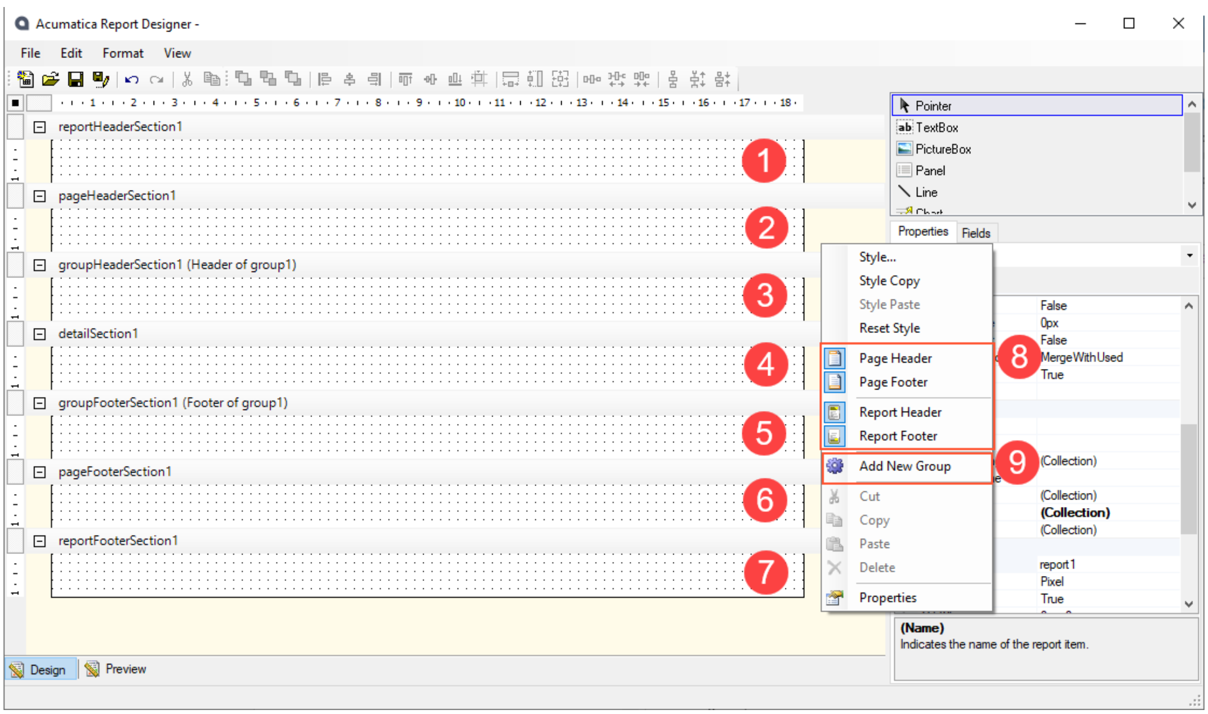


Figure: Sections of a report layout

You can do the following with the report sections:

- Add them: You can add the report header, the report footer, the page header, and the page footer sections to the report layout or delete them. To add these sections, you right-click any empty space of the report layout (on the left side or on the right side), and select the appropriate command (Item 8 in the screenshot above).

  When you add a new group, its group header and group footer sections are added automatically. To do this, you right-click any empty space in the report layout, and then select **Add New Group** (Item 9 in the screenshot above). You can also add a new group in the Group Collection Editor. For more information, see *Data Sorting and Grouping: General Information*.
- Delete: You may need to delete a section if it does not contain any elements, or the information in this section is not relevant to this report. To delete any section except for the detail section, you right-click the section header, and then select **Delete**, as shown in the screenshot below.

- Duplicate: You may need to duplicate a section if, for example, you want to display content in the section depending on some condition. To duplicate any section, you right-click the section header and then select **Duplicate**.

- Hide: You may need to hide a section if data from the section is used in calculations but you don't need to display the content of the section. To hide any section, you set the **Visible** property of the section to *False*. You also can define a condition that allows the section to be hidden; in this case, you specify an expression for the **VisibleExpr** property.

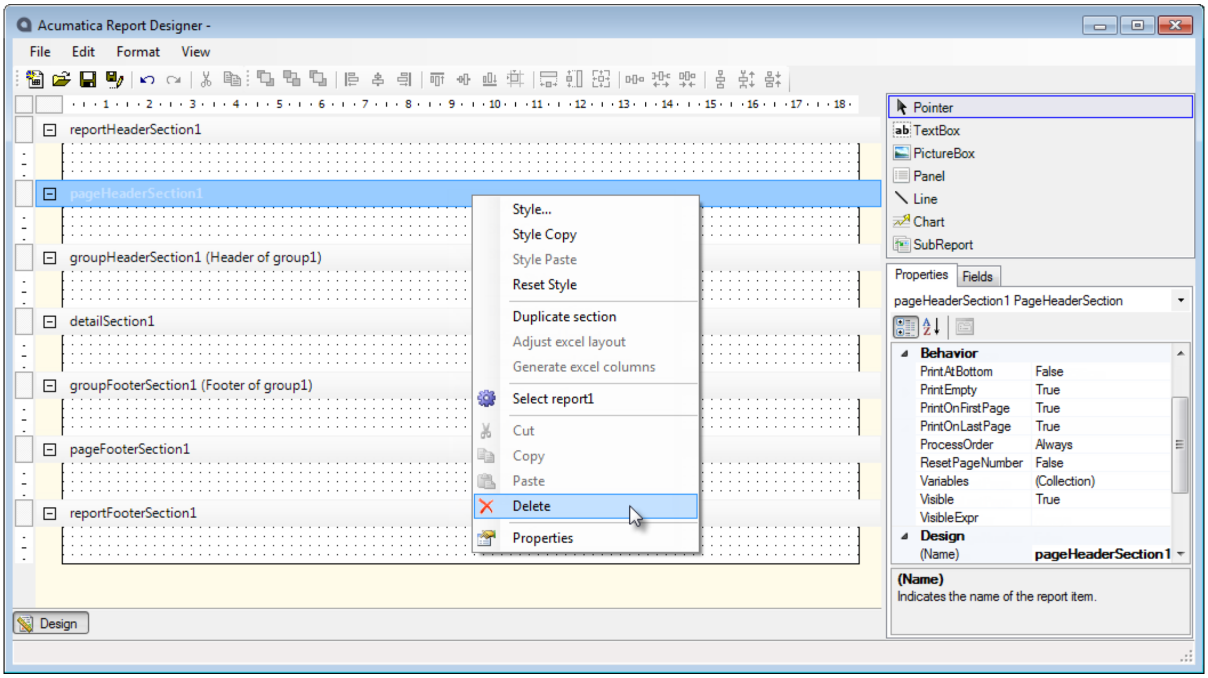


Figure: Deletion of a section

Saving of a Report

Once you create or modify a report by using the Acumatica Report Designer, you can save it locally or on an Acumatica ERP server. You can also save your report to an Acumatica ERP website as a new version of the report.

> When you design a report, we recommend that you save the report from time to time so that you don't lose your changes.

Reports in the Acumatica Report Designer are files with the *RPX* extension.

To save a new report, you can use the following commands on the Report Designer menu bar:

- **File > Save to Server**: You use this command if you want to save your report to the Acumatica ERP server.

  In the **Save Report on Server** dialog box, which opens, you specify the connection settings to the server—that is, the connection string and sign-in credentials. You specify connection string (Item 1 in the following screenshot) in the following format: *http://<URL>*, where *<URL>* is URL of your Acumatica ERP server. You can use *http* or *https* protocol, depending the settings of your website. If your application contains more than one company, you type the company name with the username (Item 2 in the following screenshot) in the following format: *<username>@<company name>*. The company name matches the name you use when you sign in to Acumatica ERP. If your application contains only one company, you specify only the username.

You specify the name of the report (Item 3 in the following screenshot)—or, more accurately, an identifier—in the *<AA.NN.NN.NN>* format, where *A* is a letter, and *N* is a digit. For information on the identifier conventions of Acumatica ERP reports, see *Form and Report Numbering*.

> To avoid conflicts with new reports that the Acumatica ERP engineering team could produce in the future, we recommend that you use different report identifiers than those described in *Form and Report Numbering*.

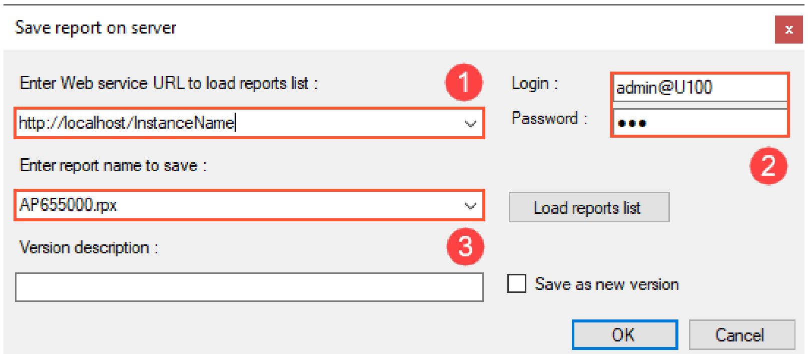


Figure: Saving of a report to the server

- **File > Save** or **File > Save as**: You use these commands if you want to save your report locally.

> You can also save the report locally by clicking the button on the Report Designer window toolbar.

To save an existing report you can use the following commands on the Report Designer menu bar:

- **File > Save**. By default, the opened report file is saved to the place from which it was opened.

> You can also save the opened report by clicking the button on the Report Designer window toolbar.

- **File > Save to Server**. In the **Save report on server** dialog box, which opens, you use the settings that are described above for saving a new file on the server.

You can save your report to an Acumatica ERP server as a new version by selecting the **Save as New Version** check box in the **Save Report on Server** dialog box. You can manage the active number of a report version only in Acumatica ERP interface. If you want to use a specific report version, you need to open the report form in Acumatica ERP, and on the **Report Versions** tab, select the **Active** check box in the row with necessary version. After that, you can modify this version by starting the Report Designer by clicking the **Edit Report** button on the report form toolbar.

After you have saved your report locally or to the server of an instance, you can use this report for any company of this instance.

We recommend that you save your reports in the following locations:

1. The server

2. The /Site/ReportsCustomized/ folder
3. The /Site/ReportsDefault/ folder

When you open a report in the Report Designer, the application searches for the report in the listed locations in the listed order.

Report Publication

When a report is ready, you can publish it, so that users of the system can run the report. Publishing a report entails adding the URL of the report to the site map in Acumatica ERP—that is, adding information about the report to the *Site Map* (SM200520) form and saving your the changes.

On the *Site Map* form, you add a new row with the following settings:

- **Screen ID**: The identifier of the form that is used to access the report in Acumatica ERP. You assigned this identifier when you saved your report in the Report Designer.
- **Title**: The name of the report. This name is displayed in the **Reports** category of a workspace that you specify for the report.
- **URL**: ~/Frames/ReportLauncher.aspx?ID=<ScreenID>.rpx.
- **Workspaces**: The name of the workspace where you want to place the report; you can add the report to multiple workspaces.
- **Category**: *Reports*.

Report Viewing and Execution in Acumatica ERP

To view a report in Acumatica ERP, you open the workspace where the report is placed, and under the **Reports** category, you click the link with the report name. If needed, on the **Report Parameters** tab, you specify the report parameters, and click **Run Report**.

> To return to the report form—for example, to change report parameters—you can click the button on the report toolbar.

To preview the report that have not been published yet, you use the **Preview** tab in the Report Designer. If your report requires parameters, they are ignored, and the report is displayed with random data.

Report Creation: To Create a Report Based on One DAC

In the following activity, you will create a report based on one DAC.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. An accountant of your company has requested a report that collects data about invoices and memos. The accountant wants a simple report that displays columns with the document type, invoice reference number, and the balance of the invoice with that number.

Process Overview

You will first inspect the *Invoices and Memos* (AR301000) form to explore which data access classes you can use to access the needed data: the document type, reference number, and balance.

With the knowledge you have obtained, you will create the report and add the columns to be displayed.

When the report is created and all the necessary settings are specified, you will preview and then publish the report.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
    - Username: *gibbs*
    - Password: *123*

    > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Step 1: Discovering DACs and Data Fields

To inspect the user interface elements whose data you will use for your report, do the following:

1. In Acumatica ERP, open the *Invoices and Memos* (AR301000) form.
2. Point to the **Reference Nbr.** element, press Ctrl+Alt, and then click. The **Element Properties** dialog box opens. You are interested in the **Data Class** and **Data Field** values, which correspond to the class and field you need. Notice that these values are, respectively, *ARInvoice* and *RefNbr*. Close the dialog box.

    > To open this dialog box, you could instead click **Customization > Inspect Element** on the form title bar and then click the **Reference Nbr.** element.

3. On the form, point at the **Balance** element, press Ctrl+Alt, and click to again open the **Element Properties** dialog box. Notice that the **Data Class** value is again *ARInvoice*, while the **Data Field** value is *CuryDocBal*. Close the dialog box.

4. On the form, inspect the **Type** element as you did in the previous instructions to find its data class and data field. Notice that its **Data Class** value is again *ARInvoice* and its **Data Field** value is *DocType*.

You have discovered that the data access class you need is *ARInvoice* and the data fields are: *DocType*, *RefNbr*, and *CuryDocBal*.

Step 2: Loading the Database Schema

To load the database schema, do the following:

1. On the Report Designer menu bar, click **File > New** to create a new report.

   An empty report with the default sections opens.

2. On the Report Designer menu bar, click **File > Build Schema**.

   The Schema Builder opens with the **Tables** tab selected.

3. In the **Enter Web Service URL to Load WSDL Document** box, enter the URL of your Acumatica ERP website, which can be your local website or an external URL of Acumatica ERP.

   > The history of successful connections is automatically saved in the drop-down list of the URL box. For example, if you have already opened a report from the server, you can select the URL from the drop-down list.

4. Type `gibbs` as the username and `123` as the password in the **Login** and **Password** boxes, respectively.

5. Click **Load Schema**.

6. In the **Search** box, type `ARInvoice`.

7. In the **Select Report Tables** list, click *ARInvoice (PX.Objects.AR.ARInvoice)*, and click **>**.

   The *ARInvoice* data access class is placed in the right pane of the Schema Builder.

8. In the Schema Builder, click **OK**.

   The system closes the Schema Builder.

Step 3: Adding Data to the Report

To add data to the report, while you are still working with it in the Report Designer, do the following:

1. In the Properties pane, select the **Fields** tab.

2. In the list of the fields of the *ARInvoice* data access class, drag the *DocType* field to the `detailSection1` section.

   Notice that in `detailSection1`, you have a box with the following content: `[=[ARInvoice.DocType]]`.

3. Repeat the actions of the previous instruction with the *RefNbr* and *CuryDocBal* fields. Place *RefNbr* next to *DocType*, and *CuryDocBal* next to *RefNbr*.

4. In the Tools pane, drag the *TextBox* element to the `pageHeaderSection1` section. This element will be a heading of the column. Place the element above the element with the `[=[ARInvoice.DocType]]` content.

5. While the text box is selected, in the Properties pane, on the **Properties** tab, for the **Appearance > Value** property, enter `Document Type`.

6. Add two more *TextBox* elements to the `pageHeaderSection1` section with the following values: *Reference Number* and *Balance*. These elements will be the headers of two other columns. Place these elements above the element with the `[=[ARInvoice.RefNbr]]` and `[=[ARInvoice.CuryDocBal]]` content.

7. In the Tools pane, drag the *Line* element to `pageHeaderSection1`. Extend the line. This line will divide the heading of the table in the report.

8. Add two more *TextBox* elements to the `pageHeaderSection1` section with the following values: `Page` and `=[PageOf]`. These elements will display the current page number and the total number of pages in the report.

Before saving the report, preview it. In the Design pane of the Report Designer, select the **Preview** tab. If you are not satisfied by the design of the report, move the text boxes to align them.

The following screenshot shows the report you have designed.

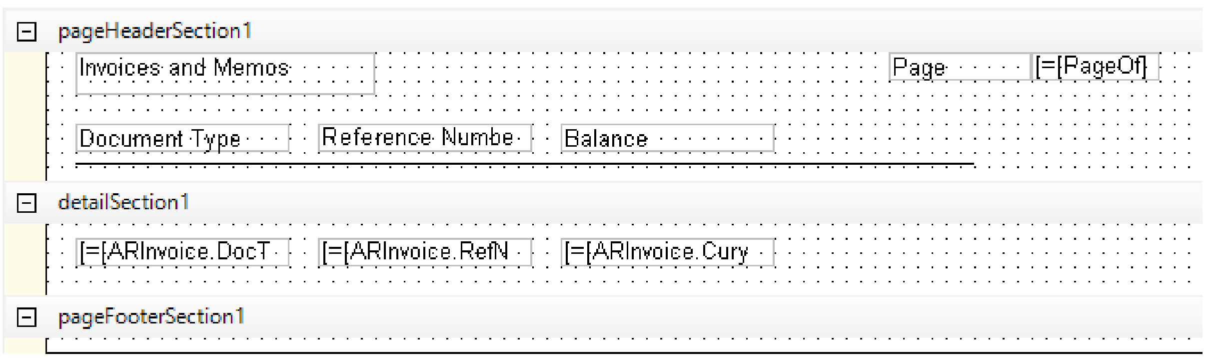


Figure: The report designed to display data about invoices and memos

Step 4: Saving the Report

To save the report on an Acumatica ERP website, do the following:

1. On the Report Designer menu bar, click **File > Save to Server**.

   The **Save Report on Server** dialog box opens.

2. In the dialog box, in the **Enter Web Service URL to Load Reports List** box, type the URL of your Acumatica ERP website (Item 1 in the screenshot below).

3. In the **Login** box, type your username, and in the **Password** box, type your password (Item 2). Use the same settings that you have used in Step 2.

4. In the **Enter Report Name to Save** box, enter the report name: `AR308000`.

5. Click **OK**.

Step 5: Publishing the Report

To publish the report, do the following:

1. In Acumatica ERP, open the *Site Map* (SM200520) form.
2. Add a new row with the following settings:
   - **Screen ID**: `AR.30.80.00`
   - **Title**: `All Invoices and Memos`
   - **URL**: `~/Frames/ReportLauncher.aspx?ID=AR308000.rpx`
   - **Workspaces**: *Receivables*
   - **Category**: *Reports*
3. Save your changes.

Step 6: Viewing the Report

To view and run the report you have created, do the following:

1. In the main menu of Acumatica ERP, click the **Receivables** menu item.
2. In the **Reports** category of the **Receivables** workspace, select *All Invoices and Memos*.
3. On the report form toolbar, click **Run Report**.

The created report with the information about invoices and memos is displayed. The following screenshot shows the resulting report.

Invoices and Memos			Page 1 of 4
Document Type	Reference	Balance	
Credit Memo	000068	60.00	
Credit Memo	000071	43.00	
Credit Memo	000081	110.00	
Invoice	000001	30.00	
Invoice	000002	200.00	
Invoice	000003	0.00	
Invoice	000004	97.98	
Invoice	000005	201.74	
Invoice	000006	0.00	
Invoice	000007	0.00	
Invoice	000008	0.00	
Invoice	000009	0.00	
Invoice	000010	0.00	
Invoice	000011	0.00	
Invoice	000012	0.00	
Invoice	000013	0.00	
Invoice	000014	0.00	
Invoice	000015	0.00	
Invoice	000016	0.00	
Invoice	000017	0.00	
Invoice	000018	0.00	
Invoice	000019	0.00	
Invoice	000020	0.00	

Figure: The resulting report displaying information about invoices and memos

Lesson 3: Filling a Report with Content

Report Content: General Information

The content of a report designed in the Acumatica Report Designer includes visual elements, which can contain text, data, and images. The visual elements are placed within the report sections, and their appearance and behavior properties are determined by both the properties of the visual elements themselves and the properties of the report section where they are placed.

Learning Objectives

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

- Add, delete, and move elements in the report layout
- Configure properties of the elements added to the report layout

Applicable Scenarios

You may want to use the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You need to add content—that is, data, images, charts, and subreports—to predefined reports or to reports you create from scratch.

Types of Visual Elements in a Report Layout

You can add to the report layout any of the visual elements located in the Tools pane of the Report Designer main window. You can add the following elements:

- *TextBox*: A text box is used to display text or data from the database in the report.
- *PictureBox*: A picture box is used to display an image in the report. For example, you can place your company logo on the report, as you do on other company materials. You can also use the *PictureBox* element to add a QR code or barcode to your report.
- *Panel*: A panel is a container of elements that are processed together.
- *Line*: A line can be used to divide the report space, direct the eye, or visually separate elements in the report. You can add lines to improve the look and readability of the report.
- *Chart*: A chart is a graphical representation of data in the report. You can use different types of charts—for example, line, bar, or pie—to present information, such as sales by month and by sales manager.
- *SubReport*: You can use a subreport to include data from other reports in the current report. For example, you can define as a subreport the list of change orders in a project or the last sheet, which is always the same in a register. The use of subreports makes it possible to reduce the time it takes to form a complex report that is designed to extract data from multiple related tables and use a subselect SQL expression.

Operations with Visual Elements in a Report

Adding content to the report generally involves three steps:

1. Adding visual elements to the report.
2. Optional: Linking the elements with the data to be displayed in the report.
3. Setting the visual elements' properties.

To add a visual element to a report section, you select the element in the Tools pane, and place it in the desired position within the report by dragging it. You can resize the element by dragging its borders. You can also move the element within the section or to another section.

After a visual element is added to the report, you can do the following:

- Define the style of the element
- Copy and paste the style between visual elements
- Define the order of visual elements on the screen by bringing them to the front or sending them to the back
- Cut, copy, and paste visual elements and their content to other areas within the report

To perform these actions with a visual element, you can do the following:

- Use the actions available on the Report Designer window toolbar or menu bar
- Right-click the visual element and then select the relevant command from the shortcut menu
- Use Windows-standard combinations of keys

> You can delete the selected visual element by pressing the Delete key.

For more information about the style of elements, see *Report Style: General Information*.

Text and Data in a Report

You use the **Appearance > Value** property of the *TextBox* visual element to specify the contents of the text box—that is, text, a data field of the database table, or an expression. For more details about expressions, see *Variables and Expressions: General Information*.

You can add the *TextBox* element with a field name as its content in one action by dragging the field from the list that is located on the **Fields** tab of the Properties pane.

All parts of the text in a text box have the same formatting. If you need to have different formatting for different parts of the text, you should divide the text and place it into multiple text box elements, each of which has its own formatting.

Images in a Report

To add an image to an Acumatica ERP report, you can use the following methods:

- Embed an image file in the report. Embedded images are stored along with the report file, and are included in the report as its inner elements. You can add images of the following types to the collection of embedded images: `bmp`, `gif`, `jpg`, and `png`. For embedded images, you first specify the image that you embed as the **Data > EmbeddedImages** property for `report1 Report`. Then you specify the following properties for the *PictureBox* element:
    - **Data > Source**: *Embedded*
    - **Data > Value**: the file name of the image
- Select the image from an external file. External files are stored on external resources, such as websites or local hosts, that are accessible from the Acumatica ERP application site where the reports are published. The report stores only the link to the external file where the image file is located. For external images, you specify the following properties for the *PictureBox* element:
    - **Data > Source**: *External*.
    - **Data > Value**: The URL of the image. For example, suppose that you have uploaded the `MyImage.png` file to the `/Site/Images/` folder. In the **Data > Value** property, you should enter the following URL: `Images/MyImage.png`.
- Select a data field and load an image from it. In Acumatica ERP, all images are stored in the *UploadFile* table. For images inserted in a report from the database, you specify the following specific properties of the *PictureBox* element:
    - **Data > Source**: *Database*
    - **Data > Value**: `=[UploadFile.Name]`

Report Designer considers QR codes and barcodes to be pictures. To add a QR or barcode to an Acumatica ERP report, you add a *PictureBox* element and specify the following properties for it:

- **Behavior > QRCodeSettings**
- **Behavior > BarcodeSettings**
- **Data > Source**
- **Data > BarcodeType**
- **Data > Value**

With the **Layout > Sizing** property you can adjust sizing of an image so that the image can keep its proportions, fill the whole space of the picture box, or be placed in the center of the picture box.

Charts in a Report

To define a chart in your report, you specify properties in the **Chart** and **ChartData** groups of properties.

Subreports

You can add one subreport or multiple subreports to a single main report. If it is placed in any report section, the entire subreport will be printed in that section, except for the page header and page footer sections.

Although you can insert a subreport into any report, we do not recommend that you insert a subreport into another subreport because it can cause the server performance degradation.

Unlinked subreports are standalone reports, and their data is not linked to the data in the main report. An unlinked subreport does not have to use the same data as the main report; it can use the same data source or a different data source entirely. Linked subreports use data that is coordinated with data in the main report. The Report Designer matches up the data in the subreport with the data in the main report. If you create a main report with customer information and a subreport with order information and then link them, the Report Designer creates a subreport for each customer that includes all of this customer's orders.

Before you insert a subreport into the main report, you must be sure that the subreport can be run as an independent report. You don't need to publish a subreport—that is, to add it to the *Site Map* (SM200520) form—to make sure it can be run. You can preview a subreport on the **Preview** tab of the Report Designer.

The main report and subreport must be saved on the same server.

You specify the following properties for the *SubReport* visual element:

- **Behavior > ReportName**: The file name of the subreport
- **Behavior > Parameters**: The parameters that are passed from the main report to the subreport

Report Content: To Add an Image to a Report

In the following activity, you will learn how to add images (stored in the database) of items to a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager has requested a report that displays the details of an invoice or memo. You have offered the predefined *Invoice/Memo* (AR641000) report, but the sales manager has asked you to display images of the items in the report.

Process Overview

In the Report Designer, you will open the *AR6410C1* report, which is a copy of the *Invoice/Memo* (AR641000) report, and add the *PictureBox* element to the report layout. You will configure the properties of the element.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

   The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AR6410C1.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AR6410C1` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Adding Tables to the Report

Because the images of inventory items are stored in the *UploadFile* table, you need to add this table to the report. You also need to add the *InventoryItem*, *ARTran*, and *NoteDoc* tables. After you add the tables, you need to specify relations between them.

To add tables to the *AR6410C1* report and build relations between the tables in the report, do the following:

1. In the Report Designer, be sure the *AR6410C1* report (which you have saved to the server) is open.
2. On the Report Designer menu bar, click **File > Schema Builder**.
3. In the Schema Builder, which opens, on the **Tables** tab, specify the connection string and sign-in credentials of your Acumatica ERP instance, and click **Load Schema**.
4. While you are still viewing the **Tables** tab, in the left pane, select the *InventoryItem*, *NoteDoc*, and *UploadFile* tables, and add them to the right pane by using the **>** button.

   You can search for the names of the tables by using the **Search** box above the left pane.
5. On the **Relationships** tab, do the following:
   a. To link the *ARTran* and *InventoryItem* classes, add rows with the following settings to the listed tables:

- **Enter the report table relations here** table:

Parent Table	**Join Type**	**Child Table**
ARTran	*Inner*	*InventoryItem*

- **Enter the data field links for the active relation** table:

Parent Field	**Link Condition**	**Child Field**
InventoryID	*Equal*	*InventoryID*

b. To link the *InventoryItem* and *NoteDoc* classes, add rows with the following settings to the listed tables:

- **Enter the report table relations here** table:

Parent Table	**Join Type**	**Child Table**
InventoryItem	*Inner*	*NoteDoc*

- **Enter the data field links for the active relation** area:

Parent Field	**Link Condition**	**Child Field**
NoteID	*Equal*	*NoteID*

c. Add the rows with the following settings to link the *NoteDoc* and *UploadFile* classes:

- **Enter the report table relations here** area:

Parent Table	**Join Type**	**Child Table**
NoteDoc	*Inner*	*UploadFile*

- **Enter the data field links for the active relation** table:

Parent Field	**Link Condition**	**Child Field**
FileID	*Equal*	*FileID*

6. In the lower right corner, click **Apply** and then **OK** to apply the changes and close the Schema Builder, respectively.

7. On the Report Designer window toolbar, click **Save**.

The following screenshot shows the **Relationships** tab of the Schema Builder for the *AR6410C1* report.

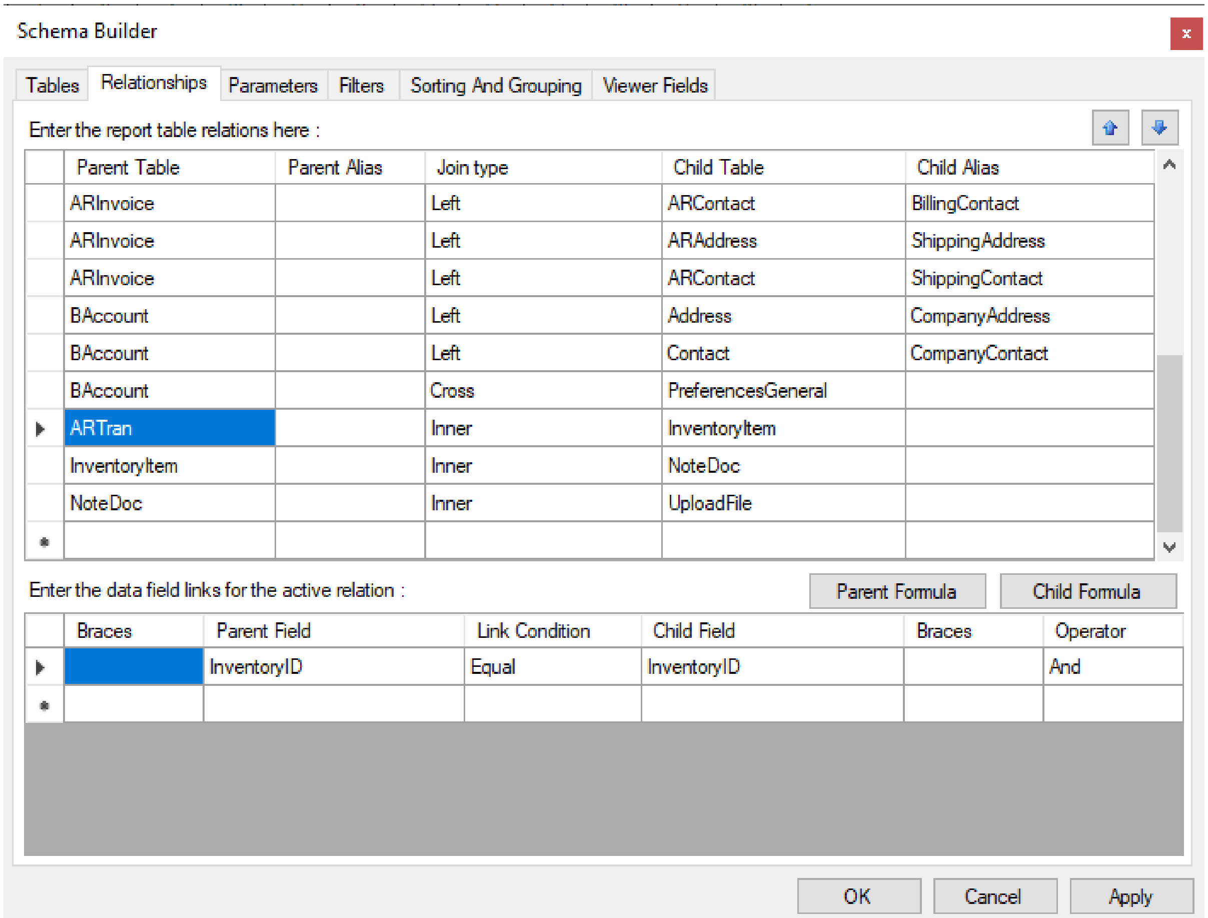


Figure: Relations for added tables for the AR6410C1 report

Step 2: Adding the PictureBox Element to Display the Image of the Item

To add the *PictureBox* element to the report layout, while you are still working with the *AR6410C1* report in the Report Designer, do the following:

1. Select `detailSection1` and enlarge the height of the section.

   For the `detailSection1`, you can specify the `3.5cm` value for the **Appearance > Height** property.

2. In the Tools pane, drag the *PictureBox* element to `detailSection1` at the left, below the text boxes.

3. While the *PictureBox* element is selected, in the Properties pane, specify the following properties for it:

   - **Data > Source**: *Database*
   - **Data > MimeType**: *image/jpeg*
   - **Data > Value**: `=[UploadFile.Name]`
   - **Layout > Size > Width**: `152px`
   - **Layout > Size > Height**: `96px`

4. On the Report Designer window toolbar, click **Save** to save the report.

Step 3: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Invoice/Memo (AR6410C1) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. On the **Report Parameters** tab, in the **Document Type** box, make sure *Invoice* (the default value) is selected.
3. In the **Reference Number** box, select *000058*.
4. On the report form toolbar, click **Run Report**.

Make sure that the image corresponding to the item in the invoice is displayed, as shown in the following screenshot.

INVOICE

Reference Nbr.:	000058
Date:	07-Jan-2020
Due Date:	06-Feb-2020
Customer ID:	TOMYUM
Currency:	USD

SweetLife

Service and Equipment Sales Center
218 Oakwood Ave
New York, NY, 10007
Phone: +1 212 667 1506

BILL TO:	SHIP TO:
Thai Food Restaurant 341 E 138th St New York NY 10454 United States of America	341 E 138th St New York NY 10454 United States of America

CUSTOMER REF. NBR.	TERMS	CONTACT
	30 Days	Nenad Pasic

NO.	ITEM	QTY.	UOM	UNIT PRICE	DISC.	EXTENDED PRICE
2	JUICER20C: Commercial citrus juicer with a production rate of 2 litres per minute 	1.00	PIECE	4,000.0000	0%	4,000.00
1	INSTALL: Installation of equipment at the customers' place	1.00	HOUR	100.0000	0%	100.00

NOTE:

Sales Total:	4,100.00
Less Discount:	0.00
Tax Total:	0.00
Total (USD):	4,100.00
Cash Discount:	0.00

Page: 1 of 1

Figure: The Invoice/Memo (AR6410C1) report with the image from the database

Report Content: To Add QR Codes to a Report

In the following activity, you will learn how to add QR codes to reports.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager has requested a report that displays the details of an invoice or memo, including the QR codes of items. You have decided to use the predefined *Invoice/Memo* (AR641000) report as a base and modify it by adding the QR code of each item.

Process Overview

In the Report Designer, you will open the *AR6410C2* report, which is a copy of the *Invoice/Memo* (AR641000) report, and add the *PictureBox* elements to the report layout. You will configure the properties of this element to display a QR code for each item in the report.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AR6410C2.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AR6410C2` as the report name, and click **OK**.

The report is saved on the server.

Step 1: Adding a QR Code of Each Item

To add a QR code of each item in the *AR6410C2* report, do the following:

1. In the Report Designer, be sure the *AR6410C2* report (which you have saved to the server) is open.
2. Select `detailSection1` and enlarge the height of the section.

   For the `detailSection1`, you can specify the `3.5cm` value for the **Appearance > Height** property.
3. In the Tools pane, drag the *PictureBox* element to the `detailSection1` section, on the left side of the `detailSection1` section, below the text boxes.
4. To show the QR code of the item, while the *PictureBox* element is selected, in the **Properties** pane, specify the following settings:
   - **Data > Source**: *Barcode*
   - **Data > BarcodeType**: *QRCode*

     Based on these settings, the image will be a QR code.
   - **Data > Value**: `='http://<URL of Your Instance>/Main?ScreenId=AR301000&InventoryCD='+[ARTran.InventoryID]`

     For example, **Data > Value** can be the following: `='http://my-server.acumatica.com/InstanceName/Main?ScreenId=AR301000&InventoryCD='+[ARTran.InventoryID]`

     Based on this value, each item will contain the QR code that is linked to the appropriate item. Notice that the link contains the application URL explicitly.
   - **Behavior > QRCodeSettings > CodeSize**: `64`

     The default **CodeSize** of any QR code image is *50*. If the length of the string you have specified as the **Value** is too long, the QR code will disappear from the image preview on the report layout. If the user runs this report, the QR code will be invisible too. The larger the string whose value you have specified for the barcode, the larger the **CodeSize** you should specify to make the image visible.
   - **Layout > Size**: `64px; 64px`
5. On the Report Designer window toolbar, click **Save**.

Step 2: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Invoice/Memo (AR6410C2) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. On the **Report Parameters** tab, in the **Document Type** box, make sure *Invoice* (the default value) is selected.

3. In the **Reference Number** box, select *000058*.

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

Make sure that QR code is displayed for each item in the invoice, as shown in the following screenshot.

INVOICE

Reference Nbr.:	000058
Date:	07-Jan-2020
Due Date:	06-Feb-2020
Customer ID:	TOMYUM
Currency:	USD

Service and Equipment Sales Center
218 Oakwood Ave
New York, NY, 10007
Phone: +1 212 667 1506

BILL TO:	SHIP TO:
Thai Food Restaurant 341 E 138th St New York NY 10454 United States of America	341 E 138th St New York NY 10454 United States of America

CUSTOMER REF. NBR.	TERMS	CONTACT
	30 Days	Nenad Pasic

NO.	ITEM	QTY.	UOM	UNIT PRICE	DISC.	EXTENDED PRICE
2	JUICER20C: Commercial citrus juicer with a production rate of 2 litres per minute	1.00	PIECE	4,000.0000	0%	4,000.00
1	INSTALL: Installation of equipment at the customers' place	1.00	HOUR	100.0000	0%	100.00

NOTE:

Sales Total:	4,100.00
Less Discount:	0.00
Tax Total:	0.00
Total (USD):	4,100.00
Cash Discount:	0.00

Page: 1 of 1

Figure: The Invoice/Memo (AR6410C2) report with the QR codes of items

Report Content: To Embed an Image in a Report

In the following activity, you will learn how to embed an image in a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager has requested that you add an image of his signature to a report that displays the details of an invoice or memo. You have decided to use the predefined *Invoice/Memo* (AR641000) report as a base and modify it by adding the image of the signature that the sales manager has sent to you as a PNG file.

Process Overview

In the Report Designer, you will open the *AR6410C3* report, which is a copy of the *Invoice/Memo* (AR641000) report, and add the *PictureBox* element to the report layout. You will configure the properties of this element to display the *facsimile* image.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AR6410C3.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AR6410C3` as the report name, and click **OK**.

The report is saved on the server.

Upload the facsimile.png file and save it to any folder on your computer.

Step 1: Embedding the Image in the Report

To embed the image in the *AR6410C3* report, do the following:

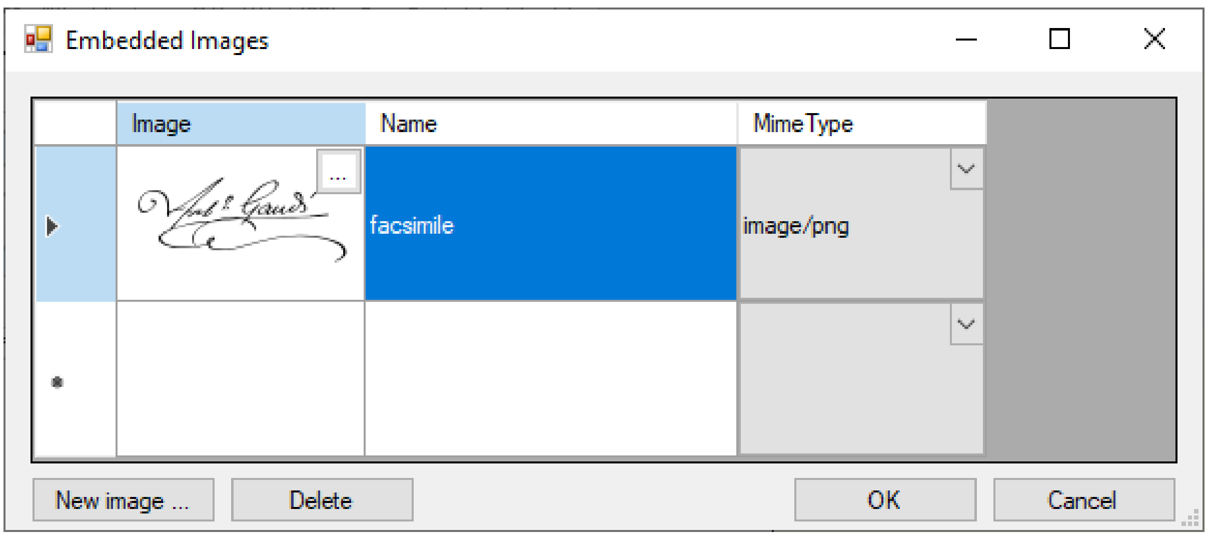
1. In the Report Designer, be sure the *AR6410C3* report (which you have saved to the server) is open.

2. On the **Properties** tab of the Properties pane, select the `report1 Report` object from the drop-down list to select the report form, and do the following:

   - In the **Data > EmbeddedImages** property, click the button to open the **Embedded Images** dialog box.

   - In the dialog box, click the **New image ...** button, as shown in the screenshot below, and select the facsimile.png file, which contains the needed image. (The **Name** and **Mime Type** of the selected file are defined automatically.)

   Figure: The embedded image in the Embedded Images dialog box

3. Click **OK** to add the image you have selected to the embedded images collection of the report and to close the **Embedded Images** dialog box. Now you can use this image in the report.

4. Select `groupFooterSection2 (Footer of groupInvoice)` and enlarge the height of the section.

   For the `groupFooterSection2 (Footer of groupInvoice)`, you can specify the `1.0cm` value for the **Appearance > Height** property.

5. In the Tools pane, drag the *PictureBox* element to the `groupFooterSection2 (Footer of groupInvoice)` section, on the left.

6. Specify the following settings for the embedded image:

   - **Data > Source**: *Embedded*

   - **Data > Value**: *facsimile*

- **Layout > Sizing**: *Scale*

  With the *Scale* value of the **Layout > Sizing** property you adjust sizing of an image so that the image keeps its proportions.

7. On the Report Designer window toolbar, click **Save**.

Step 2: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Invoice/Memo (AR6410C2) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. On the **Report Parameters** tab, in the **Document Type** box, make sure *Invoice* the default value) is selected.
3. In the **Reference Number** box, select any number, for example, *000058*.
4. On the report form toolbar, click **Run Report**.

Make sure that the image you have added is displayed below the list of items in the invoice. The following screenshot displays the report.

Figure: The Invoice/Memo (IN6410C2) report with the image added

SweetLife

INVOICE

Reference Nbr.:	000058
Date:	07-Jan-2020
Due Date:	06-Feb-2020
Customer ID:	TOMYUM
Currency:	USD

Service and Equipment Sales Center
218 Oakwood Ave
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CUSTOMER REF. NBR.	TERMS	CONTACT
	30 Days	Nenad Pasic

NO.	ITEM	QTY.	UOM	UNIT PRICE	DISC.	EXTENDED PRICE
2	JUICER20C: Commercial citrus juicer with a production rate of 2 litres per minute	1.00	PIECE	4,000.0000	0%	4,000.00
1	INSTALL: Installation of equipment at the customers' place	1.00	HOUR	100.0000	0%	100.00

NOTE:

Sales Total:	4,100.00
Less Discount:	0.00
Tax Total:	0.00
Total (USD):	**4,100.00**
Cash Discount:	0.00

Page: 1 of 1

Report Content: To Add a Subreport

In the following activity, you will learn how to create a related subreport in a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A project manager has requested a report that displays project profitability by project manager. The project manager has also asked you to display the list of change orders for each project. You have looked through the reports in Acumatica ERP and decided to use a copy of the *Project Profitability* (PM624000) report and make modifications to it.

Process Overview

In the Report Designer, you will create the *COProfit* report, which will display a list of change orders related to projects in the primary report. As the primary report, you will use the *PM6240C1* report, which is a copy of the *Project Profitability* (PM624000) report. You will insert into it the *COProfit* report as a subreport.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the PM6240C1.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.

4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `PM6240C1` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Creating a Subreport

To create a subreport that lists change orders, do the following:

1. On the Report Designer menu bar, click **File > New**.

   An empty report with the default sections opens.

2. On the Report Designer menu bar, click **File > Build Schema**.

   The Schema Builder opens with the **Tables** tab selected.

3. In the **Enter Web Service URL to Load WSDL Document** box, enter the URL of your Acumatica ERP website, which can be your local website or an external URL of Acumatica ERP, such as *https://mysite.com/MyAcumatica*.

   > The history of successful connections is automatically saved in the drop-down list of the URL box. For example, if you have already opened a report from the server, you can select the URL from the drop-down list.

4. Type your username and password. If your application contains more than one company, type the appropriate company name with the username in the following format: *gibbs@U100*.

5. Click the **Load Schema** button.

6. In the **Search** box, type `ChangeOrder`, and, in the **Select Report Tables** list, select *PMChangeOrder* and click **>**.

   The `PMChangeOrder` data access class is placed in the right pane of the Schema Builder.

7. On the **Parameters** tab, click **Add** to add a parameter.

8. In the **Name** box, type `Project`.

9. On the **Filters** tab, add a row with the following settings:

   - **Data Field**: *PMChangeOrder.ProjectID*
   - **Condition**: *Equal*
   - **Value1**: `@Project`

10. In the Schema Builder, click **Apply** to apply the changes and **OK** to close the window.

11. In the Tools pane, drag the *TextBox* element to the `detailSection1` section, on the left.

12. For the **Appearance > Value** property of the added text box, specify `=[PMChangeOrder.RefNbr]`.

13. Right-click any empty space of the report layout and click the **Add New Group** command to add a new group, `groupHeaderSection1`, to the report layout.

14. In `groupHeaderSection1`, add a text box, and for its **Appearance > Value** property, specify `Change Order Reference Number`. This text box will display the header of the list of change orders for a project.

15. Optional: To highlight the header of the list of change orders for a project, do the following:

    a. Select the report by clicking the ■ icon at the top left corner of the Design pane of the Report Designer and for the **Appearance > StylesTemplate** property, select *TemplateReport.rpx* in the **Select Report Scheme** window, in the `/Site/ReportsDefault/` folder.

    b. Select the text box with *Change Order Reference Number* and for the **Appearance > StyleName** property, select *GroupHighlight*.

16. Optional: Right-click the header of the `pageHeaderSection1` and click **Delete** to delete the section. Delete the `pageFooterSection1` section the same way.

17. Select `groupFooterSection1`, and for its **Behavior > Visible** property, select *False* to make the section invisible.

18. On the Report Designer menu bar, click **File > Save To Server** to save the report.

19. In the **Save Report on Server** dialog box, fill in the following boxes:

    - **Enter Web Service URL to Load WSDL Document**: The URL of your Acumatica ERP website
    - **Login**: Your username
    - **Password**: Your password
    - **Enter Report Name to Save**: `COProfit`

20. Click **OK** to save the report and close the window.

    `COProfit.rpx` is saved on the server.

The subreport that you have created is shown in the following screenshot.

Figure: The subreport that lists the change orders of the specified project

Step 2: Adding the Subreport to the Report

To insert the subreport in the *PM6240C1* report, do the following:

1. In the Report Designer, open the *PM6240C1* report (which you have saved to the server).

2. In the Tools pane, drag the *SubReport* element to the `groupHeaderSection1` section, below the text boxes.

3. In the **Behavior > ReportName** property of the **Properties** tab, type the name of the subreport —that is, `COProfit.rpx`.

4. Right of the **Behavior > Parameters** property, click the button.
5. In the ExternalParameter Collection Editor, which opens, in the **Members** pane, click **Add**.
6. In the right pane of ExternalParameter Collection Editor, for the `Name` parameter, specify `Project`, and for the `ValueExpr` parameter, specify `=[PMProject.ContractCD]`.
7. Click **OK** to close the ExternalParameter Collection Editor.
8. On the Report Designer window toolbar, click **Save**.

The *PM6240C1* report with the *COProfit* subreport is shown in the following screenshot.

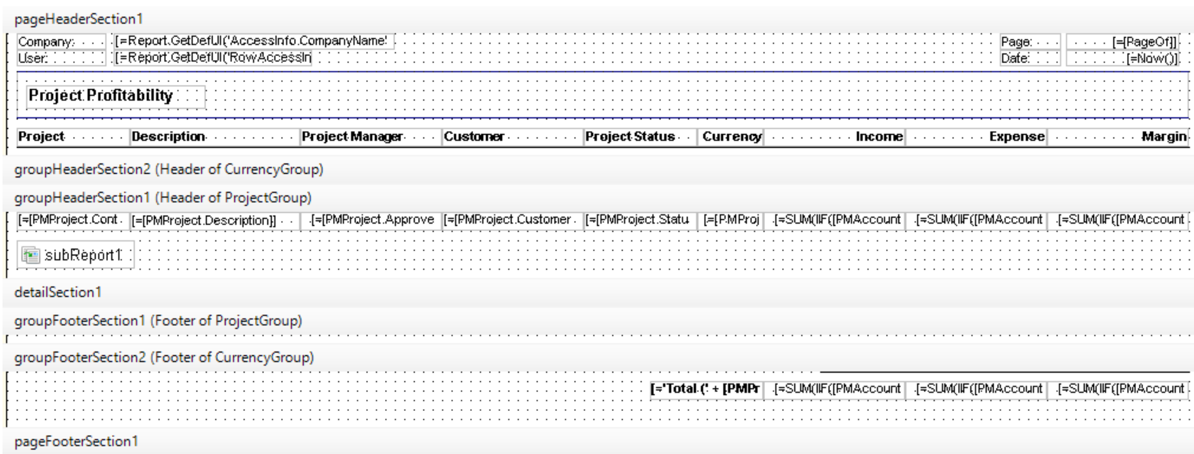


Figure: Report with subreport

Step 3: Viewing the Report with the Subreport

To view the report, do the following:

1. In Acumatica ERP, open the Project Profitability (PM6240C1) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

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

The report is shown in the following screenshot. Make sure that the change orders displayed for the project are related to the correct project. To do this, you can open *Projects* (PM301000) form and select the project identifier that is displayed in the report. On the **Change Orders** tab, the list of change orders should match the list of change orders in the report.

Company: Company | Page: 1 of 1
User: Kimberly Gibbs | Date: 3/4/2021 3:13 AM

Project Profitability

Project	Description	Project Manager	Customer	Project Status	Currency	Income	Expense	Margin
HMTRAINING	A training for employees	EP00000001	HMBAKERY	Completed	USD	1,250.00	800.00	450.00

Change Order Reference Number
000002
000003

Total (USD):	1,250.00	800.00	450.00

Figure: The Project Profitability (PM6240C1) report with change orders

Lesson 4: Using Variables and Expressions

Variables and Expressions: General Information

In the Acumatica Report Designer, you can use expressions to define values to be displayed in a report, or to specify report properties, such as group conditions and the visibility of sections or elements of the report. In expressions, you can use variables and parameters. (For more information about parameters, see *Parameters and Filters: General Information*.) In the Report Designer, you can type an expression or you can compose an expression in the Expression **Editor**.

Learning Objectives

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

- Create a variable
- Specify an expression

Applicable Scenarios

You may want to use the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You may want to perform calculations on values before presenting them or transform the data in some way.

Variables

You can use variables to store values, make them available in all sections of the report, and substitute values in expressions.

Global variables are available in all reports. Global variables can be inserted into a report as values or included in expressions. The following table shows the global variables defined in the Report Designer.

Table: Global Variables

Global Variable	Description
`PageIndex`	Substitutes into the expression the page index value selected in the data source definition of the current report.
`PageCount`	Substitutes into the expression the page count value for the current report.
`PageOf`	Substitutes into the expression the page number and total page count values for the current report.

You specify a local variable for the report section. This variable is visible in all other sections of the report. If you declare the same variable in multiple sections, the variable is shared between them. If the variable is modified in one section, the new value of the variable is passed to the next section where the variable is used. The variable is initiated in the topmost section where it is used. Then the variable is sequentially modified in the following sections in the order in which these sections are printed in the report.

To define a variable, you use the **Behavior > Variables** property of the report section.

The variables have the `$VariableName` format, where *VariableName* is the name of the variable defined in the report.

The following example illustrates the use of the `$RowNumber` local variable in the expression.

```
=Assign( '$RowNumber', $RowNumber + 1 )
```

In a report, you can use a variable defined in a subreport. In this case, the variable has the `$ReportName_VariableName` format, where *ReportName* is the name of the report in which the variable is defined. For example, suppose that you have defined the `$pmt` variable in the *payment* report. If you need to use this variable in another report in your Acumatica ERP instance, you refer to this variable as *$payment_pmt*.

Addition and Deletion of a Variable in a Report Section

To define a variable, you use the ReportVariable Collection Editor (that is, the **ReportVariable Collection Editor** dialog box). To open the ReportVariable Collection Editor, you select the report section where you want to add the variable; then in the Properties pane, on the **Properties** tab, click the button next to the **Behavior > Variables** property.

If you add more than one variable in a section, in the ReportVariable Collection Editor, variables should be listed in the **Members** list in the order they are calculated. For example, suppose that you have specified two variables—`A` and `B`. Also suppose that `$B=F($A)`. In this case, `A` should be listed first and `B` should be listed second. To change the order of variables in the ReportVariable Collection Editor, you use buttons with arrows on the left of the **Members** list.

To delete a variable from the list of existing variables, you open the ReportVariable Collection Editor, select this variable in the **Members** list, and click **Remove**.

Expression Editor

You define expressions in the Expression Editor—that is, the **Expression Editor** dialog box of the Report Designer. You can open the Expression Editor in the following places:

- In the Schema Builder, on the **Relationships** tab, by clicking the **Parent Formula** or **Child Formula** button
- In the Schema Builder, on the **Parameters** tab, by clicking the button next to the **Input mask**, **View name**, and **Default value** boxes.
- In the Schema Builder, on the **Filters** tab, by clicking the **Data Field Formula** button
- In the Schema Builder, on the **Sorting and Grouping** tab, by clicking the **Grouping Field Formula** button
- In the **Appearance > Value** property of the *TextBox* element

The Expression Editor consists of four panes, as shown in the screenshot below:

- The left pane of the dialog box (Item 1) displays a list of data access classes and their fields defined for the report.

- The middle pane of the dialog box (Item 2) lists groups of parameters, operators, functions, and variables.
- The right pane of the dialog box (Item 3) contains the parameters, operators, functions, or variables in the group you select in the middle pane.
- You use the bottom pane of the dialog box (Item 4) to compose and edit the expression. You can double-click data fields listed in the left pane and items listed in the right pane to add them to the bottom pane.

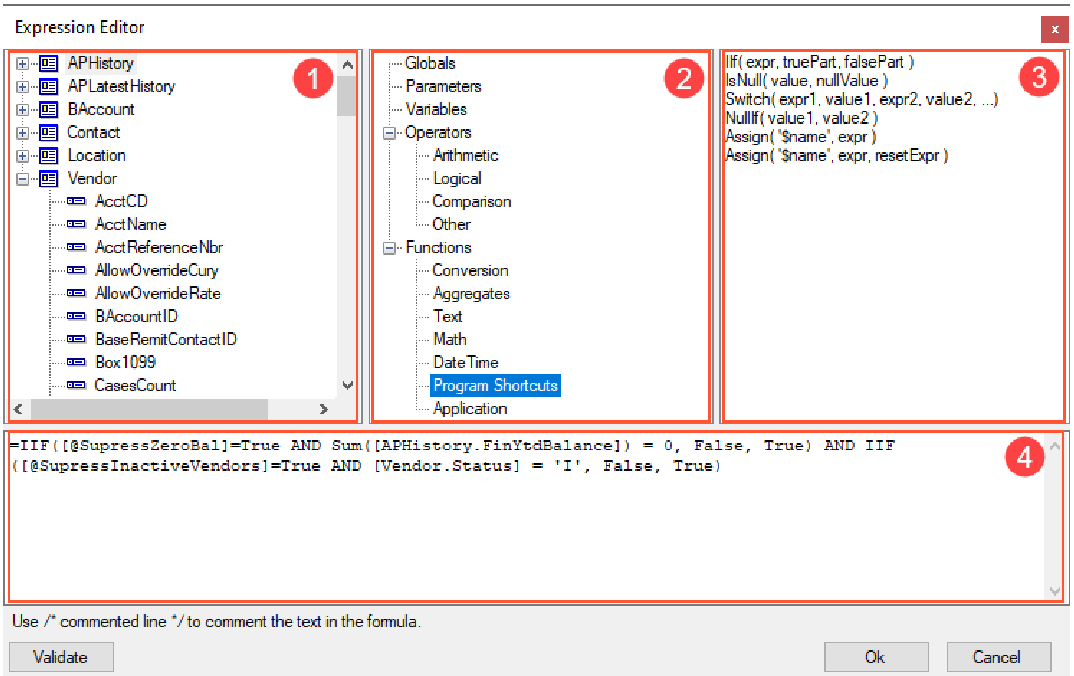


Figure: Expression Editor

You perform the following steps to enter an expression in the Expression Editor:

1. In the middle pane, you expand the hierarchical structure of existing entities, and select a group of parameters, variables, operators, or functions to display the list of available items in the right pane.
2. In the right pane, you select the item you want to insert in the bottom pane.
3. In the expression, point where you want to insert the selected item and double-click the item.
4. In the left pane, you expand the hierarchical structure of classes defined for the report, and select a data field to insert it in the bottom pane.
5. In the expression, point where you want to insert the selected data field and double-click the field.

   You can add as many items and fields in the bottom pane as you need. You can use the added items and fields to edit the expression.
6. You validate the expression.
7. You save the expression.

Variables and Expressions: Functions in Expressions

You can use functions to perform specific tasks that facilitate the processing of data for reports. Many functions available in the Expression Editor process data and return values, which you can use in reports.

To use functions in expressions, you can enter them manually in the expression editing area or select them from the list of functions provided by the Expression Editor. You can use the following groups of functions in expressions.

Type Conversion Functions

You use the type conversion functions to convert data from one data type to another. Listed below are the type conversion functions available in the *Conversion* subnode of the *Functions* node in the Expression Editor.

Function	Description and Examples
`CBool(x)`	Converts the expression used as the function argument into a Boolean expression. Returns `False` if the Boolean value is 0; otherwise, returns `True`. **Example:** `CBool($CurrCompanyTot - $CompanyTot)` In this example, `CurrCompanyTot` and `CompanyTot` are report variables.
`CDate(x)`	Converts the expression used as the function argument into a value of the *Date* type. The argument should be a valid date expression according to the locale selected for the import or export scenario. **Example:** `CDate($DueDate - 1)` In this example, `DueDate` is a report variable.
`CStr(x)`	Converts the expression used as the function argument into a string. If the argument is `Null`, the function returns a run-time error; otherwise, it returns a string. **Example:** `CStr($PrintDoc)` Here, `PrintDoc` is a report variable.
`CDbl(x)`	Converts the expression defined in the function argument into a value of the *Double* type. **Example:** `CDbl($CurrBal/$CurrTot)` Here, `CurrBal` and `CurrTot` are report variables.
`CSng(x)`	Converts the expression used as the function argument into a value of the *Single* type. If the expression has a value outside of the acceptable range for the *Single* type, this function returns an error. **Example:** `CSng($StCycCurrTot/$CompanyTot)` In this example, `StCycCurrTot` and `CompanyTot` are report variables.

Function	Description and Examples
`CDec(x)`	Converts the expression used as the function argument into a value of the *Decimal* type. **Example:** `CDec($CompanyTot)` In this example, `CompanyTot` is a report variable.
`CInt(x)`	Converts the expression used as the function argument into a value of the *Integer* type. **Example:** `CInt([ARPayment.ExtRefNbr])` In this example, `ARPayment.ExtRefNbr` is an attribute from the database scheme.
`CShort(x)`	Converts a numeric value to a value of the *Short* type. **Example:** `CShort([ARPayment.ImpRefNbr])` `ARPayment.ImpRefNbr` is an attribute from the database scheme.
`CLong(x)`	Converts a numeric value to a value of the *Long* type. **Example:** `CLong($CurrTot)` In this example, `CurrTot` is a report variable.

Aggregate Functions

Aggregate functions perform a calculation on a set of values and return a single value. Listed below are the aggregate functions available in the *Aggregates* subnode of the *Functions* node in the Expression Editor.

Function	Description and Examples
`Avg(`*expression*`)`	Returns the average of all non-null values of the specified expression. **Example:** `Avg($StCycAgeTot00, $StCycAgeTot01)` In this example, `StCycAgeTot00` and `StCycAgeTot01` are report variables.
`Sum(`*expression*`)`	Returns the sum of the values of the specified expression. **Example:** `Sum([ARInvoice.TaxTotal], $CurrTot)` In this example, `ARInvoice.TaxTotal` is an attribute from the database scheme, and `CurrTot` is a report variable.
`Count(`*expression*`)`	Returns the count of the values from the specified expression. **Example:** `Count($AgeBal00, $AgeBal01)` In this example, `AgeBal00` and `AgeBal01` are report variables.
`Max(`*expression*`)`	Returns the maximum value from all non-null values of the specified expression. **Example:** `Max($CurrCompanyTot, $CompanyTot)` In this example, `CurrCompanyTot` and `CompanyTot` are report variables.

Function	**Description and Examples**
`Min(`*expression*`)`	Returns the minimum value from all non-null values of the specified expression. **Example:** `Min($CurrCompanyTot, $CompanyTot)` In this example, `CurrCompanyTot` and `CompanyTot` are report variables.
`Next(`*expression*`)`	Returns the next value (from the current one) in the specified expression. **Example:** `Next([ARInvoice.LineTotal],[ARInvoice.TaxTotal])` In this example, `ARInvoice.LineTotal` and `ARInvoice.TaxTotal` are attributes from the database scheme.
`Prev(`*expression*`)`	Returns the previous value (from the current one) in the specified expression. **Example:** `Prev([ARInvoice.LineTotal],[ARInvoice.TaxTotal]) ARInvoice.LineTotal` and `ARInvoice.TaxTotal` are attributes from the database scheme.
`First(`*expression*`)`	Returns the first value in the specified expression. **Example:** `First([ARInvoice.LineTotal],[ARInvoice.TaxTotal])` In this example, `ARInvoice.LineTotal` and `ARInvoice.TaxTotal` are attributes from the database scheme.
`Last(`*expression*`)`	Returns the last value in the specified expression. **Example:** `Last([ARInvoice.LineTotal],[ARInvoice.TaxTotal])` In this example, `ARInvoice.LineTotal` and `ARInvoice.TaxTotal` are attributes from the database scheme.

String Functions

String functions perform an operation on a string input value and return a string or numeric value. Listed below are the string functions available in the *Text* subnode of the *Functions* node in the Expression Editor.

Function	**Description and Examples**
`LTrim(`*string*`)`	Removes all leading spaces or parsing characters from the specified character expression, or all leading *0* bytes from the specified binary expression. **Example:** `LTrim(CStr([Contact.LastName]))` In this example, `Contact.LastName` is an attribute from the database scheme.
`RTrim(`*string*`)`	Removes all trailing spaces or parsing characters from the specified character expression, or all trailing *0* bytes from the specified binary expression. **Example:** `RTrim(CStr([Contact.LastName]))` In this example, `Contact.LastName` is an attribute from the database scheme.

Function	**Description and Examples**
`Trim(`*string*`)`	Removes all trailing spaces or parsing characters from the specified character expression, or all trailing *0* bytes from the specified binary expression. **Example:** `Trim(CStr([Contact.FirstName]+[Contact.MidName]+[Contact.LastName]))` In this example, `Contact.FirstName`, `Contact.MidName`, and `Contact.LastName` are attributes from the database scheme.
`Format(`*format, argument(s)*`)`	Replaces the format item in the specified formatting string (*format*) with the text equivalent of the arguments (*arguments*). **Example:** `Format('Curr. Balance: . . . . . . . . {0:N}; Total Amount: . . . . . . . . {1:N}', $CurrBal, $CurrTot)` In this example, `CurrBal` and `CurrBal` are report variables; *0* and *1* are specifiers indicating where the arguments will be inserted; *C* is the *currency* format specifier; and *N* is the *number* format specifier.
`UCase(`*string*`)`	Returns a string that has been converted to uppercase. The *string* argument is any valid string expression. If *string* contains *Null*, *Null* is returned. **Example:** `UCase(CStr([RowContact.MidName]))` In this example, `RowContact.MidName` is an attribute from the database scheme.
`LCase(`*string*`)`	Returns a string that has been converted to lowercase. The *string* argument is any valid string expression. If *string* contains *Null*, *Null* is returned. **Example:** `LCase(CStr([Contact.Email]))` In this example, `Contact.Email` is an attribute from the database scheme.
`InStr(`*string*, *findString*`)`	Returns the position of the first occurrence of one string (*findString*) within another (*string*). **Example:** `InStr(CStr([Contact.Email]), '@')` In this example, `Contact.Email` is an attribute from the database scheme.
`InStrRev(`*string*, *findString*`)`	Returns the position of the last occurrence of one string (*findString*) within another (*string*), starting from the right side of the string. **Example:** `InStrRev(CStr([Contact.Email]), '@')` In this example, `Contact.Email` is an attribute from the database scheme.
`Len(`*string*`)`	Returns an integer containing either the number of characters in the string or the nominal number of bytes required to store a variable. **Example:** `Len(CStr([Contact.Email]))` In this example, `Contact.Email` is an attribute from the database scheme.

Function	Description and Examples
`Left(`*string*`, `*length*`)`	Returns a string containing the specified number of characters from the left side of a string. If *string* contains *Null*, *Null* is returned. **Example:** `Left(CStr([Contact.Email]), 7)` In this example, `Contact.Email` is an attribute from the database scheme.
`Right(`*string*`, `*length*`)`	Returns a string containing the specified number of characters from the right side of a string. If *string* contains *Null*, *Null* is returned. **Example:** `Right(CStr([Contact.Email]), 10)` In this example, `Contact.Email` is an attribute from the database scheme.
`Replace(`*string*`, `*oldValue*`, `*newValue*`)`	Returns a string in which the specified substring (*oldValue*) has been replaced with another substring (*newValue*). **Example:** `Replace(CStr([Contact.Email]), '@.', '@')` In this example, `Contact.Email` is an attribute from the database scheme.
`PadLeft(`*string*`, `*width*`, `*paddingChar*`)`	Right-aligns the characters in the specified string (*string*), padding with the specified characters (*paddingChar*) on the left for the specified total width (*width*). **Example:** `PadLeft(CStr([Contact.Email]), 7, '@')` In this example, `Contact.Email` is an attribute from the database scheme.
`PadRight(`*string*`, `*width*`, `*paddingChar*`)`	Left-aligns the characters in the specified string (*string*), padding with the specified characters (*paddingChar*) on the right for the specified total width (*width*). **Example:** `PadRight(CStr([Contact.Email]), 10, '@')` In this example, `Contact.Email` is an attribute from the data scheme.
`Substring(`*string*`, `*start*`, `*length*`)`	Returns a string containing the specified number of characters (*length*) from the left side of the specified string (*string*) starting from the specified number of symbols (*start*). The numbering is 0-based, meaning that the first character in the string is 0. **Example:** `Substring([ARInvoice.DocDesc], 0, 10)` In this example, `ARInvoice.DocDesc` is an attribute from the data scheme.

Mathematical Functions

Mathematical functions perform calculations, usually based on input values provided as arguments, and return numeric values. Listed below are the mathematical functions available in the *Math* subnode of the *Functions* node in the Expression Editor.

Function	Description and Examples
`Abs(x)`	Returns the absolute value of a number. **Example:** `Abs($CurrBal - $CurrTot)` In this example, `CurrBal` and `CurrTot` are the report variables.
`Floor(x)`	Returns the largest integer that is not greater than the argument. **Example:** `Floor([Contact.NoteID])` In this example, `Contact.NoteID` is an attribute from the database scheme.
`Ceiling(x)`	Returns the smallest integer that is not less than the argument. **Example:** `Ceiling([Contact.NoteID])` In this example, `Contact.NoteID` is an attribute from the database scheme.
`Round(x,` *decimals*`)`	Returns a numeric expression, rounded to the specified precision (*decimals*). **Example:** `Round($CurrTot, 2)` In this example, `CurrTot` is a report variable.
`Min(x, y)`	Returns the smaller of two values. **Example:** `Min($CurrTot, $CurrCompanyTot)` In this example, `CurrTot` and `CurrCompanyTot` are report variables.
`Max(x, y)`	Returns the greater of two values. **Example:** `Max($CurrTot, $CurrCompanyTot)` In this example, `CurrTot` and `CurrCompanyTot` are report variables
`Pow(x,` *power*`)`	Computes the value of *x* raised to the specified power (*power*). **Example:** `Pow(([Contact.NoteID], 2))` In this example, `Contact.NoteID` is an attribute from the database scheme.

Date and Time Functions

The date and time functions, described below, perform operations on input values and return values of the following types: string, numeric, or date and time. Listed below are the string functions available in the *Date/Time* subnode of the *Functions* node in the Expression Editor.

Function	Description and Examples

`DateAdd(`*date*`,` *interval*`,` *number*`)`	Returns a new date, which is calculated by adding the specified number (*number*) of time intervals (*interval*) to the date (*date*). The *interval* argument specifies the type of time interval and can be one of the following options:
	
	• *y*, *yy*, *yyyy*, or *year*: The specified number (*number*) of years will be added to the specified date (*date*).
	• *m*, *mm*, or *month*: The specified number (*number*) of months will be added to the specified date (*date*).
	• *d*, *dd*, or *day*: The specified number (*number*) of days will be added to the specified date (*date*).
	• *h*, *hh*, or *hour*: The specified number (*number*) of hours will be added to the specified date (*date*).
	• *n*, *mi*, or *minute*: The specified number (*number*) of minutes will be added to the specified date (*date*).
	• *s*, *ss*, or *second*: The specified number (*number*) of seconds will be added to the specified date (*date*).
	• *w*, *ww*, *wk*, or *week*: The specified number (*number*) of weeks will be added to the specified date (*date*).
	• *q*, *qq*, or *quarter*: The specified number (*number*) of quarters will be added to the specified date (*date*).
	
	Examples:
	
	`DateAdd($DueDate, 'm', -2)`
	
	`DateAdd(CDate('31/01/1995'), 'm', -2)`
	
	`DateAdd($DueDate, 'y', -2) DateAdd(Cdate($DueDate), 'd', -2)`
	
	In these examples, `DueDate` is a report variable.

Function	**Description and Examples**
`DateDiff(`*interval*`,` *date1*`,` *date2*`)`	Returns the count (as a signed integer value) of the specified *interval* boundaries crossed between the specified *date1* and *date2*. The *interval* argument, which specifies the type of time interval, can be one of the following options: • *y*, *yy*, *yyyy*, or *year*: The specified number (*number*) of years will be added to the specified date (*date*). • *m*, *mm*, or *month*: The specified number (*number*) of months will be added to the specified date (*date*). • *d*, *dd*, or *day*: The specified number (*number*) of days will be added to the specified date (*date*). • *h*, *hh*, or *hour*: The specified number (*number*) of hours will be added to the specified date (*date*). • *n*, *mi*, or *minute*: The specified number (*number*) of minutes will be added to the specified date (*date*). • *s*, *ss*, or *second*: The specified number (*number*) of seconds will be added to the specified date (*date*). • *w*, *ww*, *wk*, or *week*: The specified number (*number*) of weeks will be added to the specified date (*date*). • *q*, *qq*, or *quarter*: The specified number (*number*) of quarters will be added to the specified date (*date*).

`Day(`*date*`)`	Returns the day (as an integer) extracted from the specified date (*date*).
	Examples:
	`Day([ARPayment.ClearDate])`
	`Day($DueDate) Day(Cdate($DueDate))`
	`Day(CDate('31/01/1995'))`
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

`DayOfWeek(`*date*`)`	Returns the day of the week associated with the specified date (*date*) as an integer.
	Examples:
	`DayOfWeek([ARPayment.ClearDate])`
	`DayOfWeek($DueDate)`
	`DayOfWeek(Cdate($DueDate))`
	`DayOfWeek(CDate('31/01/1995'))`
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

Function	Description and Examples

`DayOfYear(`*date*`)`	Returns the day of the year calculated for the specified date (*date*).
	
	Examples:
	
	`DayOfYear([ARPayment.ClearDate])`
	
	`DayOfYear($DueDate)`
	
	`DayOfYear(Cdate($DueDate))`
	
	`DayOfYear(CDate('31/01/1995'))`
	
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

`DayOrdinal(`*day*`)`	Converts the specified integer value (*day*) to a string that contains the ordinal number in the current locale. For example, for the English locale, the string contains the short form of the ordinal number, such as 1st or 2nd. For numbers that are less than 1 or greater than 31, the function returns an empty string. **Example:** `DayOrdinal(1)`

`Hour(`*date*`)`	Returns the number of hours extracted from the specified date (*date*).
	
	Examples:
	
	`Hour([ARPayment.ClearDate])`
	
	`Hour($DueDate)`
	
	`Hour(Cdate($DueDate))`
	
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

`Minute(`*date*`)`	Returns the number of minutes extracted from the specified date (*date*).
	
	Examples:
	
	`Minute([ARPayment.ClearDate])`
	
	`Minute($DueDate)`
	
	`Minute(Cdate($DueDate))`
	
	`Minute(CDate('31/01/1995'))`
	
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

Function	**Description and Examples**

`Month(`*date*`)`	Returns the month, as an integer, extracted from the specified date (*date*).
	
	Examples:
	
	`=Month([ARPayment.ClearDate])`
	
	`=Month($DueDate) =Month(Cdate($DueDate))`
	
	`=Month(CDate('31/01/1995'))`
	
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

`MonthName(`*date*`)`	Returns a string that contains the name of the month extracted from the specified date (*date*) in the current locale. **Example:** `MonthName(CDate('3/12/2018'))`
`Now()`	Returns the current date and time according to the system date and time settings on the local computer. **Example:** `Now()`
`NowUTC()`	Returns the current date and time in the user's time zone. The system extracts the user's time zone from one of the following sources, which are ordered by priority from the highest to the lowest: **1.** The time zone in the user's preferences, which is specified in the **Time Zone** box on the **General Info** tab of the *User Profile* (SP203010) form. **2.** The employee calendar selected for the user in the **Calendar** box of the **General Info** tab of the *Employees* (EP203000) form. Work calendars are defined on the *Work Calendar* (CS209000) form. **3.** The time zone in the site preferences, which is specified in the **Login Time Zone** box on the *Site Preferences* (SM200505) form. **Example:** `NowUTC()`

`Second(`*date*`)`	Returns the seconds extracted from the specified date (*date*) as an integer.
	
	Examples:
	
	`Second([ARPayment.ClearDate])`
	
	`Second($DueDate) Second(Cdate($DueDate))`
	
	`Second(CDate('31/01/1995'))`
	
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

Function	Description and Examples
`Today()`	Returns the current date according to the system date and time settings on the local computer. **Example:** `Today()`
`TodayUTC()`	Returns the current date in the user's time zone. The system extracts the user's time zone from one of the following sources, which are ordered by priority from the highest to the lowest: **1.** The time zone in the user's preferences, which is specified in the **Time Zone** box on the **General Info** tab of the *User Profile* (SP203010) form. **2.** The employee calendar selected for the user in the **Calendar** box of the **General Info** tab of the *Employees* (EP203000) form. Work calendars are defined on the *Work Calendar* (CS209000) form. **3.** The time zone in the site preferences, which are specified in the **Login Time Zone** box on the *Site Preferences* (SM200505) form. **Example:** `TodayUTC()`

`Year(`*date*`)`	Returns the year, as an integer, extracted from the specified date (`date`).
	
	Examples:
	
	`Year([ARPayment.ClearDate])`
	
	`Year(Cdate($DueDate)) Year($DueDate)`
	
	`Year(CDate('31/01/1995'))`
	
	In these examples, `DueDate` is a report variable, and `ARPayment.ClearDate` is an attribute from the database scheme.

Shortcut Functions

The shortcut functions perform miscellaneous operations. Listed below are the string functions available in the *Math* subnode of the *Program Shortcut* node in the Expression Editor.

Function	Description and Examples
`Assign(`*'$name', expression*`)`	Assigns the result of the expression calculation to the variable specified as the parameter. The function can be used to assign a value to an existing variable, or a new variable can be created with the expression calculation value assigned to it. **Example:** `Assign(PrintDoc, (IsNull([RowARRegister.CustomerID])))` In this example, `PrintDoc` is a report variable, and `ARRegister.CustomerID` is an attribute from the data scheme).

Function	Description and Examples
Assign(*'$name'*, *expression*, *resetExpression*)	Assigns the result of the expression calculation to the variable specified as the parameter. The *expression* value is assigned to the variable when the variable is set, and the *resetExpression* value defines when the variable value should be reset. The function can be used to assign a value to an existing variable, or a new variable can be created and the expression calculation value is assigned to it. **Example:** Assign(<nowiki>'PrintDoc'</nowiki>, (IsNull([ARRegister.CustomerID])), IsNull([APPayment.AdjFinPeriodID])) In this example, PrintDoc is a report variable, and ARRegister.CustomerID is an attribute from the database scheme).
IIf(*expression*, *truePart*, *falsePart*)	Returns one of two values, depending on the evaluation of the expression: If the expression evaluates to True, the function returns the *truePart* value; otherwise, it returns the *falsePart* value. **Example:** IIf(($CurrTot-$CurrBal)<>0), CStr([ARRegister.DocBal]), 'No data available') In this example, CurrTot and CurrBal are report variables, and ARRegister.DocBal is an attribute from the database scheme.
IsNull(*value*, *nullValue*)	Returns *nullValue* if *value* is NULL; otherwise, returns *value*. **Example:** IsNull($PrintDoc, 'NULL') In this example, PrintDoc is a report variable.
NullIf(*value1*, *value2*)	Returns NULL if *value1* is equal to *value2*.
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. *expression_1*, *expression_2*, and so on are Boolean expressions. **Example:** Switch((($CurrTot-$CurrBal)<0), $CurrBal, (($CurrTot-$CurrBal)>0), $CurrTot) In this example, CurrTot and CurrBal are report variables.

Application-Specific Functions

The application-specific functions are specific for the application in which you will run the report. That is why these functions are not listed in the Expression Editor dialog box. You will need to enter these functions manually.

The following table includes the application-specific functions available in Acumatica Report Designer.

Function	Description and Examples
`GetAPPaymentInfo(`*accountCD, paymentMethodID, detailID, acctCD*`)`	Returns the value of the specified AP payment attribute (*detailID*) for specific cash account (*accountCD*), payment method (*paymentMethodID*), and vendor (*acctCD*). The function returns the attribute value as it is specified in the **Payment Instructions** section on the **Payment Settings** tab of the *Vendors* (AP303000) form. If the specified record is not available, the function returns an empty string. **Example:** `Payments.GetAPPaymentInfo('102000','FEDWIRE','INSTRUCTIONS','V000213')`
`GetARPaymentInfo(`*accountCD, paymentMethodID, detailID, pMInstanceID*`)`	Returns the value of the specified AR payment attribute (*detailID*) for specific cash account (*accountCD*), payment method (*paymentMethodID*), and customer (*acctCD*). The function returns the attribute value as it is specified on the **Payment Method Details** tab of the *Customer Payment Methods* (AR303010) form. If the specified record is not available, the function returns an empty string. **Example:** `Payments.GetARPaymentInfo('102000','FEDWIRE','ACCOUNTNO','C0003163')`
`GetRemitPaymentInfo(`*accountCD, paymentMethodID, detailID*`)`	Returns the value of the specified payment attribute (*detailID*) for specific cash account (*accountCD*), payment method (*paymentMethodID*), and vendor or customer (*acctCD*). The function returns the attribute value as it is specified on the **Remittance Settings** tab of the *Cash Accounts* (CA202000) form. If the specified record is not available, the function returns an empty string. **Example:** `Payments.GetRemitPaymentInfo('102000','FEDWIRE','ACCOUNTNO')`

Variables and Expressions: To Add a Variable and an Expression

In the following activity, you will learn how to use variables and expressions in a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager of your company has requested a report that displays data about vendors, so that vendors are grouped by vendor class. In a class, vendors should be numbered. You know that your colleague has created such a report, but without numbering. You decide to change the report that your colleague has created.

Process Overview

In the Report Designer, you will open the *AP6550C6* report, which is a modified copy of the *Vendor Summary*
(AP6550C6) report, and in the section in which vendors are listed, you will add two variables. One variable will calculate the visibility of a vendor. The second variable will calculate the sequential number of a vendor in the class and will be incremented by one for only the vendors that are visible.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

> The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6550C6.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6550C6` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Adding Variables to a Report Section

To add variables to a section of the *AP6550C6* report, do the following:

1. In the Report Designer, be sure the *AP6550C6* report (which you have saved to the server) is open.
2. Select the `groupHeaderSection1 (Header of group1)` section, and in the **Behavior > Variables** property of the **Properties** tab on the Properties pane, click the ... button.

   The ReportVariable Collection Editor opens, where you can add variables to the report and define their properties.

3. In the **Members** pane of the ReportVariable Collection Editor, click **Add**.

4. In the **Misc > Name** property on the right pane, type `IsGroup1Visible` to specify the name of the variable.

5. In the **Misc > ValueExpr** property, click the button.

   The Expression Editor opens.

6. In the bottom pane of the Expression Editor, enter the following expression:
   `=IIF([@SupressZeroBal]=True AND Sum([APHistory.FinYtdBalance]) = 0, False, True) AND IIF([@SupressInactiveVendors]=True AND [Vendor.Status] = 'I', False, True).`

   This is a visibility expression of `groupHeaderSection1 (Header of group1)`. This expression is true if summary balance of the vendor is not zero and the status of the vendor is not inactive.

   You can type this expression in the bottom pane of the Expression Editor or you can compose the expression by selecting necessary components from the left, middle, and right panes of the Expression Editor. For example, you can select the `IIf` function under the *Program Shortcuts* component type and the `@SupressInactiveVendors` parameter in the middle pane. You can select DAC fields in the left pane. After you have constructed the expression, you can validate it by clicking the **Validate** button.

7. Click **OK** to close the Expression Editor.

8. In the **Members** pane of the ReportVariable Collection Editor, click **Add**.

9. In the **Misc > Name** property on the right pane, type `Num` to specify the name of the second variable.

10. In the **Misc > ProcessOrder** property, leave the default value—that is, *WhileRead*. This value directs the system to process the values of variables while reading these variables.

11. In the **Misc > ResetGroup** property, select *NewGroup* to reset the value of the `Num` variable.

    This means that in the `NewGroup` group, the variable should be calculated locally. If you have set this property, for each instance of the specified group, the variable has an independent value. At the end of each group, the variable is reset.

12. In the **Misc > ValueExpr** property, type `=$Num + IIF($IsGroup1Visible, 1, 0).`

    This means that the value of the `Num` variable will be incremented by one only if the `IsGroup1Visible` variable is true.

    As with the `IsGroup1Visible` variable, you can compose the expression in the Expression Editor.

    Notice that you have specified `IsGroup1Visible` first and `Num` second because the `Num` value is calculated by using the `IsGroup1Visible` value.

13. Click **OK** to save your changes and close the ReportVariable Collection Editor.

14. On the Report Designer window toolbar, click **Save**.

The following screenshot shows the variables added to `groupHeaderSection1 (Header of group1).`

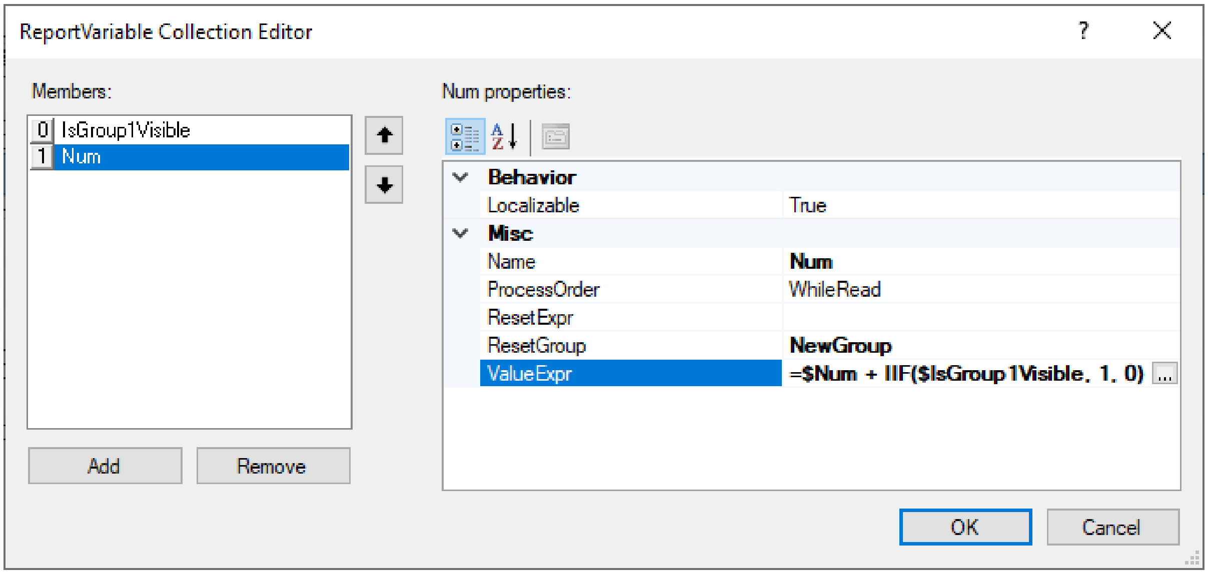


Figure: Variables in the ReportVariables Collection Editor

Step 2: Adding a Text Box to Display Numbers

To add a text box to display numbers, while you are still working with the *AP6550C6* report in the Report Designer, do the following:

1. From the Tools pane, drag the *TextBox* element to `groupHeaderSection1 (Header of group1)`, to the left, and enter the `=$Num` value for the added text box.
2. While the text box is selected, in the **Appearance > StyleName** property on the **Properties** tab, type `Normal` to set a uniform style for text boxes in the section.
3. On the Report Designer window toolbar, click **Save** to save the report on the server.

The report in design mode is shown in the following screenshot.

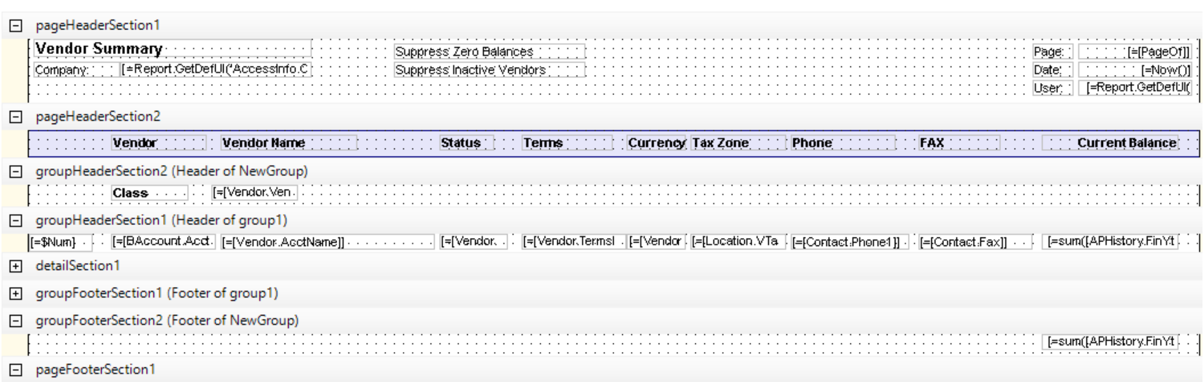


Figure: Report in design mode

Step 3: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Vendor Summary (AP6550C6) report form by searching for its identifier.

> This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

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

The resulting report is shown in the following screenshot.

Vendor Summary
Company: Company

Suppress Zero Balances
Suppress Inactive Vendors

Page: 1 of 1
Date: 1/21/2021 10:17 AM
User: Kimberly Gibbs

	Vendor	Vendor Name	Status	Terms	Currency	Tax Zone	Phone	FAX	Current Balance
	Class	DEFAULT							
1	ALLFRUITS	All Fruits Mall	Active	30D	USD		+1 914 853 4879		1,139.10
2	BLUELINE	Blueline Advertisement	Active	30D	USD				9,800.00
3	FRONTSRC	Frontsource Ltd.	Active	30D	USD	NYSTATE	+1-315-369-5428		215.00
4	PRINTICO	Wingman Printing Company	Active	30D	USD		+1 917 507 6103		1,423.00
5	SQUEEZO	Squeezo Inc.	Active	30D	USD		+1 917 527 2103		1,150.00
									13,727.10
	Class	EMPHOURLY							
									0.00
	Class	INTLCA							
									0.00
	Class	PRODUCT							
1	JARCO	Jar Co.	Active	30D	USD		+1-917-872-7120		1,168.00
2	STATOFFICE	Spectra Stationery Office	Active	30D	USD		+1 917 766 1390		619.00
									1,787.00
	Class	SERVICE							
1	KADESIGN	Karn Design Inc.	Active	30D	USD		11801		42,000.00
									42,000.00
	Class	SUBCON							
1	STONEC	Cornerstone Concrete	Active	30D	USD				45,000.00
2	SUNDW	Sundance Drywall Company	Active	30D	USD		415-285-6671		5,555.00
3	SUNTECH	Suntech Concrete	Active	30D	USD				100,962.00
									151,517.00
	Class	TAXAGENCY							
1	NYTAXDEP	NY State Department of Revenue	Active	30D	USD				654.78
									654.78

Figure: The Vendor Summary (AP6550C6) report with vendors numbered in each vendor class

Lesson 5: Using Parameters and Filters

Parameters and Filters: General Information

In the Acumatica Report Designer, you can define parameters for the report you are designing, and users will specify the values for these parameters before they run the resulting report. For the report, you also can specify the filtering conditions, which determine the data to be retrieved.

Learning Objectives

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

- Specify parameters in a report
- Set up filters in a report

Applicable Scenarios

You may want to use the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You want to modify an existing report to filter data, or add or modify parameters that users can select to view data that meets their current needs.

Parameters

Report parameters are variables that the user specifies on the report form before running the report. You can use parameters to share values between two or more reports, or in expressions and formulas to calculate values for multiple fields within the same report. Based on the parameter, the report engine creates a variable within the report, which can be referred to as a database field can. When a parameter is referred to in code, it starts with the @ symbol.

If you have defined parameters for a report in the Report Designer, then these parameters are displayed on the **Report Parameters** tab of the report form in Acumatica ERP.

You can specify parameters for a report on the **Parameters** tab of the Schema Builder. You add a parameter by clicking the **Add** button (lower left) and specifying the following settings:

- **Name** (required): The name that you assign to the parameter.
- **Data Type** (required): The data type of the parameter. You can select one of the following types from the drop-down list: *Boolean*, *Date time*, *Float*, *Integer*, and *String*.
- **Prompt**: The title that is displayed left to the parameter on the **Report Parameters** tab of the report form in Acumatica ERP. If this value is not specified, the prompt and the box for specification of the parameter will not be displayed and a user will not be able to enter or select any value, but you can use this hidden parameter
- **Default Value**: The value of the parameter when the user opens the report form; this value is used by default if a user does not specify another value. While designing and debugging a report in the Report Designer, you can experiment specifying different values. In the final version of the report, specify the preferred value or leave the setting empty.

- **Input Mask**: The input mask to be used for entering the data for the parameter. For example, you can specify an input mask for a telephone number. You can specify a formula in the Expression Editor to define the input mask.

- **View Name**: The lookup window that will open to help the user running the report select the parameter. Usually, in the **View Name** box, the *Report.GetFieldSchema(DAC.field)* function is selected. This function returns a detailed description of the lookup window depending upon the specified DAC and field. The lookup window contains all the possible values of the parameter from which the user running the report can select the necessary value.

  > You can also use any field of any existing outside DAC if it has an attribute with appropriate lookup columns for the report parameter being adjusted. You can create a special DAC with the needed lookup fields if you haven't found the appropriate field or fields in the existing DACs.

- **Column Span**: The column span to be used to display the parameter on the report form. The default column span is *1*, indicating that the parameter occupies two columns.

- **Allow Null**: A check box that specifies whether the parameter can be null. By default, the check box is cleared, which means that the parameter cannot be null. If you select the check box, the parameter can be null.

- **Visible**: A check box that indicates whether the parameter will be visible. By default, the check box is selected. If you clear the check box, the parameter will not appear on the **Report Parameters** tab of the report form and will be used only internally.

- **Required**: A check box that you use to specify whether the parameter is required to run the report. By default, the check box is cleared, which means that a user can run the report without specifying a value for the parameter. If you select the check box, a user cannot run the report without specifying a value for this parameter.

- **Available Values**: A table in which you can specify the values that a user can select in the box of the parameter on the report form.

To delete any parameter from the list on the **Parameters** tab of the Schema Builder by clicking the parameter in the left pane and then clicking the **Remove** button.

Acumatica ERP has the following predefined date-relative parameters:

- *@Today*: The current day.

- *@WeekStart* and *@WeekEnd*: The start and end, respectively, of the current week. The start and end of the week are determined according to the default system locale or the locale the user has selected when signing in to Acumatica ERP. The system locales are specified and configured on the *System Locales* (SM200550) form.

- *@MonthStart* and *@MonthEnd*: The start and end, respectively, of the current month.

- *@QuarterStart* and *@QuarterEnd*: The start and end, respectively, of the current quarter.

- *@PeriodStart* and *@PeriodEnd*: The start and end, respectively, of the current financial period. The financial periods are defined on the *Financial Year* (GL101000) form.

  For more information on financial periods in Acumatica ERP, see *Managing Financial Periods* in the Acumatica ERP Financial Management Guide.

- *@YearStart* and *@YearEnd*: The start and end, respectively, of the current calendar year.

> All the date-relative parameters use the date (in UTC) of the server used to run the Acumatica ERP instance as the current date.

Filters

You can use filters to limit the volume of data selected for the reports, specify more specific criteria for selecting data from data tables, and remove unnecessary data as a result of the table joining. When you define filters, you can use parameters. Filters are transformed to the SQL WHERE clause.

You can specify filters in the following ways:

- On the **Filters** tab of the Schema Builder.
- In the FilterExp Collection Editor (that is, the **FilterExp Collection Editor** dialog box). You use the **Data > Filters** property in the Properties pane of the **Properties** tab to open the FilterExp Collection Editor.

Filter expressions use the data field names and parameters to specify the criteria for data processing. You specify filters as one filter clause or multiple filter clauses. For each clause, you specify the following settings:

- **Data Field**: A data field or parameter that you select from the list.
- **Condition**: The logical operation that applies to the value of the selected property. You select a condition from the list of available conditions.
- **Value 1** (and **Value 2**, if needed): A value for the logical condition that is used to filter the data. Depending on the selected property and condition, you enter one value or two values. Each value must conform with the data type of the selected property. You can use parameters for value settings.

  Not all conditions require you to specify values. For example, values are not necessary for the *Is Null* and *IsNotNull* conditions.

You can use *And* and *Or* operators and parentheses to group clauses into logical expressions. Parentheses can be used in logical statements to define the order of operations. The *And* and *Or* operators work on a unit in parentheses as if the unit was a single clause.

Any defined expression can be deleted. You can delete an expression in the following ways:

- In the Schema Builder, by clicking the row with the filter you want to delete and pressing the DELETE key.
- In the FilterExp Collection Editor, by clicking the row with the filter you want to delete and then clicking the **Remove** button (or pressing the Delete key).

Parameters and Filters: To Specify Parameters

In the following activity, you will learn how to define parameters for a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager of your company has requested a report that displays data about vendors. You have offered the predefined *Vendor Summary* (AP655000) report, but the sales manager has asked you to give report users the ability to specify a vendor class. You will perform preliminary work before realizing the ability to view the report for a selected vendor class.

Process Overview

In the Report Designer you will open the *AP6550C2* report, which is a copy of the *Vendor Summary* (AP655000) report. In the Schema Builder, on the **Tables** tab, you will look for the field that contains the vendor class; you will need this field to specify the parameter. You will add a new parameter on the **Parameters** tab.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
    - Username: *gibbs*
    - Password: *123*

    The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6550C2.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6550C2` as the report name, and click **OK**.

    The report is saved on the server.

Step 1: Defining the Parameter for the Report

To define the parameter for the vendor class in the *AP6550C2* report, do the following:

1. In the Report Designer, be sure the *AP6550C2* report (which you have saved to the server) is open.

2. On the Report Designer menu bar, click **File > Build Schema** to open the Schema Builder.

3. On the **Parameters** tab, click the **Add** button.

   A new parameter is added to the list of parameters.

4. In the **Name** box, enter the parameter name as follows: `Class`.

5. In the **Data Type** box, select *String*.

6. In the **Prompt** box, enter the prompt for the parameter as follows: `Vendor Class`.

7. In the **Default Value** box, enter the default value for the parameter. You can use expressions and formulas to define parameters' default values.

8. In the **Column Span** box, set the value to *2*.

9. Select the **Allow Null** and **Visible** check boxes.

10. Clear the **Required** check box.

11. In the **View Name** box, click the button, and in the window that opens, enter the formula used to retrieve data for the parameter from the `Vendor` data access class and the *VendorClassID* data field as follows: `=Report.GetFieldSchema('Vendor.VendorClassID')`.

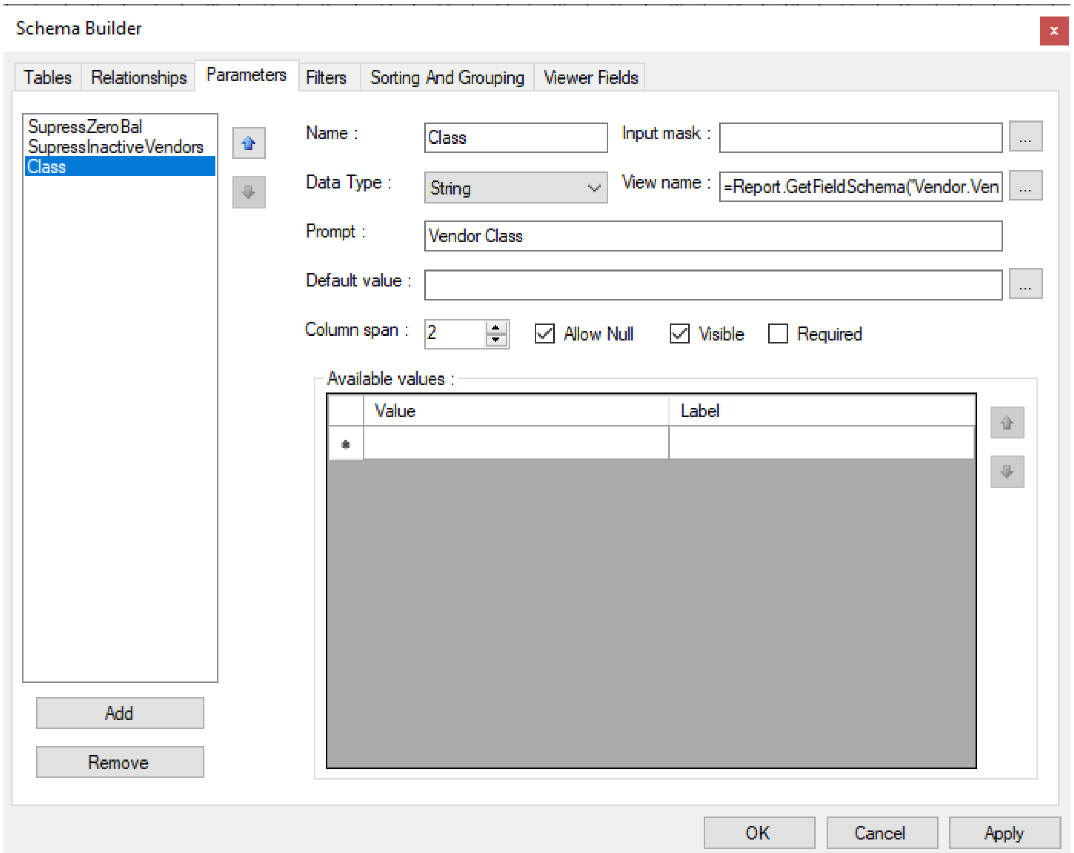


Figure: Class parameter on the Parameters tab

12. Click the **Apply** button.

13. Click **OK** to save the parameters defined for the report and close the Schema Builder.

14. On the Report Designer window toolbar, click **Save**.

Step 2: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Vendor Summary (AP6550C2) report form by searching for its identifier.

   On the **Report Parameters** tab, notice that the **Vendor Class** label is displayed left of the box with the defined parameter.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. In the **Vendor Class** box, select any value.

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

Make sure that the report contains vendors of all classes, regardless of the class that you have specified. The report is shown in the following screenshot.

Vendor Summary
Company: Company

Suppress Zero Balances
Suppress Inactive Vendors

Page: 1 of 1
Date: 11/19/2020 10:34
User: admin admin

Vendor	Vendor Name	Status	Class	Terms	Currency	Tax Zone	Phone	FAX	Current Balance
ALLFRUITS	All Fruits Mall	Active	DEFAULT	30D	USD		+1 914 853 4879		1,139.10
BLUELINE	Blueline Advertisement	Active	DEFAULT	30D	USD				9,800.00
FRONTSRC	Frontsource Ltd.	Active	DEFAULT	30D	USD	NYSTATE	+1-315-369-5428		215.00
JARCO	Jar Co.	Active	PRODUCT	30D	USD		+1-917-872-7120		1,168.00
NYTAXDEP	NY State Department of Revenue	Active	TAXAGENCY	30D	USD				654.78
PRINTICO	Wingman Printing Company	Active	DEFAULT	30D	USD		+1 917 507 6103		1,423.00
SQUEEZO	Squeezo Inc.	Active	DEFAULT	30D	USD		+1 917 527 2103		1,150.00
STATOFFICE	Spectra Stationery Office	Active	PRODUCT	30D	USD		+1 917 766 1390		619.00
TRANSIT	Wheels Transit Company	Active	DEFAULT	30D	USD		+1 917 322 7845		15.00

Figure: The Vendor Summary (AP6550C2) report with the added parameter for the vendor class

Parameters and Filters: To Define Filters

In the following activity, you will learn how to define filters for data in a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager of your company has requested a report that displays data about vendors. You have offered the predefined *Vendor Summary* (AP655000) report, but the sales manager has asked you to give report users the ability to view the report for a selected vendor class. If no vendor class is specified, the report should display the full list of vendors.

Process Overview

In the Report Designer, you will open the *AP6550C3* report, which is a modified copy of the *Vendor Summary* (AP655000) report. In the Schema Builder, on the **Filters** tab, you will add clauses to limit the data in the report. With this filter, the report will display only documents that fall within the specified range of financial periods.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
    - Username: *gibbs*

- Password: *123*

> The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6550C3.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6550C3` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Defining the Filter

To define the filter for the vendor class in the *AP6550C3* report, do the following:

1. In the Report Designer, be sure the *AP6550C3* report (which you have saved to the server) is open.
2. On the Report Designer menu bar, click **File > Build Schema** to open the Schema Builder.
3. On the **Filters** tab, in the table, add two filter clauses. The first clause uses the *@Class* parameter specified in this report. It means that the value in the *Vendor.VendorClassID* field will be compared with the value of the vendor class that a user will specify before running the report. Specify the following settings in the first row of the table:

   - **Data Field**: *Vendor.VendorClassID*
   - **Condition**: *Equal*
   - **Value 1**: *@Class*
   - **Operator**: *Or*

   The second clause covers the case when a user will not specify a vendor class before running the report. Specify the following settings in the second row of the table as follows:

   - **Data Field**: *@Class*
   - **Condition**: *IsNull*

   These two clauses are grouped into one expression by the *Or* operator, which is why the first row contains this operator.

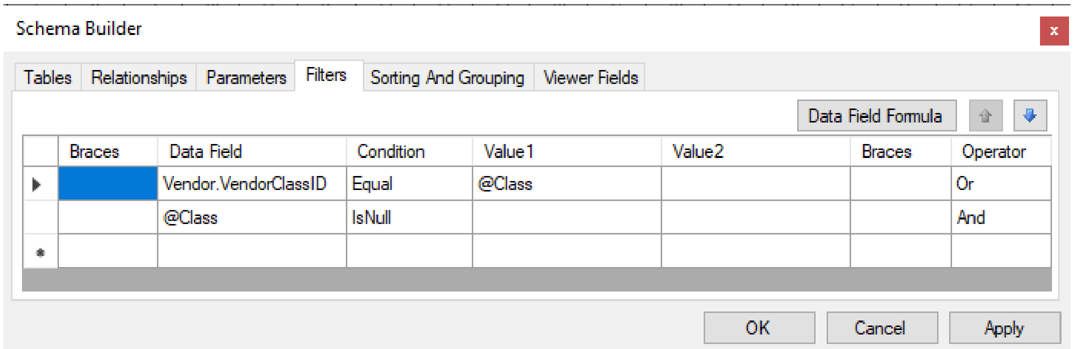


Figure: Adding the filter

4. Click the **Apply** button.

5. Click **OK** to save the filter defined for the report and close the Schema Builder.

6. On the Report Designer window toolbar, click **Save**.

Step 2: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Vendor Summary (AP6550C3) report form by searching for its identifier.

> This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. On the **Report Parameters** tab, in the **Vendor Class** box, select any value, for example, *Product*.

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

Make sure that the report contains only vendors of the class you have specified. The following screenshot displays the report generated for the *Product* vendor class.

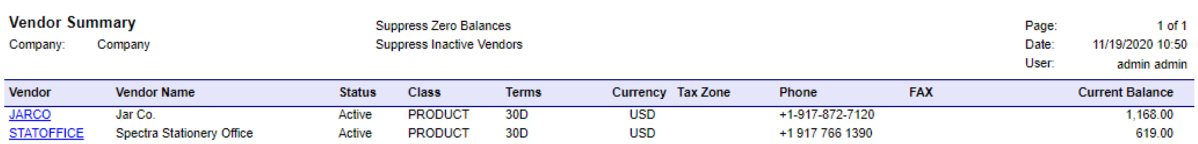


Figure: The Vendor Summary (AP6550C3) report for the Product vendor class

Lesson 6: Sorting and Grouping Data

Data Sorting and Grouping: General Information

As you define a report by using the Acumatica Report Designer, you can divide the data into groups, each of which displays the sorted data in the order selected for the group. The sorting criteria are defined separately for every report group and for the report as a whole.

To set up the data grouping and sorting rules, you should define the following:

- The data groups to be included in the report and their sorting rules
- The data sorting rules for the report

Learning Objectives

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

- Create data groups in a report
- Specify sorting criteria for the data in a report group and the data in a report

Applicable Scenarios

You may want to use the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- Your colleagues have asked you to group and sort the data in reports.

Data Grouping

Data groups are used to structure and logically group data in a report. You can add new data groups to the report and define the behavior properties for each group. The groups' data will be displayed on the pages of the generated report. For example, you may want to group sales orders by date and status to get the count of sales orders.

By defining data groups in a report, you specify the grouping conditions for the SQL request that is generated by the report.

You define data groups in the Properties pane of the Report Designer, on the **Properties** tab. You use the **Data > Groups** property to open the Group Collection Editor (that is, the **Group Collection Editor** dialog box), where you can specify the names of groups and their properties.

> The **Data** property is available only if the report is selected, but none of its elements, such as a section, is selected. An indicator of the selected report is the icon at the top left corner of the Design pane of the Report Designer.

When you create a data group, its header and footer sections are added to the report layout, which is displayed in the Design pane of the Report Designer: The header section of the group is placed between the header section of the page and the detail section; the footer section of the group is placed between the detail section and the footer section of the page. If your report already has data groups and you add a new group, the header section and the footer section of the new group are inserted inside the header section and the footer section of the last created group. The order of groups is defined in the Group Collection Editor, where you can change the order of the groups in the report by using the buttons with the arrow icons.

Data Sorting

You can specify how the data in a report is sorted. If you have defined data groups in the report, the data in the groups is initially sorted according to the sorting rules (if they are specified) of the defined group, and then the data of the detail section is sorted according to the sorting rules (if they are specified) of the report.

By defining the sort order, you specify an ORDER BY clause for the SQL statement that is generated by the report.

If you need to sort data, you should select the object for sorting—that is, the group or a report. By default, a sort order is not specified for the detail section. You define the sort order of the data in a group or in a report in the Properties pane of the Report Designer, on the **Properties** tab. Depending on the object for sorting, you use the following properties:

- **Data > Sorting**: You use this property to sort the data in the detail section of the report. By clicking the ... button next to the property, you open the SortExp Collection Editor and specify the necessary sort order.
- **Data > Groups**: You use this property to sort the data in the group. By clicking the ... button next to the property, you open the Group Collection Editor, in which you select the group whose data you want to sort. For the **Behavior > Grouping** property of the selected group, you open the GroupExp Collection Editor, and specify the values for the **DataField** and **SortOrder** properties.

In the Schema Builder, on the **Sorting and Grouping** tab, you can view the settings that are specified for grouping and sorting. You can also change and define the sort order for existing groups.

Data Sorting and Grouping: To Specify Data Group in a Report

In the following activity, you will specify a data group in a report.

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

Story

Suppose that you are a technical specialist in your company who is working on customizations. A sales manager of your company has requested a report that displays data about vendors. You have offered the predefined *Vendor Summary* (AP655000) report, but the sales manager wants the data to be grouped by vendor class. The sales manager has also asked you to display the total balance for each group. You will create the requested report by using a copy of the *Vendor Summary* report.

Process Overview

In the Report Designer, you will open the *AP6550C1* report, which is a copy of the *Vendor Summary* (AP655000) report, and add a new group. You will specify a grouping condition and other properties for the new group. You will then modify report layout and place necessary elements to the new group. Then in the Schema Builder, on the **Sorting and Grouping** tab, you will review the changes that you have made on the **Properties** tab of the Properties pane.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6550C1.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6550C1` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Creating a Group in the Report

To create the group in the *AP6550C1* report, perform the following steps:

1. In the Report Designer, be sure the *AP6550C1* report (which you have saved to the server) is open.
2. In the top left corner of the Design pane, click the ■ icon to select the whole report as an object.
3. On the **Properties** tab of the Properties pane, in the **Data > Groups** property, click the … button.
4. In the Group Collection Editor, which opens, in the **Members** pane on the left, click **Add**.

   A new group with the default `group2` name is added and displayed in the **Members** pane.
5. Click **OK** to save the new group and close the Group Collection Editor.

On the report layout, notice that the new group is placed inside the existing `group1`.

Step 2: Specifying the Properties of the Group

To specify the group properties, while you are still working with the *AP6550C1* report in the Report Designer, do the following:

1. In the top left corner of the Report Designer screen, click the ■ icon to select the whole report as an object.
2. On the **Properties** tab of the Properties pane, in the **Data > Groups** property, click the ... button.
3. In the Group Collection Editor window, which opens, in the **Members** pane, select `group2`.
4. By the button with the arrow pointing upward, place `group2` at the top of the list.

   The order of the groups in the Group Collection Editor defines the order of groups in the report.
5. In the **group2 properties** pane on the right of the Group Collection Editor, in the **Design > (Name)** property, type `NewGroup`.
6. Select the **Behavior > Grouping** property, and click the ... button.
7. In the GroupExp Collection Editor, which opens, in the **Members** pane, click **Add**.
8. In the **PX.Reports.GroupExp** properties pane, in the **Misc > DataField** property, type `Vendor.VendorClassID` to specify the grouping condition based on the class of a vendor.

   By clicking the ... button right of the **Misc > DataField** collection, you can invoke the Expression Editor. In the left pane, you can select the necessary field from the list.

   Notice that the **Misc > SortOrder** property has the *Ascending* value, which means that by default, the data in the group is sorted in ascending order.
9. Click **OK** to save your changes and close the GroupExp Collection Editor.
10. Click **OK** to close the Group Collection Editor.

Step 3: Placing Elements in the New Group

To place elements in the new group, while you are still working with the *AP6550C1* report in the Report Designer, do the following:

1. In the Design pane of Report Designer, in the `pageHeaderSection2` section, select the text box with the `Class` value and move it to the `groupHeaderSection2 (Header of NewGroup)` section (to the left).
2. In the `groupHeaderSection1 (Header of group1)` section, select the text box with the `=[Vendor.VendorClassID]` value, and move it to the `groupHeaderSection2 (Header of NewGroup)` section right of the text box with the `Class` value.
3. Adjust the height of the `groupHeaderSection2 (Header of NewGroup)` section to be the same as the height of the text boxes in the section.

You can also adjust the height of the `groupHeaderSection2 (Header of NewGroup)` section on the **Properties** tab of the Properties pane. Select *groupHeaderSection2 (Header of NewGroup)*, and for the **Appearance > Height** property, type the value as follows: `20px`.

4. In the `groupHeaderSection1 (Header of group1)` section, copy the text box with the following value: `=sum([APHistory.FinYtdBalance])`; and paste the text box in the `groupFooterSection2 (Footer of NewGroup)` section, in the column with the `Current Balance` title. This element will display the total balance for the members of the `NewGroup` group.

5. Adjust the height of the `groupFooterSection2 (Footer of NewGroup)` section to be the same as the height of the text box in the section.

6. In the Report Designer window toolbar, select **Save**.

7. Click the **Preview** tab to preview the report.

   Make sure that the data of one group is displayed.

Step 4: Reviewing the Sorting and Grouping Settings in the Schema Builder

While you are still working with the *AP6550C1* report in the Report Designer, in the Report Designer, click **File > Build Schema**. In the Schema Builder, which opens, go to the **Sorting and Grouping** tab. Make sure that the settings on this tab are the same as those that you have specified in the Properties pane of the Report Designer. The settings are shown in the following screenshot.

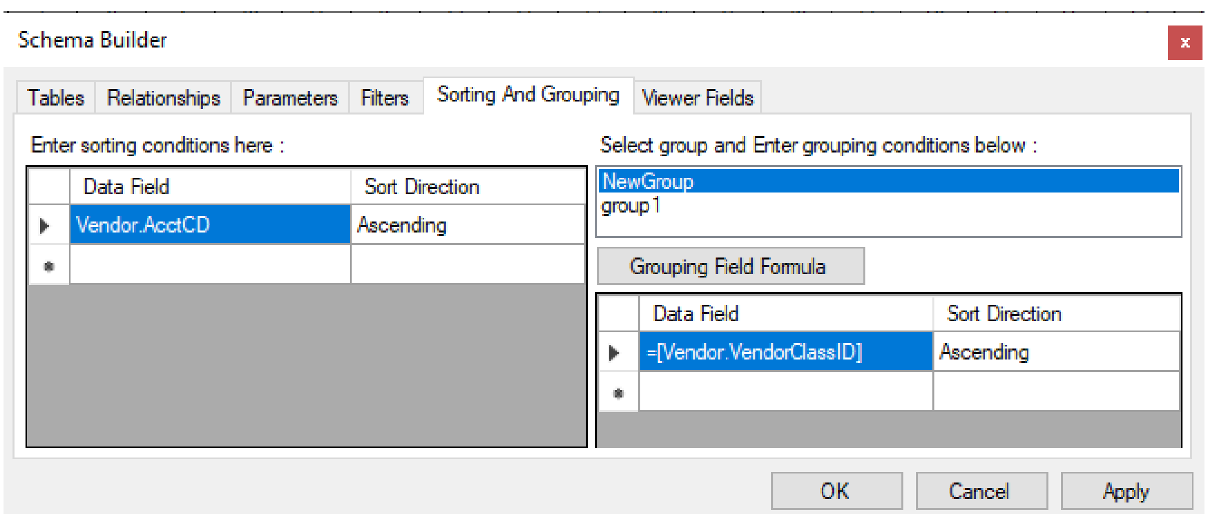


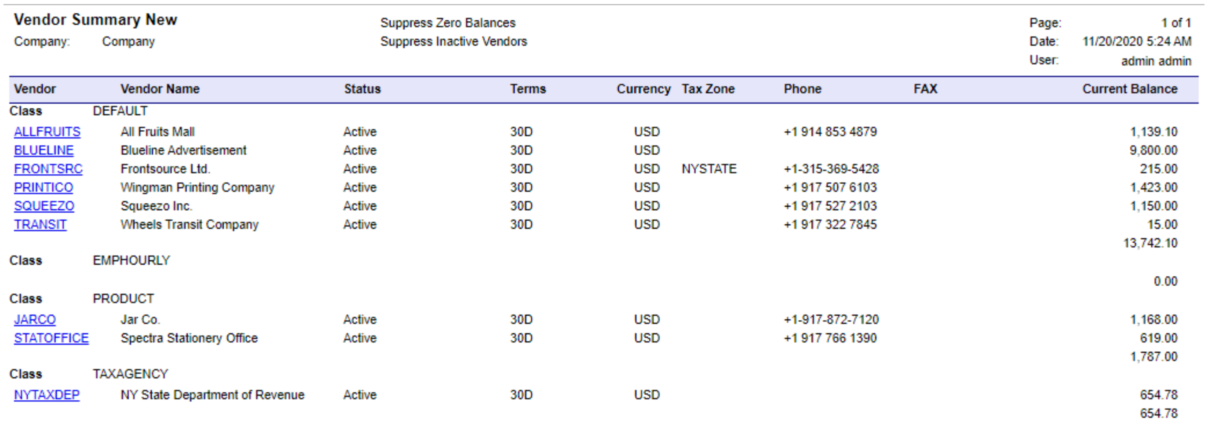
Figure: Grouping and sorting settings for the AP6550C1 report

Step 5: Viewing the Report

In Acumatica ERP, open the Vendor Summary (AP6550C1) report form by searching for its identifier.

This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

On the report form toolbar, click **Run Report**. Notice that the data in the report is grouped by vendor class and that a total balance is displayed for each class. The following screenshot shows the report.



Vendor Summary New | Suppress Zero Balances | Page: 1 of 1
Company: Company | Suppress Inactive Vendors | Date: 11/20/2020 5:24 AM
User: admin admin

Vendor	Vendor Name	Status	Terms	Currency	Tax Zone	Phone	FAX	Current Balance
Class	DEFAULT							
ALLFRUITS	All Fruits Mall	Active	30D	USD		+1 914 853 4879		1,139.10
BLUELINE	Blueline Advertisement	Active	30D	USD				9,800.00
FRONTSRC	Frontsource Ltd.	Active	30D	USD	NYSTATE	+1-315-369-5428		215.00
PRINTICO	Wingman Printing Company	Active	30D	USD		+1 917 507 6103		1,423.00
SQUEEZO	Squeezo Inc.	Active	30D	USD		+1 917 527 2103		1,150.00
TRANSIT	Wheels Transit Company	Active	30D	USD		+1 917 322 7845		15.00
								13,742.10
Class	EMPHOURLY							
								0.00
Class	PRODUCT							
JARCO	Jar Co.	Active	30D	USD		+1-917-872-7120		1,168.00
STATOFFICE	Spectra Stationery Office	Active	30D	USD		+1 917 766 1390		619.00
								1,787.00
Class	TAXAGENCY							
NYTAXDEP	NY State Department of Revenue	Active	30D	USD				654.78
								654.78

Figure: The Vendor Summary (AP6550C1) report, with data grouped by vendor class

Data Sorting and Grouping: To Specify Sorting Conditions

In the following activity, you will specify the sort order for the data in a report.

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

Story

Suppose that you are a technical specialist in your company who is working on customizations. An accountant of your company has requested a report that displays the AP batch register. You have offered the predefined *AP Batch Register Detailed* (AP621000) report, but the sales manager has requested that the data be sorted by batch number in descending order and by stock item description in ascending order.

Process Overview

In the Report Designer, you will open the *AP6210C1* report, which is a copy of the *AR Batch Register Detailed* (AP621000) report. Then you will find the sections of the data for sorting. You will add the sorting condition for the data in detailSection1 and change the sort order in the existing group1 group. In the Schema Builder, on the Sorting and Grouping tab, you will review the changes that you have made in the Properties pane, on the Properties tab.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.

2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.

3. You have signed in to Acumatica ERP with the following credentials:

   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6210C1.rpx file.

2. Open the uploaded file in the Report Designer.

3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.

4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6210C1` as the report name, and click **OK**.

   The report is saved on the server.

Step 1 (Optional): Looking for the Report Sections of the Data for Sorting

This step is not required if you understand in which sections the data for sorting is located.

To find the sections in which the needed data—that is, the batch number and stock item description—is placed, do the following:

1. In the Report Designer, be sure the *AP6210C1* report (which you have saved to the server) is open.

2. Select `groupHeaderSection1 (Header of group1)`, and in the **Appearance > Style > BackColor** property, select the light green color.

3. Repeat the action described in the previous instruction twice: First select the light yellow color for `detailSection1`, and then select the light turquoise color for `detailSection2`.

   > For each section, you can use a color that you prefer. The only requirement is that color for each section must be different.

4. On the Report Designer menu bar, click **File > Save To Server**, which opens the **Save Report on Server** dialog box.

5. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, enter `AP6210C1` as report name, and click **OK**.

   The report is saved on the server.

6. In Acumatica ERP, open the AP Batch Register Detailed (AP6210C1) report form by searching for its identifier.

This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

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

   Notice that different sections of the report have different colors. The stock item description has a yellow background because it is located in `detailSection1`. The batch number has a green background because it is located in `group1`. Based on this information, you can make a conclusion about the sections in which you need to sort data. You will need to sort data in the `group1` group by batch number (the *Batch.BatchNbr* field) and in the `detailSection1` section by stock item description (*GLTran.TranDesc* field).

Step 2: Specifying the Sort Order for the Data Group

To specify sort order for the `group1` data group, do the following:

1. While you are viewing the *AP6210C1* report in the Report Designer, in the top left corner of the Design pane, click the ■ icon.
2. In the Properties pane, right of the **Data > Groups** property, click the ... button.
3. In the Group Collection Editor, which opens, in the **Members** pane, click the group, and in the right pane, right of the **Behavior > Grouping** property, click the ... button.
4. In the GroupExp Collection Editor, which that opens, in the **Members** pane, select the second member (its **Misc > DataField** property is *Batch.BatchNbr*). In the **Misc > SortOrder** property, select *Descending*.
5. Click **OK** to save your changes and close the GroupExp Collection Editor.
6. Click **OK** to close the Group Collection Editor.

Step 3: Specifying the Sort Order for the Report Data

To specify the sort order for the data in the report, while you are still working with the *AP6210C1* report in the Report Designer, do the following:

1. In the top left corner of the Design pane, click the ■ icon to select the report.
2. In the Properties pane, right of the **Data > Sorting** property, click the ... button.
3. In the SortExp Collection Editor, which opens, click the **Add** button to add the new criteria for sorting.
4. In the right pane of the SortExp Collection Editor, in the **Misc > DataField** property, select *GLTran.TranDesc*. This field will be used to sort the data in the report.
5. In the **Misc > SortOrder** property, select *Ascending*.
6. Click **OK** to save your changes and close the SortExp Collection Editor.

Step 4: Reviewing the Sorting and Grouping Settings in the Schema Builder

While you are still working with the *AP6210C1* report in the Report Designer, click **File > Build Schema**. In the Schema Builder, which that opens, select the **Sorting And Grouping** tab. Make sure that the settings on this tab are the same as those that you have specified in the Properties pane of Report Designer. The settings in the Schema Builder are shown in the following screenshot.

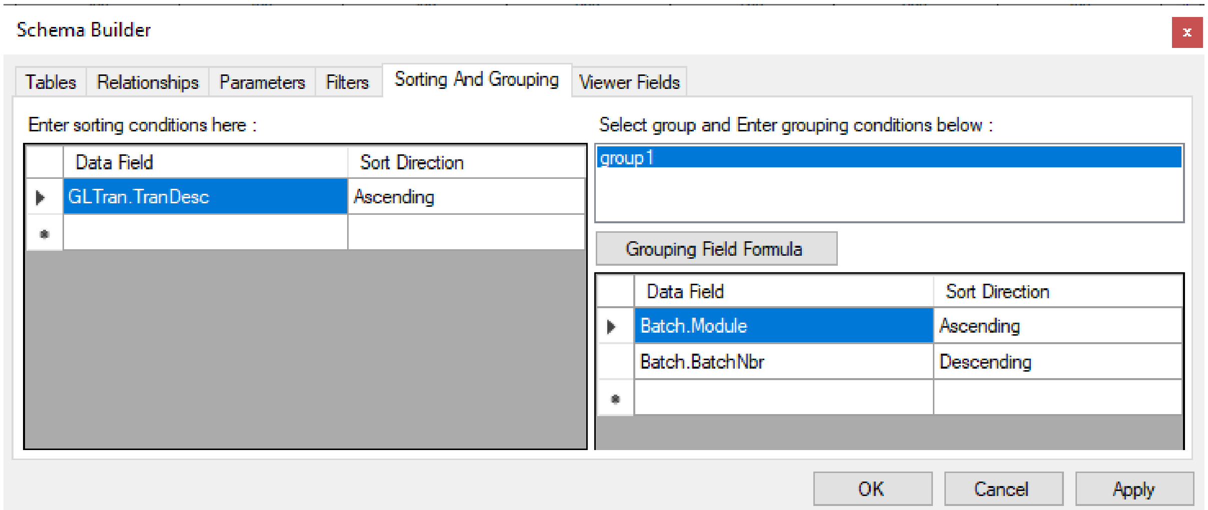


Figure: Sorting and grouping settings for the AP6210C1 report in the Schema Builder

Step 5: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the AP Batch Register Detailed (AP6210C1) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. On the **Report Parameters** tab, in the **From Period** box, select *01-2020*, and in the **To Period** box, select *12-2020*.

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

Make sure that the report is sorted by batch number in descending order and by stock item description in a batch in ascending order. The following screenshot displays one of the report pages.

AP Batch Register Detailed

Company/Branch:	HEADOFFICE	Ledger:	ACTUAL	Page:	6 of 10
		From Period:	01-2020	Date:	11/19/2020 8:55 AM
		To Period:	11-2020	User:	admin admin

Include Unposted Transactions

Module	Batch Number	Period	Entered Date	Status	Description	Created By	Last Modified By	Control Total
AP	AP000040	01-2020	1/2/2020	Posted		admin	admin	533.80

Branch	Account	Subaccount	Ref. Number	Description	Debit	Credit
HEADOFFICE	10200		000014		0.00	533.80
HEADOFFICE	20000		000014		533.80	0.00
				Batch Total:	533.80	533.80

Module	Batch Number	Period	Entered Date	Status	Description	Created By	Last Modified By	Control Total
AP	AP000031	01-2020	1/2/2020	Posted		admin	admin	122,950.00

Branch	Account	Subaccount	Ref. Number	Description	Debit	Credit
HEADOFFICE	20000		000030		0.00	122,950.00
SWEETEQUIP	20100		000030	Blade Holder V 1.2	800.00	0.00
SWEETEQUIP	20100		000030	Blade Holder V 2.0	1,800.00	0.00
SWEETEQUIP	20100		000030	Commercial citrus juicer with a production rate of 2 litres per minute	60,000.00	0.00
SWEETEQUIP	20100		000030	Commercial juicer with a production rate of 1.5 litres per minute	40,000.00	0.00
SWEETEQUIP	20100		000030	Containers for Juice	250.00	0.00
SWEETEQUIP	20100		000030	Feeder Basket	1,250.00	0.00
SWEETEQUIP	20100		000030	Front Cover with Outputs	1,300.00	0.00
SWEETEQUIP	20100		000030	Juice Tray Kit	500.00	0.00
SWEETEQUIP	20100		000030	Lower Plastic Pressing Wheels V 1.0 (2 Units)	1,000.00	0.00
SWEETEQUIP	20100		000030	Lower Plastic Pressing Wheels V 1.3 (2 Units)	1,225.00	0.00
SWEETEQUIP	20100		000030	Peel Ejector Kit	225.00	0.00
SWEETEQUIP	20100		000030	Pro series juicer with a production rate of 1 litre per minute	12,000.00	0.00
SWEETEQUIP	20100		000030	Upper Plastic Pressing Wheels V 4.0 (2 Units)	1,200.00	0.00
SWEETEQUIP	20100		000030	Upper Plastic Pressing Wheels V 4.3 (2 Units)	1,400.00	0.00
				Batch Total:	122,950.00	122,950.00

Module	Batch Number	Period	Entered Date	Status	Description	Created By	Last Modified By	Control Total
AP	AP000030	01-2020	1/23/2020	Posted		admin	admin	240.50

Branch	Account	Subaccount	Ref. Number	Description	Debit	Credit
HEADOFFICE	20000		000029		0.00	240.50
HEADOFFICE	20100		000029	Fresh oranges 1 lb	240.50	0.00
				Batch Total:	240.50	240.50

Module	Batch Number	Period	Entered Date	Status	Description	Created By	Last Modified By	Control Total
AP	AP000029	01-2020	1/22/2020	Posted		admin	admin	114.50

Branch	Account	Subaccount	Ref. Number	Description	Debit	Credit
HEADOFFICE	20000		000028		0.00	114.50
HEADOFFICE	20100		000028	Fresh apples 1 lb	114.50	0.00

Figure: Sample page of the AP Batch Register Detailed (AP6210C1) report

Lesson 7: Modifying the Report Style

Report Style: General Information

Each company has its own style for the design of documents, letterheads, and reports. Adhering to the adopted design in your company, you can make a uniform style for Acumatica ERP reports in your company. For this purpose, in the Acumatica Report Designer, you can specify styles for individual elements or apply style templates to the reports that you design and modify.

Learning Objectives

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

- Change the style of an element in a report
- Change the style of number of reports

Applicable Scenarios

You may want to use the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You need to change the style of one element or a group of elements in a report, or apply a uniform style to a number of reports in the system.

Ways to Change the Style of Elements in Reports

Depending on the type of an element in a report, the style of the element can include a number of settings. A report primarily includes text boxes. The style of a text box defines the text font (type, style, and color), text alignment, and background color. In a new report, all elements that you add to the report layout are assigned the default style. You can change the style of elements in a report in the following ways:

- By specifying the style of an individual element. You can perform this action in the **Appearance > Style** group of properties.

  This way of changing the style can be very time-consuming, because you need to configure the style of each element in a report. Usually you combine this way with other ways.

- By selecting a predefined style for an element. You can perform this action in the **Appearance > StyleName** property.

  The list of styles in the **Appearance > StyleName** property includes the collection of styles specified in the **Appearance > StyleSheet** property of the report and the collection of styles specified in the style template if one has been applied to the report. If a collection of styles or a style template has not been specified in the report, you cannot use this way (selecting a predefined style for an element)to change the style of elements in the report.

  Selecting a predefined style for an element gives you the ability to manage a style of multiple elements in a report in one action.

- By specifying a style template for the report. You can perform this action by using the **Appearance > StylesTemplate** property. For more detail about style templates, see the *Style Templates for Reports in the Report Designer* section below.

  In a new report, no style template is specified.

Creation of a Collection of Styles

In the Report Designer, you can create a collection of styles for a particular report. Later, you can use styles from both collections—the collection you have specified for the report and the collection of styles that is specified in a style template applied to the report.

You create a collection of styles by using the **Appearance > StyleSheet** property. This property presents a collection of styles of different types of elements. After you have specified a collection of styles, you can select an element in the report; in the **Appearance > StyleName** property, you apply the style from the collection to the selected element.

You add members to a collection of styles in the StyleRule Collection Editor. Then for each member, you specify its properties in the Style Builder.

In the collection of styles, you can specify multiple members dedicated to the same type of report element. For example, you can specify members for the text boxes that display the following:

- Report heading
- Table heading
- Data in a report and table content
- Counted data in the *Total* rows

A new report does not have a collection of styles.

Style Templates for Reports in the Report Designer

The use of a style template is the preferred way to change the style of elements in a report. A style template gives you the ability to specify uniform settings for elements not only in one report but also in a number of reports. A style template includes the collection of styles specified in the **Appearance > StyleSheet** property. A style template is a file with the RPX extension, as other report files are.

Acumatica ERP has the following predefined style templates, which are stored in the `Site/ReportsDefault` folder and on the server:

- `TemplateReport.rpx`: Intended for reports for general purposes
- `TemplateForm.rpx`: Intended for printable reports

You can use the existing style templates, as well as define your own custom style templates. To define a custom style template, in the Report Designer, you do the following:

1. You create a new report.
2. You select the report form.
3. You specify style collection in the **Appearance > StyleSheet** property.
4. You save this report locally or on the server.

Then you can use this report as a style template.

You apply a style template as follows:

1. You select a report—that is, in the Properties pane of the Report Designer, on the Properties tab, you select the `report1 Report` option.
2. As the value of the **Appearance > StylesTemplate** property, you enter (if you want to use a style template from the server) or select (if you want to use a style template from local folder) the name of the style template file.

After you have specified a style template for a report, in the **Appearance > StyleName** property, you can select predefined styles of elements defined in the **Appearance > StyleSheet** property of the style template file.

The **Appearance > StyleSheet** property of the report that you design does not inherit the settings of the same property of the style template file.

Report Style: To Create and Apply a Style Template

In the following activity, you will learn how to create a style template and apply it to a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. An accountant has asked you to implement new company standards for the reports in the **Payables** workspace. The standards are the following:

- Reports must have a light-blue background.
- For report titles, the following font must be used:
  - Type: Bold
  - Style: New Times Roman
  - Size: 12 px
  - Color: Blue
- For report parameters, the following font must be used:
  - Type: Italic
  - Style: Arial
  - Size: 10 px
  - Color: Black

You have decided to create a new style template based on the new standards. Then you can apply this style template to the reports in the **Payables** workspace.

Process Overview

In the Report Designer, you will create a new style template. In a new report, in the **Appearance > StyleSheet** property, you will create a collection of styles in line with the accountant's requirements. You will save the new report as `TemplateForPayables.rpx`. Then you will apply this style template to the *AP6325C1* report, which is a copy of the *AP Balance by Vendor* (AP632500) report.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

> The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6325C1.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6325C1` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Creating a New Style Template

To create a new style template, do the following:

1. In the Report Designer, click **File > New** to create a new file.
2. In the Properties pane, right of the **Appearance > StyleSheet** property, click the ... button.
3. In the lower left of the StyleRule Collection Editor, which opens, click **Add**.

   A new member, `PX.Reports.Drawing.StyleRule`, is added to the **Members** pane.

4. In the right pane, specify the properties of the new added member as follows:
   - **Name**: Type `ReportTitle`.
   - **Style**: Click the button to open the Style Builder, click **Text** on the left, and specify the following settings:
     - **Name**: *Times New Roman*
     - **Size**: *12 px*
     - **Bold**: Selected
     - **Color**: *Blue*

     Click **OK** to close the Style Builder.
5. Repeat the actions of Instructions 3 and 4, and add two more members in the StyleRule Collection Editor (see the screenshot below).

   For the member named `Parameters`, in the Style Builder, click **Text** on the left and specify the following style settings:
   - **Name**: *Arial*
   - **Size**: *10 px*
   - **Italic**: Selected
   - **Color**: *Black*

   For the member named `Background`, in the Style Builder, click **Background** on the left and type `#EAF4F4` in the **Color** box.
6. Click **OK** to close the StyleRule Collection Editor.
7. Click **File > Save To Server**, which opens the **Save Report on Server** dialog box.
8. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, enter `TemplateForPayables.rpx` name as the report name, and click **OK**.

   The report is saved on the server.

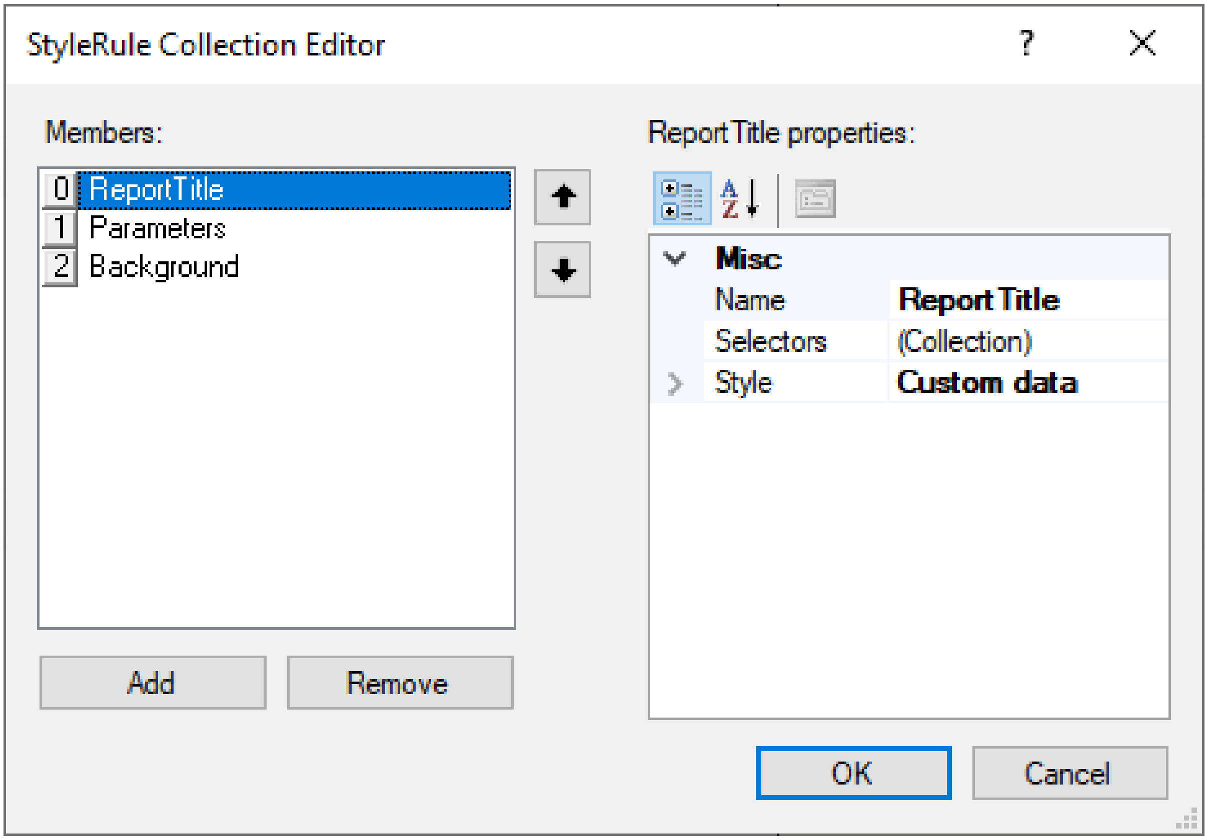


Figure: The list of styles specified in the StyleRule Collection Editor

Step 2: Applying the Style Template to the Report

To apply the customized template to the *AP6325C1* report, do the following:

1. In the Report Designer, be sure the *AP6325C1* report (which you have saved to the server) is open.
2. In the top left corner of the Design pane, click the ■ icon to select the report.
3. On the **Properties** tab of the Properties pane, in the **Appearance > StylesTemplate** property, type `TemplateForPayables.rpx`.
4. Click the text box with the report title (in the upper left of the report), and in the **Appearance > StyleName** property of the **Properties** pane, select *ReportTitle*, which is the name of the style that you have defined in the *TemplateForPayables* template.
5. Select two text boxes below the box with the report title (*Company/Branch: =[@OrgBAccountID]*) and three text boxes to the right of the report title (*=Report.ExtToUI('Batch.FinPeriodID', @PeriodID)*, *=[@VendorID]*, *Include Applications*), and in the **Appearance > StyleName** property of the **Properties** tab, select *Parameters*. This is the name of the style that you have defined in the *TemplateForPayables* template.

> To select multiple text boxes, you first click one text box, then push and hold Ctrl key and click the rest text boxes.

6. In the top left corner of the Design pane of Report Designer, click the icon to select the report. On the **Properties** tab of the Properties pane, in the **Appearance > StyleName** property, select *Background*, the name of the style that you have defined in the *TemplateForPayables* style template.

7. On the Report Designer window toolbar, click **Save**.

Step 3: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the AP Balance by Vendor (AP6325C1) report form by searching for its identifier.

> This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. In the **Financial Period** box of the **Report Parameters** tab, leave the default value or select *12-2020*.

3. Click **Run Report**.

Make sure that the report has a light-blue background, the title has the Times New Roman blue bold font (with a size of 12 pixels), and the report parameters have the Arial black italic font (with a size of 10 pixels). The following screenshot shows the report with the applied *TemplateForPayables* style template.

AP Balance by Vendor (Open Documents)

Company/Branch: HEADOFFICE

Financial 12-2020

Include Applications

Page: 1 of 4
Date: 12/16/2020
User: admin admin

Vendor	Vendor Name
ALLFRUITS	All Fruits Mall

Account	Subaccount	Description
20000		Accounts Payable

Ref.	Applied To	Doc. Type	Vendor Ref.	Doc. Date	Entered	Posted	Closed	Description	Amount	Balance
000049		BILL		2/20/2020	02-2020	02-2020			1,139.10	1,139.10

Account Documents Total:	1,139.10
Account Unrealized	0.00
Vendor Documents Total:	1,139.10
Vendor Unrealized	0.00

BLUELINE	Blueline Advertisement

Account	Subaccount	Description
20000		Accounts Payable

Ref.	Applied To	Doc. Type	Vendor Ref.	Doc. Date	Entered	Posted	Closed	Description	Amount	Balance
000004		BILL		1/9/2020	01-2020	01-2020		Advertisement campaign	7,000.00	4,300.00
	000004	CHECK		1/20/2020		01-2020			-2,500.00	
	000005	CHECK		1/29/2020		01-2020			-200.00	
000003		BILL		1/10/2020	01-2020	01-2020		Advertising services	5,500.00	5,500.00

Account Documents Total:	9,800.00
Account Unrealized	0.00
Vendor Documents Total:	9,800.00
Vendor Unrealized	0.00

COMPULINK	Compulink and Co

Account	Subaccount	Description
13200		Deposit to Vendor

Ref.	Applied To	Doc. Type	Vendor Ref.	Doc. Date	Entered	Posted	Closed	Description	Amount	Balance
000025		PREPAY		1/15/2020	01-2020	01-2020		Prepayment for	-190.00	-190.00
000041		PREPAY		8/28/2020	08-2020	08-2020		Prepayment for	0.00	-190.00
	000024	CHECK		8/28/2020		08-2020			-190.00	

Account Documents Total:	-380.00
Account Unrealized	0.00

Figure: The AP Balance by Vendor (AP6325C1) report with the new style template applied

Lesson 8: Developing Tabular Reports

Tabular Reports: General Information

Tabular reports display data in a series of columns, with the column headers displayed directly above the columns, and rows. This form of data presentation gives you the ability to compare and analyze data in one report. For example, you may need to analyze sales data by financial periods or by sales managers. By using the Acumatica Report Designer, you can configure tabular reports.

Learning Objectives

In this chapter, you will learn how to create tabular reports in the Report Designer.

Applicable Scenarios

You may want to create tabular reports by using the Acumatica Report Designer in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You need to create tabular reports, to compare and analyze the same type of data according to a given criteria.

Examples of Tabular Reports

You can use a tabular report, for example, to view a breakdown of your sales by salesperson and inventory item. In this case, the rows would show salespersons' names, the columns would display inventory item names, and the cell at the intersection of each row and column would contain the total sales amount of the item for the particular salesperson.

Another example of a tabular report is a report that displays sales by month. In this case, the rows would display the item names, the columns would show the months, and the cell at the intersection of each row and column would contain the total sales amount of the item in the month.

Configuration of a Tabular Report

To configure a tabular report, in the Report Designer, you need to specify the following properties for the report:

- **Data > Groups**: In your report, you need to have a group to place the data in columns. For more information about data groups, see *Data Sorting and Grouping: General Information*.
- **Behavior > TabularReport**: The *True* value means that the report is tabular.
- **Behavior > TabularFreeze**: The value of this property, a number of pixels or centimeters, specifies the position of the red vertical line in the report layout. The line passes through all the group headers, the group footers, and the detail sections of the tabular report. You should use the topmost group section for the columns of the tabular report and place columns to the right of the red line. A new column is created for each new group of the data of this group section.
- **Layout > Width**: The value of this property, a number of pixels or centimeters, specifies the width of the report if it had only two columns—that is, the first column and the column that presents

a series of columns. The difference between the values in **Layout > Width** and **Behavior > TabularFreeze** specifies the width of the column in the series of columns.

Tabular Reports: To Create a Tabular Report

In the following activity, you will learn how to create a tabular report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager has requested a report that shows the quantity of inventory items ordered by customers. You have looked through the reports in the **Sales Orders** workspace and suggested that the manager use *Sales Order Details by Customer* (SO611000) report. The sales manager said that the report should give salespeople the ability to compare the quantities of inventory items for different customers—that is, to display the quantities of an inventory item for different customers in the same row, with a separate row for each inventory item.

Process Overview

In the Report Designer, you will open the *SO6110C1* report, which is a copy of the *Sales Order Details by Customer* (SO611000) report and modify the copy to make the report a tabular one. You will change grouping conditions for the data in the report, delete the groups and text boxes that you do not need from the report layout. (You will not make any modifications in the Schema Builder.)

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the SO6110C1.rpx file.
2. Open the uploaded file in the Report Designer.

3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.

4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `SO6110C1` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Changing Grouping Conditions for the Report

Because the data in the report should display quantities of inventory items for different customers, you need to group data in the report by inventory items and by customers. That is, you need to change grouping conditions for the report.

To change grouping conditions for the report, do the following:

1. In the Report Designer, be sure the *SO6110C1* report (which you have saved to the server) is open.

2. In the top left corner of the Design pane of the Report Designer, click the ■ icon to select the report, and in the **Data > Groups** property, click the ... button.

3. In the Group Collection Editor window, which opens, in the **Members** pane, select `group1`.

4. In the **group1 properties** pane on the right of the Group Collection Editor, in the **Behavior > Grouping** property, click the ... button.

5. In the GroupExp Collection Editor, which opens, in the **Members** pane, select the second **PX.Reports.GroupExp** member and click **Remove** to delete it. For this member, on the right pane, the **Misc > DataField** property is set to **BAccount.AcctName**.

6. Click **OK** to close the GroupExp Collection Editor.

7. In the Group Collection Editor window, in the **Members** pane, select `group2`.

8. In the **group2 properties** pane on the right of the Group Collection Editor, in the **Behavior > Grouping** property, click the ... button.

9. In the GroupExp Collection Editor, which opens, on the right pane, for the **Misc > DataField** property set the `SOLine.InventoryID` value.

10. Click **OK** to close the GroupExp Collection Editor.

11. Click **OK** to close the Group Collection Editor.

12. On the Report Designer window toolbar, click **Save**.

Step 2: Modifying the Report Layout

To modify the report layout, do the following:

1. In the Report Designer, be sure the *SO6110C1* report (which you have saved to the server) is open.

2. Delete all the elements from `pageHeaderSection2`, or delete this section.

3. In `groupHeaderSection1 (Header of group1)`, delete the text box with the `=[BAccount.AcctName]` value and all the text boxes to the right of this text box.

4. Move the text box with the `=[BAccount.AcctCD]` value to the right.

5. From the Tools pane, drag *TextBox* element to `groupHeaderSection1 (Header of group1)`, and type `Inventory Item` for the **Appearance > Value** property of the added text box.

6. Select `groupHeaderSection3 (Header of group1)`, and delete all the text boxes in the section. You can also delete this section. To do this, in the context menu, click **Delete**.

7. In `groupDetails`, select the text box with the `=[SOLine.InventoryID]` value and copy and paste it to `groupHeaderSection2 (Header of group2)`, to the left, below the text box with the `Inventory Item` value in `groupHeaderSection1 (Header of group1)`.

8. In `groupFooterSection2 (Foorter of group2)`, select the text box with the `=Sum(isnull([SOLine.OrderQty]*-[SOLine.InvtMult],0))` value and copy and paste it to `groupHeaderSection2 (Header of group2)`, below the text box with the `=[BAccount.AcctCD]` value in `groupHeaderSection1 (Header of group1)`.

9. Select `groupHeaderSection2 (Header of group2)` and for its **Behavior > Visible** set the *True* value to make the content of the section visible.

10. In `groupFooterSection1 (Footer of group1)`, on the left, add a text box with the `Total:` value.

11. In `groupFooterSection2 (Foorter of group2)`, select the text box with the `=Sum(isnull([SOLine.OrderQty]*-[SOLine.InvtMult],0))` value and copy and paste it to `groupFooterSection1 (Footer of group1)`, right of the text box with the `Total:` value.

12. In `groupFooterSection2 (Footer of group2)`, delete all the elements.

13. Delete all the text boxes from `groupDetails`.

14. Reduce the height of `groupDetails`, `groupFooterSection2 (Footer of group2)groupFooterSection3 (Footer of group2)` as much as you can.

    You can set the value of the **Appearance > Height** property of these sections to `0px`. You can also delete these sections because they do not contain any elements.

15. Optional: To improve the readability of the report, place four line elements in the following positions:

    - In `groupHeaderSection1`, below the text box with the `Inventory Item` value
    - In `groupHeaderSection1`, below the text box with the `=[BAccount.AcctCD]` value
    - In `groupHeaderSection2`, below the text box with the `=[SOLine.InventoryID]` value
    - In `groupHeaderSection2`, below the text box with the `=Sum(isnull([SOLine.OrderQty]*-[SOLine.InvtMult],0))` value

16. On the Report Designer window toolbar, click **Save**.

> You can view the report (see the Step 4: Viewing the Report) to make sure that you have modified the report layout correctly. Viewing the report before you make it a tabular one will ease troubleshooting.

Step 3: Specifying the Properties of the Report and Its Elements

To specify the properties of the report and its elements, while you are still working with the *SO61100C1* report in the Report Designer, do the following:

1. In the top left corner of the Design pane of the Report Designer, click the  icon to select the report, and in the **Behavior > TabularReport** property, select *True* to make the report a tabular one.

2. In the **Behavior > TabularFreeze** property, type `150px`.

   The red vertical line is displayed in the report. To the right of the red line, the customers and the quantity of ordered items will be displayed. Make sure that no element crosses the red line.

3. In the **Layout > Width** property, type `320px`.

4. Optional: To make a uniform alignment of elements in the report, in `groupHeaderSection2 (Header of group2)`, select the text box with the `=Sum(isnull([SOLine.OrderQty]*-[SOLine.InvtMult],0))` value and for its **Appearance > Style > TextAlign** property, select *NotSet*. Repeat the same action for the text box with the same value in the `groupHeaderSection1 (Footer of group1)`.

5. On the Report Designer window toolbar, click **Save**.

The report in design mode is shown in the following screenshot.

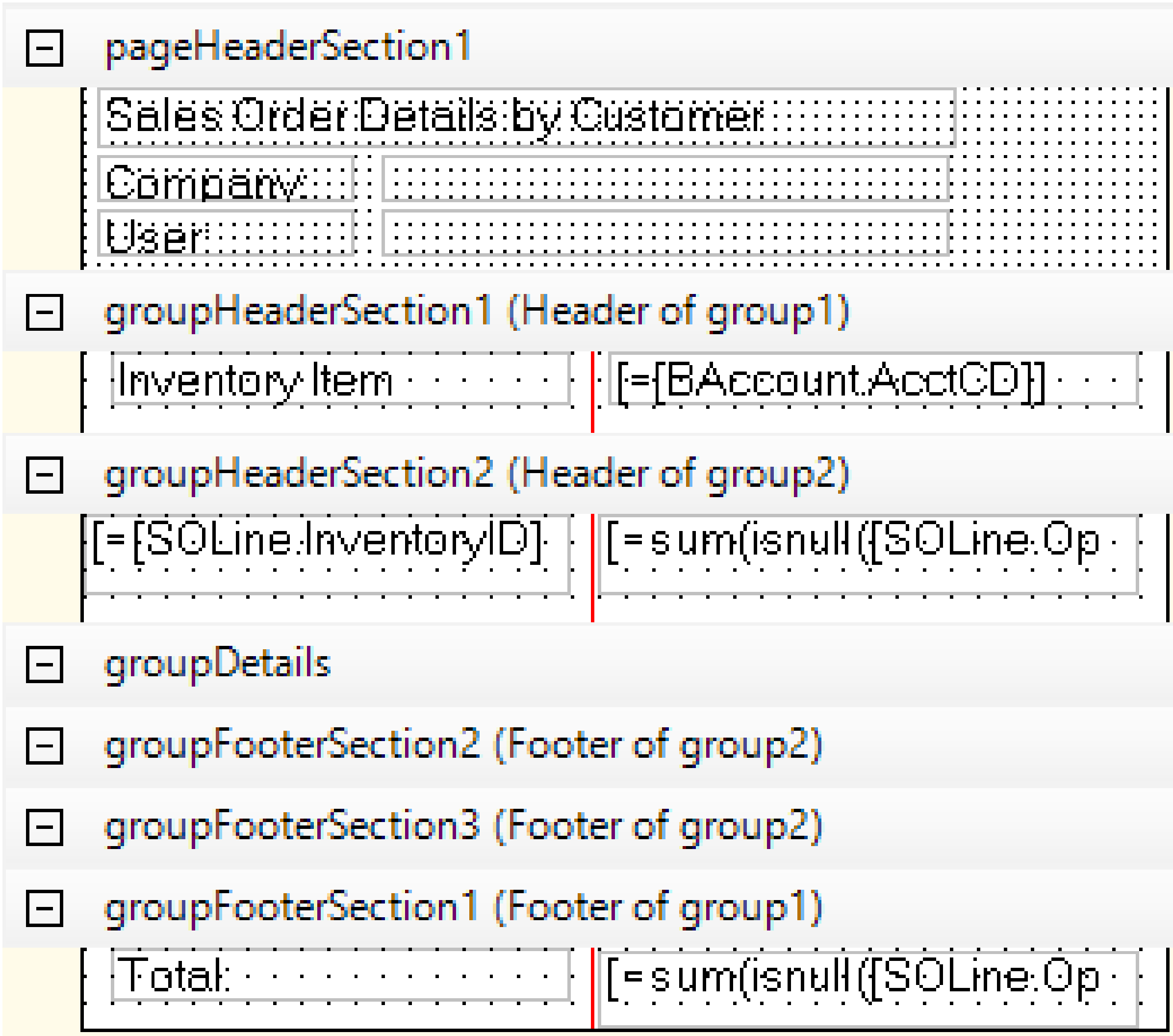


Figure: The tabular report in design mode

Step 4: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Sales Order Details by Customer (SO6110C1) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. On the **Report Parameters** tab, in the **Start Date** box, select *1/1/2020*, and in the **End Date** box, select today's date.
3. On the report form toolbar, click **Run Report**.

Make sure that the report displays data for all customers and that the data about the quantity of orders for each customer is displayed in a separate column. (You can compare the list of customers in the

SO6110C1 and SO611000 reports with the same name.) The resulting report is shown in the following screenshot.

Sales Order Details by Customer

Company: Company Start Date: 1/1/2020 Date: 12/7/2020 9:20 AM
User: Kimberly Gibbs End Date: 12/7/2020 Page: 1 of 1

Inventory Item	COFFEESHOP	GOODFOOD	HMBAKERY	MORNINGCAF	RETSALE	TOMYUM
ORANGES	30.00	329.00	160.00		15.00	
APPLES	15.00	131.00	212.00			
APJAM08	77.00	86.00			5.00	
APJAM96			25.00			
LEMJAM96	8.00	15.00				
ORJAM08		40.00				
LEMONS	10.00					
INSTALL	1.00	2.00	1.00			1.00
JUICER15		1.00	1.00	1.00		
JUICER20C	1.00	1.00				1.00
ORJAM32	93.00	45.00				
PEARS		12.00				
Total:	235.00	662.00	399.00	1.00	20.00	2.00

Figure: The Sales Order Details by Customer (SO6110C1) tabular report

Lesson 9: Exporting Reports

Report Export: General Information

Acumatica ERP reports can be exported as XSL and PDF files. In the Acumatica Report Designer, you can specify settings to export a report as an XSL file.

Learning Objectives

In this chapter, you will learn how to export report results by using the Report Designer.

Applicable Scenarios

You may need to learn about the exporting of report results in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You need to export reports from Acumatica ERP to send them by email or to use them for further processing in Excel.

Export of Reports in Acumatica ERP

In Acumatica ERP, you can export any report, predefined or custom. The system has two options of export, as an XSL file or as a PDF file.

To export a report in Acumatica ERP, you run the report, and on the report toolbar, you select one of the following menu commands, based on the format you need:

- **Export > Excel**: If you plan to export a predefined or custom report as an XSL file, then in the Report Designer, you can configure the report's settings in advance.
- **Export > PDF**: The system exports the report to a PDF file as is; you cannot configure any settings of this report.

Excel Mode for Export

In the Report Designer, you manage the export settings of a report to XSL file by using the **Layout > Excel Mode** property. By default, this property of any newly created report is set to *Auto*. With *Auto*, some reports are exported readably. Other reports exported to an XLS file can have displaced cells with data in the grid. These reports are difficult or even impossible to read. For these reports, before report generation and export, you need to mark up cells and columns in the Report Designer. To do this, you set the **Layout > Excel Mode** property to *Manual* and then specify the needed settings. To prepare a report for export, you can perform the following actions (which are further described in the remaining sections of this topic) in the Report Designer:

1. Display the Excel column grid.
2. Adjust or define the list of Excel columns.
3. Define the row and column position of all report elements.
4. Adjust the position of each element.
5. Specify additional settings for margins between sections and export status of elements.

After you specify all necessary settings, you save the report. It can be run and exported to Excel.

Display of the Excel Column Grid

To display the Excel column grid, on the menu bar of the Report Designer, you click **View > Excel Grid > Show Columns**. In this display, each element on the report layout is marked with two numbers divided by a colon (see the following screenshot).

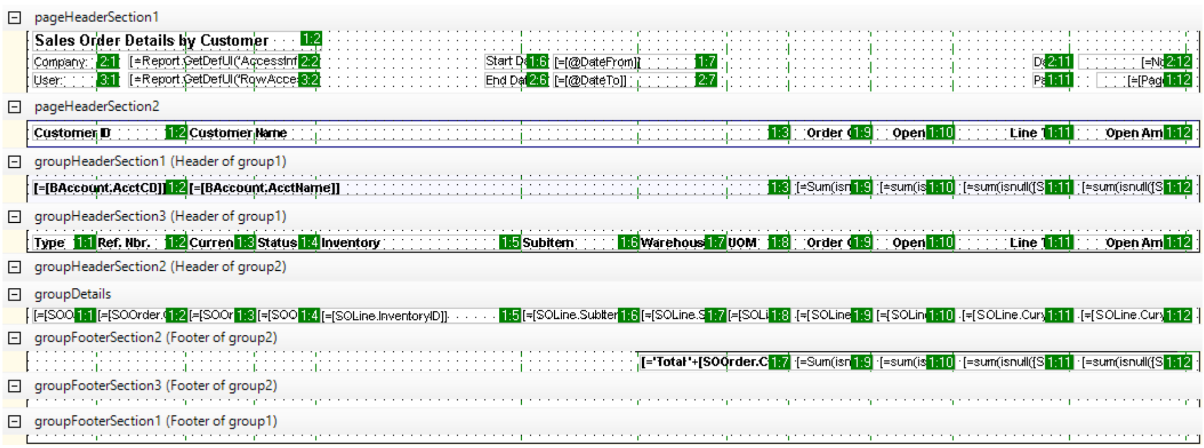


Figure: Display of the Excel column grid for the report

These numbers mean the following:

1. The first number is the row in Excel worksheet to which the element content will be exported. This number is specified by the value of the **Layout > Excel Cell > Row** property.
2. The second number is the column to which the element content will be exported. This number is specified by the value of the **Layout > Excel Cell > Column** property.

In each section, the numbering of rows starts from 1. You can change the numbers of rows and columns to define the order of elements within each exported section. You cannot change the order of the sections in the exported report, however. You can generate the list of columns automatically according to the number and width of elements of any section. For this purpose, you can use the section with the maximum number of elements. You right-click the header this section, and then select **Generate Excel Columns**.

> If you need to refresh the Excel column grid, on the menu bar, you can click **View > Excel Grid > Hide Columns**, and then click **View > Excel Grid > Show Columns**.

Adjustment or Defining of the Excel Columns

To adjust the number, order, and width of columns to export to Excel, you select the report and, in the **Layout > Excel Columns** property, you click the button to open the Int32 Collection Editor (that is, the **Int32 Collection Editor** dialog box), as shown in the following screenshot.

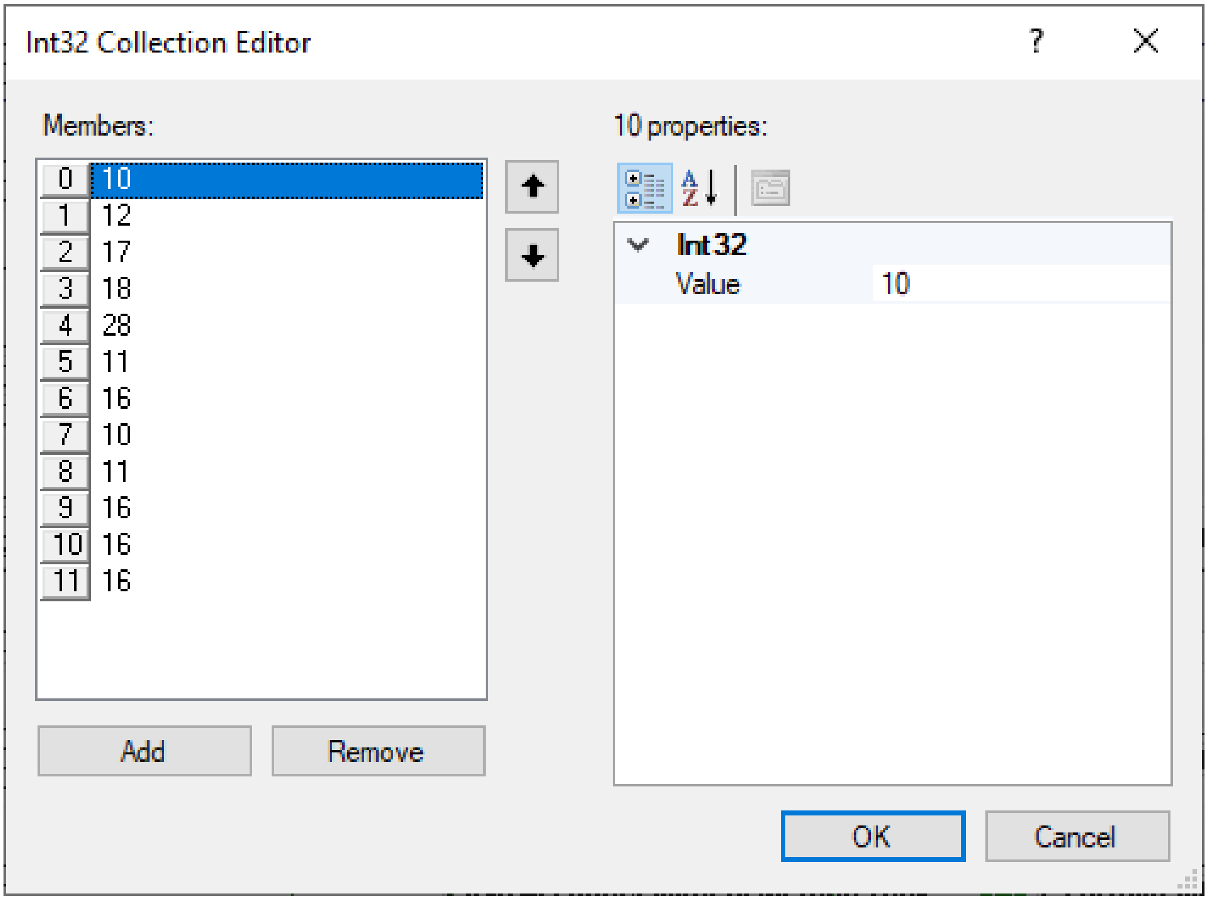


Figure: Use of the Int32 Collection Editor to adjust the exported columns and their width

In the **Members** pane of the Int32 Collection Editor, the first number corresponds to the order of the column in the Excel grid. **0** is the first column (**A**) of the Excel grid, **1** is the second (**B**), and so on. To specify the width of each column, you click the column in the **Members** pane; then you specify the **Value** property of the right pane of the Int32 Collection Editor. The column width corresponds to the element width in pixels in an approximate 1:6 ratio. For example, the width of a column with a **Value** of *10* is approximately equal to the width of a text box with a **Size > Width** of *60px*.

Based on the settings in the screenshot above, the report will be exported to Excel with the following settings:

- The report will have columns from **A** (which corresponds to **0**) to **L** (which corresponds to **11**).
- The **A** column will have a width of *10*.

Row and Column Positions of Report Elements

To define the row and column position of all the report elements, on the Report Designer menu bar, you click **Edit > Adjust Excel Layout**. The Report Designer automatically changes the row and column position of all the report elements depending on how they fit the Excel columns.

This functionality exports the report as expected for simple report layouts but may cause unexpected results for some complicated layouts. We recommend that you assign the row and column position for report elements automatically. You can adjust the positions manually later, in Excel, if needed.

Similarly, you can define the row and column position of the elements of any particular section. You right-click the section header, and then select **Adjust Excel Layout**.

The Position of Each Element

In the Report Designer, you use the **Layout > Excel Cell > Row** and **Layout > Excel Cell > Column** properties to adjust the position of each element in a report.

Additional Settings

In the Report Designer, you can specify the following additional settings for a report:

- Margins between sections: You specify this setting (in number of rows) in the **Layout > Excel Margin > Top** and **Layout > Excel Margin > Bottom** properties.
- Export status of an element: If you don't want to export a particular element of the report to Excel, you select the element and, in the **Layout > Excel Visible** property, select *False*. By default, the property is set to *True*.

  The export of *SubReport*, *Chart*, *Line*, and *ImageBox* elements to Excel is not supported. Also, if you want to export the contents of a *Panel* element to Excel, you should specify the position—a row and a column—of each element inside the panel.

Report Export: To Export a Report as an XLS file

In the following activity, you will learn how to export a report to an XLS file.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager of your company has requested the *Vendor Summary* (AP655000) report in XLS format. The sales manager plans to process the data further in Excel. You plan to use a copy of the report; after checking its settings, you will run the report and export it.

Process Overview

In the Report Designer, you will open the *AP6550C4* report, which is a copy of the *Vendor Summary* (AP655000) report. You will make sure that the report is simple and can be exported without additional settings being specified. Then in Acumatica ERP, you will run the report and export it as an XLS file.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.

2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.

3. You have signed in to Acumatica ERP with the following credentials:

   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6550C4.rpx file.

2. Open the uploaded file in the Report Designer.

3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.

4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6550C4` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Checking the Export Setting

To check the report's export setting, do the following:

1. In the Report Designer, be sure the *AP6550C4* report (which you have saved to the server) is open.

2. In the top left corner of the Design pane of Report Designer, click the ■ icon to select the report, and set the **Layout > Excel Mode** property to *Auto*.

Step 2: Exporting the Report as an XSL File

To export the report, do the following:

1. In Acumatica ERP, open the Vendor Summary (AP6550C4) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

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

   The report is displayed.

3. On the report toolbar, click **Export > Excel**.

The XSL file with the name consisting of the name of the report (*Vendor Summary*) and the current date is uploaded to the default folder on your computer.

4. Open the XSL file and make sure that it looks the same as the original report in Acumatica ERP.

The following screenshot shows the result of the export in Excel. Make sure that the report in Excel looks similar to the report in Acumatica ERP.

	A	B	C	D	E	F	G	H	I	J
1	**Vendor Summary**		Suppress Zero Balances							
2	Company:	Company	Suppress Inactive Vendors						Date:	12/24/2020 5:00 AM
3									User:	Kimberly Gibbs
4										
5	**Vendor**	**Vendor Name**	**Status**	**Class**	**Terms**	**Currenc**	**Tax Zone**	**Phone**	**FAX**	**Current Balance**
6	ALLFRUITS	All Fruits Mall	Active	DEFAULT	30D	USD		+1 914 853 4879		1 139,10
7	BLUELINE	Blueline Advertisement	Active	DEFAULT	30D	USD				9 800,00
8	FRONTSRC	Frontsource Ltd.	Active	DEFAULT	30D	USD	NYSTATE	+1-315-369-5428		215,00
9	JARCO	Jar Co.	Active	PRODUCT	30D	USD		+1-917-872-7120		1 168,00
10	KADESIGN	Karn Design Inc.	Active	SERVICE	30D	USD		11801		42 000,00
11	NYTAXDEP	NY State Department of Revenue	Active	TAXAGENCY	30D	USD				654,78
12	PRINTICO	Wingman Printing Company	Active	DEFAULT	30D	USD		+1 917 507 6103		1 423,00
13	SQUEEZO	Squeezo Inc.	Active	DEFAULT	30D	USD		+1 917 527 2103		1 150,00
14	STATOFFICE	Spectra Stationery Office	Active	PRODUCT	30D	USD		+1 917 766 1390		619,00
15	STONEC	Cornerstone Concrete	Active	SUBCON	30D	USD				45 000,00
16	SUNDW	Sundance Drywall Company	Active	SUBCON	30D	USD		415-285-6671		5 555,00
17	SUNTECH	Suntech Concrete	Active	SUBCON	30D	USD				100 962,00
18										

Figure: The exported Vendor Summary (AP6550C4) report opened in Excel

Lesson 10: Localizing Reports

Report Localization: General Information

Acumatica ERP provides built-in localization functionality. In the Acumatica Report Designer, you can localize any report, so that a user can run this report and view the result in the language they selected when signing in to Acumatica ERP.

Learning Objectives

In this chapter, you will learn how to localize a report in the Report Designer.

Applicable Scenarios

You may want to learn about report localization in the following circumstances:

- You are responsible for the customization of Acumatica ERP in your company, including developing and modifying reports to give users the information they need to do their jobs.
- You need to provide reports in different languages.

The Objects of Localization

To localize a report, you have to translate its source strings, which include form names, element labels, parameters, predefined values of parameters, and constant strings of variables and formulas. On the *Translation Dictionaries* (SM200540) form, you can collect, filter, and then translate any strings of the Acumatica ERP forms, including reports, both predefined reports and those designed by using the Report Designer.

The value of the **Behavior > Localizable** property, which can be specified in the Report Designer for a report, determines the multiple language support of the report. You can specify this property for the whole report, as well as for each element, such as a text box. The default value of this property is *True*, indicating that multiple languages are supported for report elements.

Process of Report Localization

To localize a report into a language, you perform the following general steps on the *Translation Dictionaries* (SM200540) form:

1. You collect the report strings to be translated.
2. You select the language or languages to which you want localize your report.
3. In the collection of strings, you find the strings related to the report and type your translation.
4. You save your translation.

You can also collect strings also on the *Translation Sets* (SM211500) form, as described in the next section.

> To localize any resources of Acumatica ERP, make sure that the languages to which resources will be localized are selected on the *System Locales* (SM200550) form.

Collection of Strings for Translation

When you localize the system for the first time, or after you update or publish any report that you want to be localized, you should collect the strings to be translated. In Acumatica ERP, all the strings are considered as bound or unbound. Bound strings are strings associated with system resources bound to forms, such as table names. Unbound strings are strings associated with unbound resources —resources, such as prompts, that are not bound to forms. Any reports are also considered to be unbound resources. You can collect particular unbound resources used in reports.

You can collect the report strings for translation in one of the following ways:

- On the *Translation Dictionaries* (SM200540) form. You click **Collect Strings** on the form toolbar to collect all the strings used in the system, including the report strings. This operation can be time-consuming.
- On the *Translation Sets* (SM211500) form. You create a new translation set with the following options selected in the **Unbound Resources To Collect** box:
  - *Chart Name*
  - *Constant in Formula*
  - *Prompt*
  - *Text Box Value*
  - *Valid Value*

  You select these types of elements because reports include only elements of these types. Then you save the translation set and click **Collect** on the form toolbar to collect all the strings of the translation set.

  This operation may also take a significant amount of time, but less time than the collection of strings on the *Translation Dictionaries* form.

Report Localization: To Localize a Report

In the following activity, you will learn how to localize a report.

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

Story

Suppose that you are a technical specialist in your company who is working on simple customizations. A sales manager of your company has requested that you localize the predefined *Vendor Summary* (AP655000) report to the Italian language. You will localize a copy of the predefined report, starting with a test of the capability in which you localize the report header and table header.

Process Overview

In the Report Designer, you will open the *AP6550C5* report, which is a copy of the *Vendor Summary* (AP655000) report, and make sure that it can be localized. On the *System Locales* (SM200550) form, you will add the Italian language. On the *Translation Dictionaries* (SM200540) form, you will collect strings, select the language, and type a translation for the strings related to the needed report. To experiment with the capability, as a translation, you will use the same string as the original ones with *$$* as a prefix and suffix. You will localize the report header and the table header in the report.

System Preparation

Before you perform the steps of this activity, make sure that the following tasks have been performed:

1. You have installed the Acumatica Report Designer, as described in *Report Designer: To Install the Acumatica Report Designer*.
2. You have installed an Acumatica ERP instance with the *U100* dataset, or a system administrator has performed this task for you.
3. You have signed in to Acumatica ERP with the following credentials:
   - Username: *gibbs*
   - Password: *123*

   > The *gibbs* user is assigned the *Administrator* role and the *Report Designer* role. Thus, this user has sufficient access rights to manage system configuration and to preview, save, and publish reports.

Also, to prepare to use the file intended for this activity, do the following:

1. Upload the AP6550C5.rpx file.
2. Open the uploaded file in the Report Designer.
3. In the Report Designer menu bar, select **File > Save To Server**, which opens the **Save Report on Server** dialog box.
4. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, type `AP6550C5` as the report name, and click **OK**.

   The report is saved on the server.

Step 1: Localizing the Report

To localize the report, do the following:

1. In the Report Designer, open the report.
2. On the Report Designer menu bar, click **File > Save To Server**, which opens the **Save Report on Server** dialog box.
3. In the dialog box, specify the connection string and sign-in credentials of your Acumatica ERP instance, enter `AP6550C5` as the report name, and click **OK**.

   The report is saved on the server.
4. In the top left corner of the Design pane, click the icon to select the report, and make sure that the **Behavior > Localizable** property of the **Properties** tab is set to *True* (which is the default value).

5. In Acumatica ERP, open the *System Locales* (SM200550) form, add a new row, and specify the following settings in the added row:

    a. **Locale Name**: *it-IT*

    b. **Locale Name in Locale Language**: `Italiano`

    c. **Description**: `Italian`

    d. **Sequence**: `2`

    e. **Active**: Selected

6. In Acumatica ERP, open the *Translation Dictionaries* (SM200540) form, and on the form toolbar, click **Collect Strings**.

    The process can be time-consuming.

7. In the **Language** box, select *Italiano*.

    > You can select two or more languages if you want to translate the report into multiple languages simultaneously.

8. Select the **Show Only Unbound** check box.

    Based on this selection, all unbound strings, including report strings, will be shown on the **Collected** tab of the form.

    > Because you decided to translate only the report heading and table headings that are *TextBox* elements, in the **Unbound Resources To Display** box, you can select *Text Box Value*.

9. On the **Collected** tab, in the lookup box below **Default Values**, type the string you are looking for to find the particular string of your report, such as *Vendor Summary*.

10. In the **Source Value** column of the **Default Values** table, click the string that exactly matches the string in the *AP6550C5* report. To look for a string in a long list, use the arrow buttons below **Default Values**.

    In the **Key** column of the **Key-Specific Values** table, all elements that use the string are listed.

    > When you look for the string in the **Default Values** table, make sure that in the **Key-Specific Values** table, the **Key** value is *AP6550C5.rpx textBox11.Value*. You need to look for this value because in the Report Designer, the *Vendor Summary* string is the value of the **Appearance > Value** property of the text box element with the *textBox11* value of the **Design > (Name)** property.

11. In the **Italiano** column of the **Default Values** table, type your translation—that is, `$$Vendor Summary$$`.

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

13. Repeat the four previous instructions to find and translate the following strings of the report:

    - *Vendor*

- *Vendor Name*
- *Status*
- *Class*
- *Terms*
- *Vendor Currency*
- *Tax Zone*
- *Phone*
- *FAX*
- *Current Balance*
- *Balance Currency*

Step 2: Viewing the Report

To view the report, do the following:

1. In Acumatica ERP, open the Vendor Summary (AP6550C5) report form by searching for its identifier.

   > This report, which you have modified in this activity, has been published in the *U100* dataset. That is, it has been added to the *Site Map* (SM200520) form, and you can access it in Acumatica ERP.

2. In the **Locale** box of the **Report Parameters** tab, select *Italian*.
3. On the report form toolbar, click **Run Report**.

The following screenshot displays the localized report. Make sure that the report heading and the strings in the table heading have *$$* as a prefix and suffix.

$$Vendor Summary$$

Company: Company

Suppress Zero Balances
Suppress Inactive Vendors

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$$Vendor$$	$$Vendor Name$$	$$Status$	$$Class$$	$$Terms$$	$$Currenc	$$Tax Zone$$	$$Phone$$	$$FAX$$	$$Current Balance$$
ALLFRUITS	All Fruits Mall	Active	DEFAULT	30D	USD		+1 914 853 4879		1 139,10
BLUELINE	Blueline Advertisement	Active	DEFAULT	30D	USD				9 800,00
FRONTSRC	Frontsource Ltd.	Active	DEFAULT	30D	USD	NYSTATE	+1-315-369-5428		215,00
JARCO	Jar Co.	Active	PRODUCT	30D	USD		+1-917-872-7120		1 168,00
KADESIGN	Karn Design Inc.	Active	SERVICE	30D	USD		11801		42 000,00
NYTAXDEP	NY State Department of Revenue	Active	TAXAGENCY	30D	USD				654,78
PRINTICO	Wingman Printing Company	Active	DEFAULT	30D	USD		+1 917 507 6103		1 423,00
SQUEEZO	Squeezo Inc.	Active	DEFAULT	30D	USD		+1 917 527 2103		1 150,00
STATOFFICE	Spectra Stationery Office	Active	PRODUCT	30D	USD		+1 917 766 1390		619,00
STONEC	Cornerstone Concrete	Active	SUBCON	30D	USD				45 000,00
SUNDW	Sundance Drywall Company	Active	SUBCON	30D	USD		415-285-6671		5 555,00
SUNTECH	Suntech Concrete	Active	SUBCON	30D	USD				100 962,00

Figure: The localized AP6550C5 report