End-User Course

⚙ **Reporting**

Dashboard and Widget Design 2025 R1

Revision: 5/27/2025

Acumatica
The Cloud **ERP**

Contents

Copyright

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How to Use This Course

In this course, you will learn how to create a dashboard and fill it with various widgets that use prepared generic inquiries. You will apply filters and dashboard parameters to the widget data. The course is intended for advanced Acumatica ERP users who are familiar with the user interface and the 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 Acumatica ERP to design dashboards.

What Is in This Guide

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

Which Training Environment You Should Use

All lessons of the course should be completed in an instance of Acumatica ERP 2025 R1 with the *U100* training dataset preloaded; this dataset provides the predefined settings and entities you will need as you complete the activities of this course.

You or your system administrator need to prepare an instance of Acumatica ERP 2025 R1, as described in the *How to Create a Tenant with the U100 Dataset* section below.

What Is in a Lesson

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

> ⚠️ The completion of a lesson depends on the steps performed in the previous lessons. We recommend that you complete the lessons in the listed order.

What the Documentation Resources Are

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 of the Acumatica ERP screen to bring up a form-specific Help menu; you can use the links on this menu to quickly access form-related information and activities and to open a reference topic with detailed descriptions of the form elements.

How to Create a Tenant with the U100 Dataset

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

1. Go to *Amazon Storage*.
2. Open the folder that corresponds to the version of your Acumatica ERP instance.
3. In this folder, open the `Snapshots` folder and download the `u100.zip` file.
4. Launch the Acumatica ERP instance and sign in.

5. Open the *Tenants* (SM203520) form and click **Add New Record** on the form toolbar.

6. In the **Login Name** box, type the name to be used for the tenant.

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

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

8. On the **Snapshots** tab, click **Import Snapshot**.

9. In the **Upload Snapshot Package** dialog box, select the `u100.zip` file, which you have downloaded, and click **Upload**.

    The system uploads the snapshot and lists it on the **Snapshots** tab of the *Tenants* form.

10. Open the *Apply Updates* (SM203510) form and click **Schedule Lockout**.

11. In the **Schedule Lockout** dialog box, click **OK**.

12. Open the *Tenants* form again.

13. On the form toolbar, click **Restore Snapshot**.

14. If the **Warning** dialog box appears, click **Yes**.

15. In the **Restore Snapshot** dialog box, make sure that the correct snapshot package is being uploaded and click **OK**. The system will restore the snapshot and sign you out.

16. Sign in to the tenant that you have just created.

17. Open the *Apply Updates* form again.

18. On the form toolbar, click **Stop Lockout**.

Which Credentials You Should Use

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

1. Lesson 1.1: *chubb*
2. Lesson 1.2: *gibbs* and *chubb*
3. Lesson 2.1: *chubb*
4. Lesson 2.2: *gibbs*
5. Lesson 2.3: *gibbs*
6. Lesson 2.4: *gibbs*
7. Lesson 2.5: *gibbs*

The password for each user is *123*.

Which License You Should Use

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

Company Story

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

Company Structure

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

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

Operational Activity

The company has been operating starting in the *01-2024* financial period. In November 2024, the company started using Acumatica ERP as an ERP and CRM system and migrated all data of the main office and retail store to Acumatica ERP. The equipment center began its operations in *01-2025* in response to the company's growth.

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

SweetLife Company Sales and Services

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

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

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

Company Purchases

The company purchases fruits and spices from large fruit vendors for sale and for jam production. For producing jams and packing jams and fruits, the company purchases jars, labels, and paper bags from various vendors. For

the internal needs of the main office and store, the company purchases stationery (printing paper, pens, and pencils), computers, and computer accessories from various vendors.

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

Part 1: Designing Dashboard Contents

The lessons of this part explain how you can modify an existing dashboard, create a new dashboard, and assign access rights to a dashboard.

Lesson 1.1: Designing a Dashboard

This lesson explains the elements of a dashboard, types of widgets, and kinds of information that you can add to the dashboard.

Dashboard Design: General Information

An Acumatica ERP dashboard is a type of form that an administrative user can design to present relevant data in engaging ways.

With dashboards, you can monitor current financial, operational, and organizational information of your company, and analyze real-time trends that relate to your job. On dashboards, different types of information can be displayed in various presentation forms—such as text, charts, graphs, and tables—depending on your preferences and the specific type of data you want to see.

Learning Objectives

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

- Identify the basic elements of an Acumatica ERP dashboard and their functions
- Become familiar with the basic steps of designing a dashboard
- Modify your copy of a dashboard
- Define a dashboard as your home page
- Reset a dashboard

Applicable Scenarios

If you are responsible for tailoring Acumatica ERP to meet users' needs in your company, you may need to design a dashboard from scratch or modify a copy of a predefined dashboard in the following cases:

- Your company's managers need to monitor the company's overall health. The best way to monitor all the key performance indicators (KPIs) and data points is to have a dashboard with the relevant information.
- The management of your company has set goals for each department, and the department managers need to track the progress toward these goals by monitoring key indicators and task completion.
- Employees of your company are using dashboards as a home page for performing their duties.

Preparation for Dashboard Design

Before you start designing a dashboard, you should decide what metrics users should be able to track by using the dashboard. When you decide on the metrics, you need to work on the data collection to gauge the metrics.

In Acumatica ERP, most types of widgets are based on data from generic inquiries. A generic inquiry is a user-definable tool—generally created by a developer, customizer, or system administrator—that collects data from the system database and displays the query results on an Acumatica ERP form. The system provides a number of

predefined generic inquiries to meet most needs. You can modify copies of these generic inquiries if needed or build your own generic inquiries from the ground up.

> (i) To create widgets based on a generic inquiry, you need to have at minimum *View Only* access rights to the *Generic Inquiry* (SM208000) form.

With the data sources prepared, you need to plan how many widgets and which types you will add to the dashboard.

Dashboard Modes
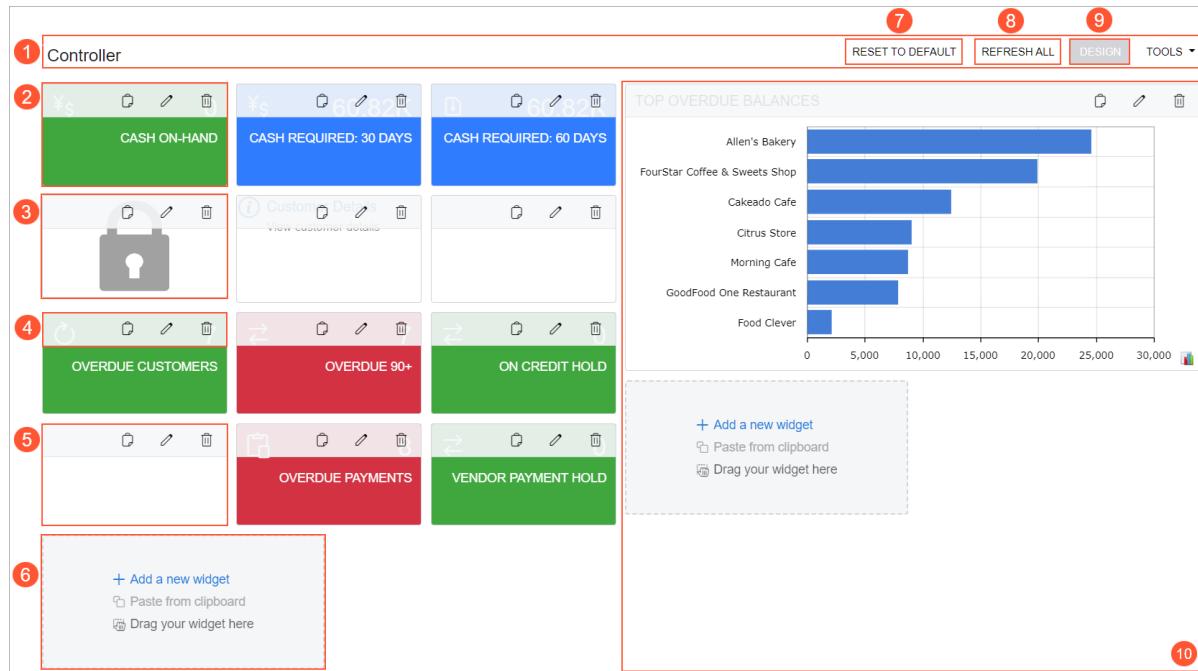
In Acumatica ERP, a dashboard can be displayed in view or design mode. When you open a dashboard, it is displayed in view mode.

To modify a dashboard, you switch to design mode by clicking the **Design** button on the dashboard title bar. The button appears if your user account has the owner role for the dashboard on the *Dashboards* (SM208600) form (that is, the role selected in the **Owner Role** box on this form).

If your user account does not have the role assigned and the owner of the dashboard has allowed its personalization, you can create a copy of it by clicking the **Create User Copy** button on the dashboard title bar. (This button is displayed if the **Allow Users to Personalize** check box is selected on the *Dashboards* form for the dashboard.) Once you have created your copy of the dashboard, the **Design** button is displayed on the dashboard title bar instead of **Create User Copy**. You click **Design** to switch on design mode for the dashboard.

Basic Elements of a Dashboard in Design Mode

When a dashboard is in design mode, it has the basic elements shown in the following screenshot.

The dashboard has the following elements, whose numbers correspond to those in the screenshot:

1. The dashboard title bar, which you can use to click the needed actions and add the needed dashboard to your favorites.

2. A widget in design mode.

3. A widget with unavailable data. You can view the data in the widget if you have access rights to view the form the widget is based on. This is true of both view mode and design mode.
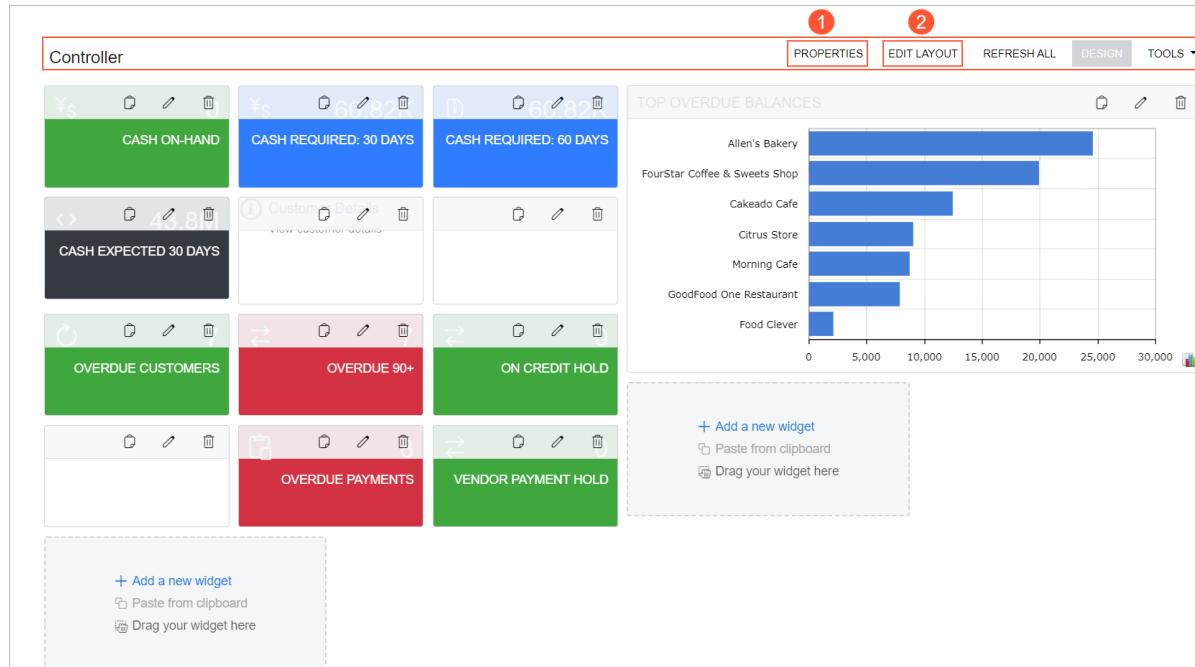
4. A title bar of a widget, with buttons you can click to paste a copied widget by using the clipboard, edit the widget, or delete it.

5. A blank widget in design mode.

6. A widget placeholder. You can add a new widget, copy and paste an existing widget from the clipboard (from this dashboard or another dashboard), or replace this UI element with an existing widget by dragging the widget.

7. The **Reset to Default** button. This button is displayed if your copy of the dashboard differs from the original dashboard. You click the button to cancel all your changes to the dashboard and restore the default dashboard and settings.

8. The **Refresh All** button. You click this button to update the information in all the widgets on the dashboard.

9. The **Design** button. You click this button to switch between design and view modes for the dashboard.

10. A working area, which is a major part of the dashboard. The number and placement of working areas determines the overall appearance of the dashboard and depends on the dashboard layout (for details, see *Dashboard Design: Widget Arrangement*). The dashboard shown above has two working areas.

The Dashboard Title Bar for an Administrative User

An administrative user can view additional buttons on the dashboard title bar if their user account is assigned both of the following roles:

- A role with access to the *Dashboards* (SM208600) form
- The dashboard owner role for the dashboard

The following screenshot shows an example of the dashboard title bar for an administrator.

You can see the following buttons (with the numbers corresponding to those in the screenshot), which are not shown for users:

1. The **Properties** button. You click this button to open the *Dashboards* form for the current dashboard.

2. The **Edit Layout** button. You click this button to select any of the predefined dashboard layout templates that are available in the system. By using a template, you can find a layout that meets users' needs and quickly implement a dashboard that uses the layout.

> ⚠️ If you change the layout of the dashboard, this change will be applied to all user copies of the dashboard. For details, see *Dashboards: Access Rights*.

Types of Widgets

A widget is a dashboard component that provides a particular type of information, such as a real-time data view or wiki article.

You can add to a dashboard various types of widgets. In the **Add Widget** dialog box, you can click one of the following widget types:

- **Chart**: A graphical representation of data from an Acumatica ERP form. You can use charts of various types, such as bar charts and line charts.
- **Data Table**: A systematic display of data from an Acumatica ERP form, with data arranged into rows and columns.
- **Embedded Page**: A document or an image that is stored on an external resource, such as cloud storage.
- **Header**: A title that can be added to the widget section.
- **Key Performance Indicator (KPI)**: A statistical record that measures progress or achievement toward a set performance indicator by showing parameters that are important to the business processes of your organization and should be monitored daily. The following visualization types are available for the widget:
  - *Scorecard*: Data is presented in the form of a card with a single parameter.
  - *Meter*: Data is presented in the form of a gauge with normal, warning, and alarm levels.
- **Link**: A link to an Acumatica ERP form, report, or dashboard.
- **Pivot Table**: A data table organized to filter, sort, count, total, or give the average of data from an Acumatica ERP inquiry, displaying the summarized results in a separate table.
- **Power BI Tile**: A chart, scorecard, or other analytical information that is represented on a Power BI dashboard designed by your organization.
- **Trend Card KPI**: A statistical record showing parameters whose dynamic change is important to the business processes of your organization.
- **Wiki Page**: A reference topic, procedure, business plan, or other content that is frequently consulted by Acumatica ERP users.

Actions with Widgets on Dashboards

In design mode of a dashboard, a user designing the dashboard can perform the following actions:

- Add a new widget: The user clicks **Add a New Widget** in a widget placeholder.
- Move an existing widget to a new position on the dashboard: The user drags the widget by its title bar from its current position to a widget placeholder on the dashboard.
- Copy and paste an existing widget: The user copies an existing widget by clicking the Copy button on the widget title bar and then clicks **Paste from Clipboard** in a widget placeholder. The user can copy and paste widgets within one dashboard or from one dashboard to another. The clipboard clears when the user session ends.
- Change widget properties: The user can change the properties of the widget by clicking the Edit button on the title bar of the widget.
- Delete a widget: The user deletes a widget by clicking the Delete button on the title bar of the widget.

Dashboard Design: Widget Arrangement

Best practices in dashboard design involve more than just good metrics and well-thought-out charts. The next step is the placement of charts on a dashboard. If your dashboard is well organized, users will easily find the information they need. Poor layout forces users to think more before they grasp the key points. The general rule is that key information should be displayed first—at the top of the screen, in the upper left corner.

You should also group the charts by theme with comparable metrics placed next to each other. This way, users do not have to change gears while looking at the dashboard by, for example, jumping from sales data to marketing data, and then back to sales data.

In most situations, we recommend using no more than 10 widgets, so that users can understand the data quickly and easily. On some dashboards, however, you may want to use more widgets so that users have immediate access to a variety of different information.

Layout Selection

Acumatica ERP offers four options for dashboard layout to help you organize your widgets. These options differ in the size and shape of their working areas, which are major parts of the dashboard that determine its overall appearance. You can modify dashboard layout by clicking the **Edit Layout** button on the title bar of the dashboard, which opens the **Dashboard Layouts** dialog box.

> ⓘ This button appears for only a user with the dashboard owner role—that is, the user role selected in the **Owner Role** box on the *Dashboards* (SM208600) form for the dashboard. If a user with this role changes the layout of the dashboard, this change will be applied to all user copies of the dashboard. For details, see *Dashboards: Access Rights*.

The first option (see Item 1 in the following screenshot) is a single working area in which you can arrange and resize widgets. The other three options (Items 2, 3, and 4) consist of two independent working areas of different sizes with some white space between them. You can move widgets between the working areas, but you can resize a widget only within a particular working area after you placed it in the area.
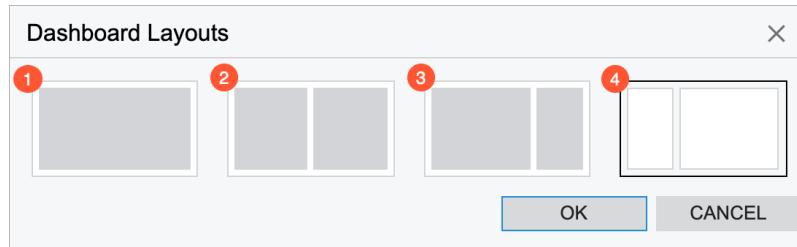

Figure: Selection of a dashboard layout

Widget Arrangement

Once you have selected a layout, you can add widgets to a working area of the dashboard. Widgets can be organized in rows or columns within the working area. The system does not allow an empty space between widgets in a row or a column within a working area. You add widgets one at a time from left to right or from top to bottom.

You can select a layout option that has two working areas and leave empty space between the working areas (see the following screenshot).
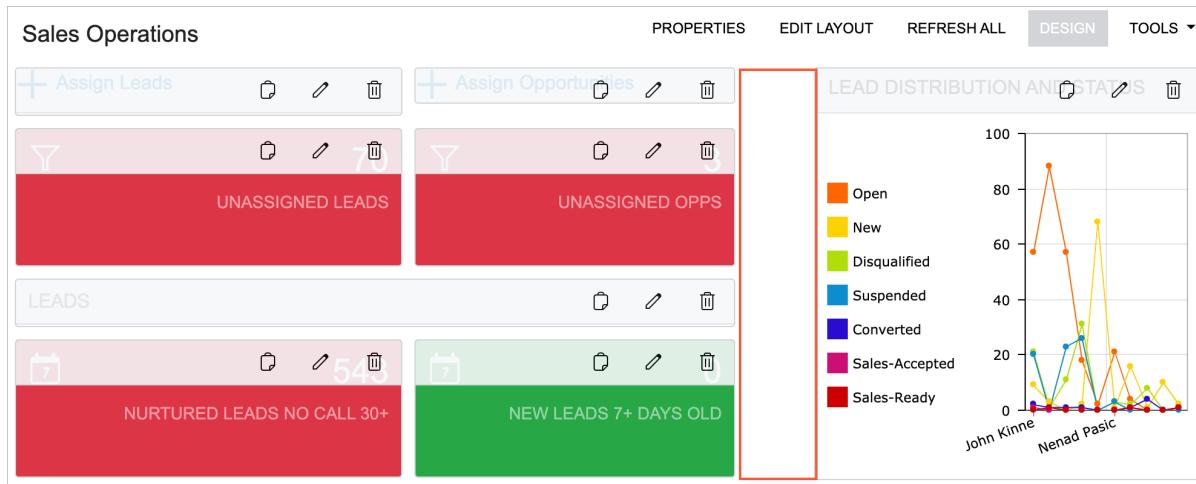
Figure: A dashboard with empty space between working areas

A row height is defined by the tallest widget in the row. By making some widgets shorter than the tallest widget in a row, you can visually separate the shorter widgets in the row from the widgets in the next row (see the widgets on the left of the following screenshot).


Figure: A dashboard with two rows

Alternatively, to visually separate groups of widgets, you can use specific widgets, such as header widgets and embedded page widgets.

A header widget can help you to group the widgets by theme. This also gives you the ability to simplify chart titles.

An embedded page widget can be used to display a white rectangle or square of the needed size. You can place it between other widgets in a row or between rows to add more white space to your dashboard. To create such a widget, you type `about:blank` instead of a URL in the widget settings and the system displays it as a white rectangle or square (see the following screenshot).
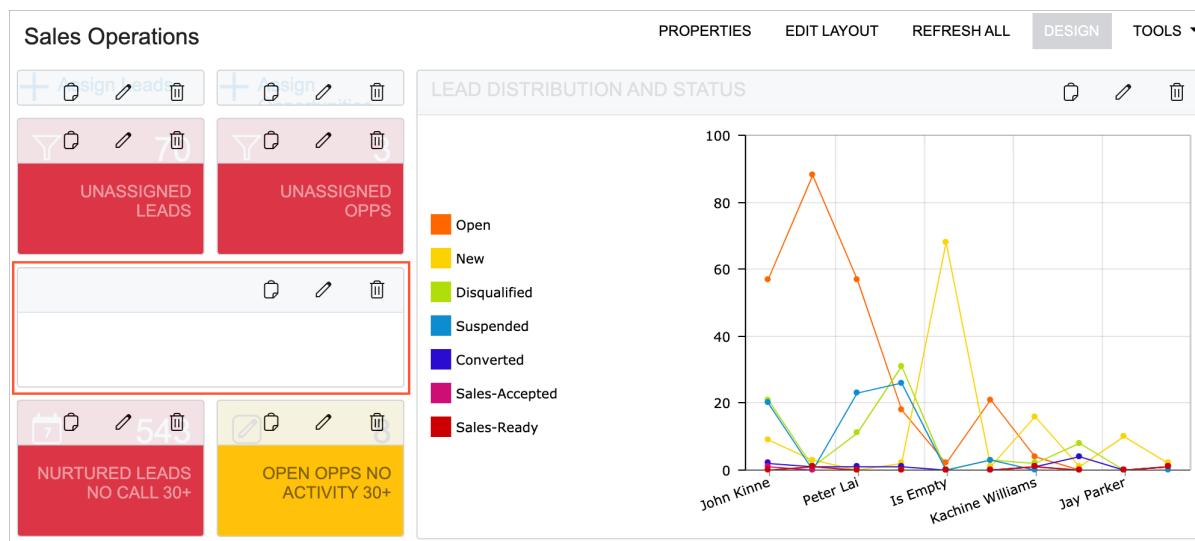
Figure: An embedded page widget to add space

Dashboard Design: User Operations with Data

Acumatica ERP dashboards support various types of widgets, which have drill-down capabilities. By using the drill-down capabilities, a user can navigate directly from a dashboard widget to the source of the data they are viewing, so that the user can learn more about and take actions based on the data that is highlighted on the dashboard.

For better dashboard design, you should understand how users can work with data on a dashboard.

Drilling Down to the Source Data

To drill down to the source data of a widget, a user simply clicks the widget or the widget title (see the following screenshot), and the system opens in a new browser tab the generic inquiry form that is specified as the source of the widget data.
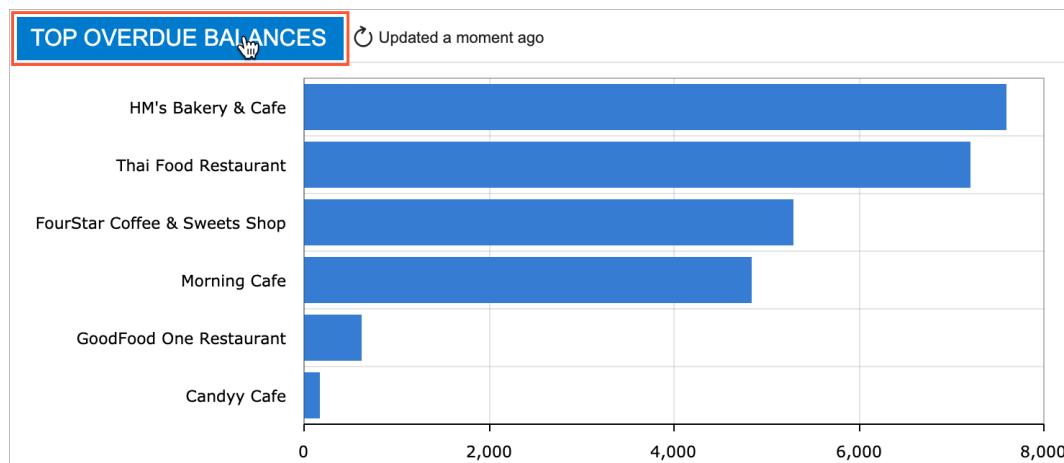

Figure: Clicking of the widget title to drill down

In a chart widget, the user can click a particular data point in the chart area, and the system opens the generic inquiry form with its results filtered according to the selected value. For example, suppose that in a doughnut chart that shows the number of opportunities generated by a source, the user clicks the sector that represents the

number of opportunities generated by campaigns. In a new tab, the system opens the list of opportunities that have a campaign specified as the source.

Updating Information on Widgets

A user can refresh the information on a particular widget by clicking **Update**, which is displayed on the widget title bar when the user hovers over the widget.

Zooming In on a Chart Region

To zoom in on a chart region, a user drags the pointer to create a selection around the area where the user wants to zoom in (see the following screenshot). The system zooms in on the selected area when the user releases the pointer.
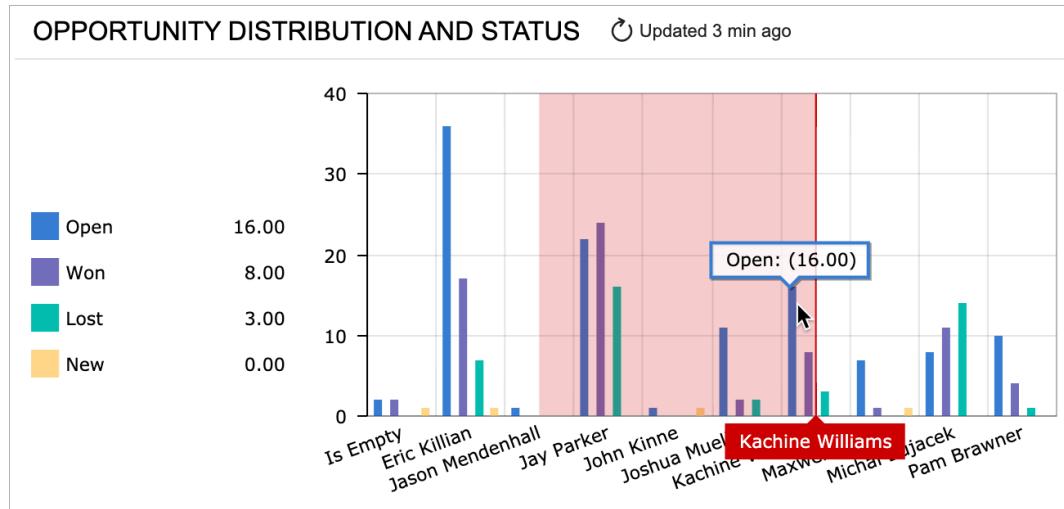

Figure: A chart with an area selected for zooming in

To zoom out, the user clicks **Update** right of the chart title.

Viewing Details on a Chart

In a chart widget, a user can point to the desired legend item to view its details on the chart (see the following screenshot). If the legend of the chart is visible, the system duplicates the values of the selected point in the legend.
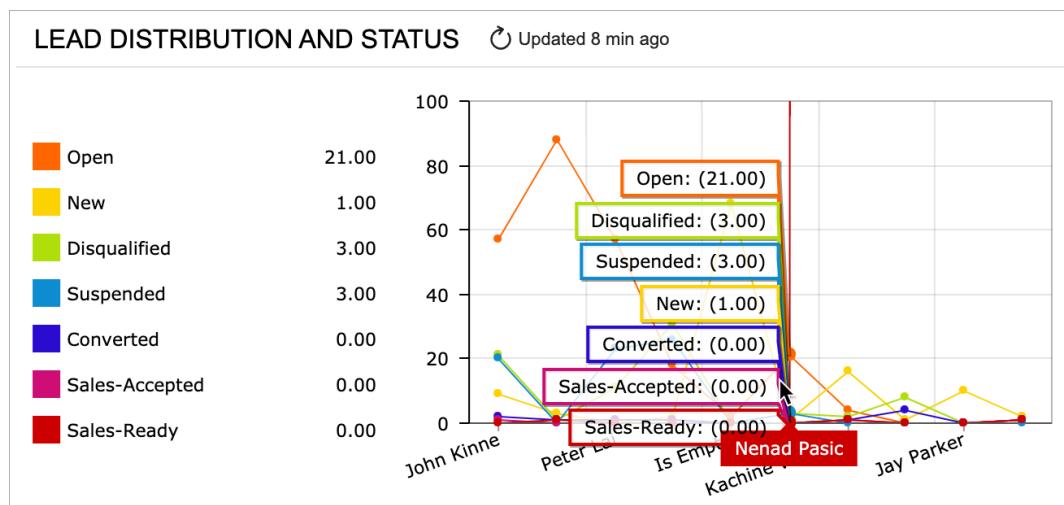
Figure: A chart with the details displayed for a data point

Viewing the Legend of a Chart

If a chart legend has multiple entries or if entry names are quite long, the user will find the layout less distracting if you display the legend on demand in a pop-up box. If the legend is configured in this way for a chart, the system displays a legend icon in the right bottom corner of the chart (see the following screenshot).
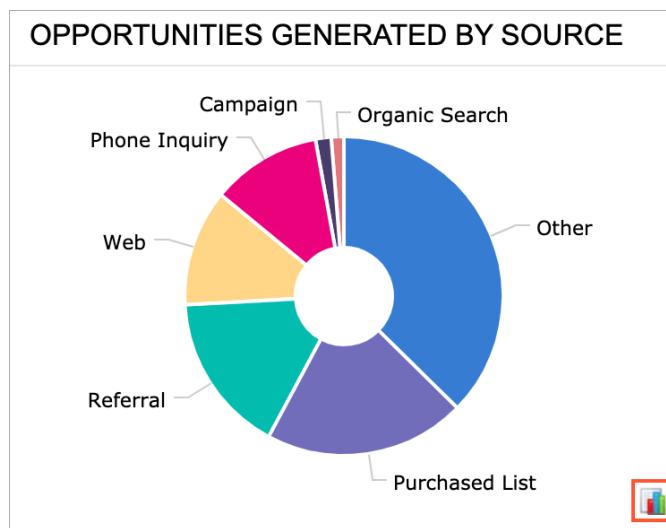

Figure: A chart with the legend icon shown

The user can click the icon to view the legend.

Excluding Data from a Chart

In the legend, a user can click a legend item to exclude the associated series from the chart (see the following screenshot).
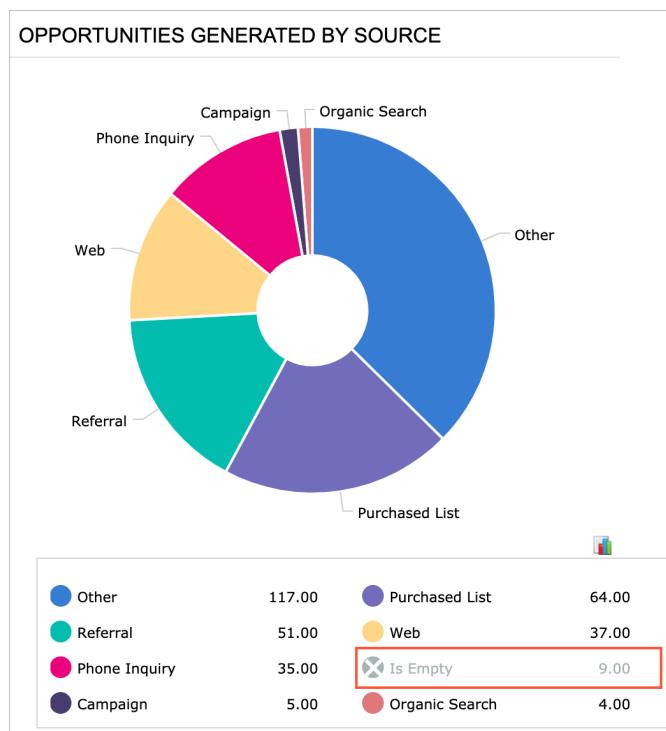
Figure: A chart with data excluded

For the doughnut and funnel widget types, the system proportionally distributes the share of the excluded sector among the remaining sectors on the chart.

Sorting Data in a Table

In a table widget, a user can sort data by a column in ascending or descending order. The user clicks the header of a column by which data in the table should be sorted. The system displays the sorting direction in the column header (see the following screenshot). To change the direction, the user clicks the header again. When the user clicks the header for the third time, the system clears the applied sorting and does not display the sorting direction.

Figure: Table data sorted by the Open Order Total column in ascending order

Dashboard Design: To Modify a Dashboard

The following activity will show you how to modify your copy of an Acumatica ERP dashboard.

Story

Suppose that you are David Chubb, a new sales manager of the SweetLife Fruits & Jams company. You have been using a predefined dashboard to stay informed about customers with overdue accounts. You need to create your own copy of the dashboard in order to monitor the balances of these customers.

Process Overview

In this activity, you will do the following:

1. Switch on design mode for the predefined dashboard
2. Remove widgets from the dashboard
3. Rearrange widgets on the dashboard
4. Resize widgets
5. Specify the dashboard as your Acumatica ERP home page

System Preparation

Before you start modifying the dashboard, launch the Acumatica ERP website, and sign in to a tenant with the *U100* dataset preloaded as sales manager David Chubb with the *chubb* username and the *123* password.

Step 1: Switching On Design Mode for the Predefined Dashboard

Suppose that you need to save a copy of the dashboard and switch to design mode so that you can modify it for your personal use.

To switch on design mode for the dashboard, do the following:

1. Open the **Dashboards** workspace.

   > (i) If the **Dashboards** menu item is not on the main menu, click the **More Items** menu item and then click the **Dashboards** tile.

2. In the **Dashboard: Finance** category, click *Controller*. The *Controller* dashboard opens.
3. On the dashboard title bar, click the **Create User Copy** button. The system creates your personal copy of the dashboard. Notice that the **Design** button has appeared on the dashboard title bar.

   > ⚠ You can see the **Create User Copy** button on the dashboard title bar before you switch on design mode for a dashboard for the first time. Once you have created your copy of the dashboard, the **Design** button is displayed on the dashboard title bar.

4. Click the **Design** button. You have switched the dashboard to design mode.
5. Click the **Design** button again to switch to view mode for the dashboard.

Step 2: Removing Widgets from the Dashboard

Suppose that in your copy of the *Controller* dashboard, you do not need the following widgets, which are related to cash: *Cash Position*, *Cash On-Hand*, *Cash Required: 30 Days*, *Cash Required: 60 Days*, *Cash Expected 30 days*, and all blank widgets.

To remove these widgets from the dashboard, do the following:

1. While you are still viewing the *Controller* dashboard in view mode, click the **Design** button on the dashboard title bar to switch on design mode for the dashboard.

2. On the widget title bar of the *Cash Position* widget, click the Remove button (🗑) which is located at the right of the dashboard.

3. In the warning dialog box that opens click **OK**. The widget is removed from the dashboard, and the remaining widgets are automatically rearranged.

4. By performing similar actions to those in the previous two instructions, delete the following widgets from your dashboard:

   • *Cash On-Hand*

   • *Cash Required: 30 Days*

   • *Cash Required: 60 Days*

   • *Cash Expected 30 days*

   • Any blank widgets (those in which you see only a white background and the widget toolbar)

   You can see the modified dashboard in the following screenshot.
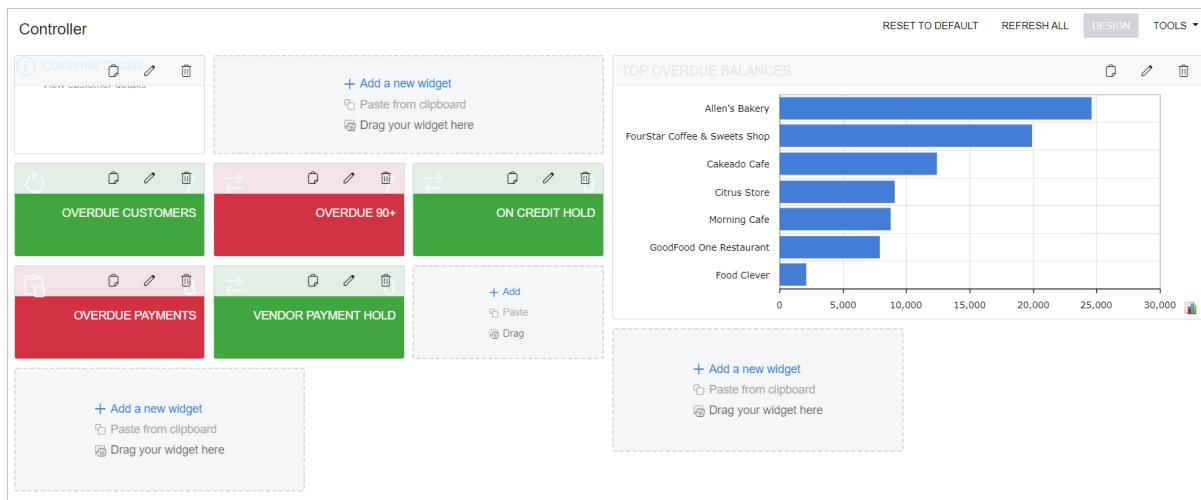
Figure: The dashboard without the cash-related widgets

5. On the dashboard title bar, click the **Design** button to switch to view mode for the dashboard.

Step 3: Rearranging Widgets on the Dashboard

Suppose that you want to move the *Top Overdue Balances* widget to the lower-left part of the dashboard. Also, you want to move the *Overdue Payments* and *Overdue 90+* widgets to the right working area, place the *Overdue Customers* widget next to the *Customer Details* one, and place *Vendor Payment Hold* next to the *On Credit Hold*.

To rearrange the widgets on the dashboard, do the following:

1. While you are still viewing the *Controller* dashboard in view mode, click the **Design** button on the dashboard title bar to switch on design mode.

2. Drag the *Top Overdue Balances* widget by its title bar to the lower-left part of the dashboard.

3. Drag the *Overdue Payments* and *Overdue 90+* widgets, one by one, by their title bar to the right working area.

4. Drag the *Overdue Customers* widget by its title bar to the widget placeholder next to the *Customer Details* widget.

5. Drag the *Vendor Payment Hold* widget by its title bar to the widget placeholder next to the *On Credit Hold* widget.

You can see the modified dashboard in the following screenshot.
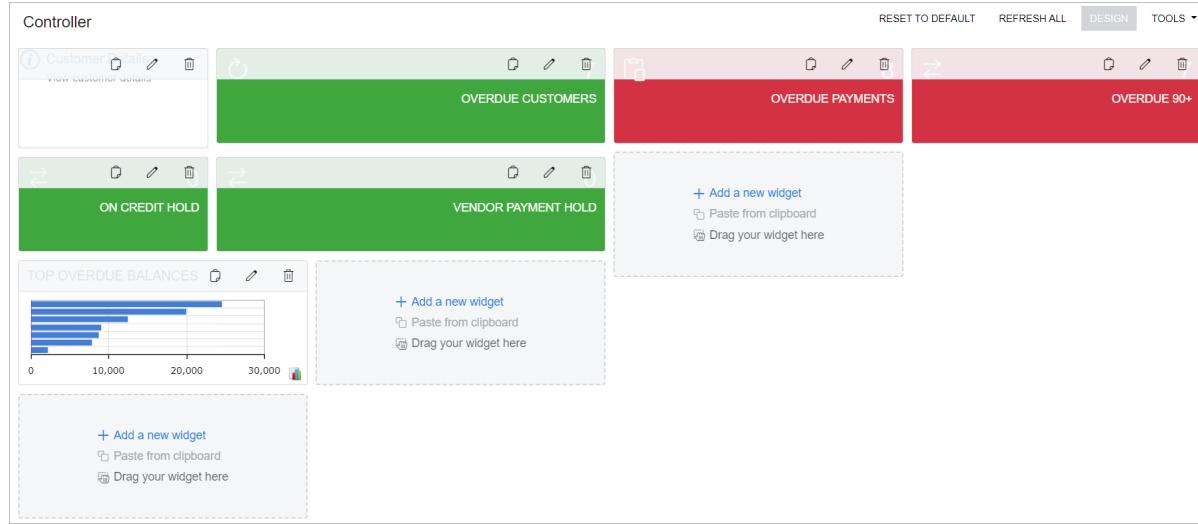
Figure: The dashboard with the relocated widgets

Step 4: Resizing Widgets

Suppose that you want to resize widgets in the left working area. You want to make the *Top Overdue Balances* widget larger and make the following widgets wider: *Customer Details* and *On Credit Hold*.

To resize these widgets, do the following:

1. While you are still viewing the *Controller* dashboard in design mode, in the left working area, drag the bottom right corner of the *Top Overdue Balances* widget to the right and down to make it taller and wider.

2. Drag the right border of the *Customer Details* to the right until it takes up half of the left working area.

3. Drag the right border of the *On Credit Hold* to the right until it takes up half of the left working area.

You can see the modified dashboard in the following screenshot.

> ⓘ The width of the widgets and number of available widget placeholders depend on the size of your browser window. You may need to resize other widgets as well to get the same arrangement.
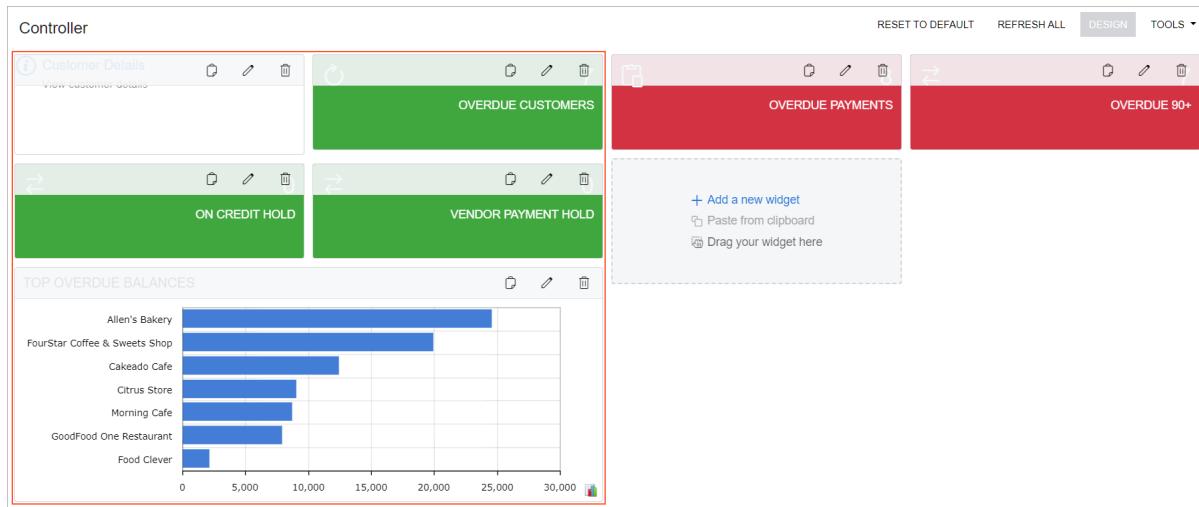
Figure: The dashboard with the resized widgets

4. On the dashboard title bar, click the **Design** button to switch to view mode for the dashboard.

Step 5: Defining the Dashboard as Your Acumatica ERP Home Page

To make your modified *Controller* dashboard your home page in Acumatica ERP, do the following:

1. In the top pane, click the User menu button (where your username appears), and on the User menu, click **My Profile**. The *User Profile* (SM203010) form opens.

2. On the **General Info** tab (**Personal Settings** section), in the **Home Page** box, click the magnifier button to open the lookup table.

3. In the Search box of the lookup table, type `controller` to search for the *Controller* dashboard.

4. In the **Title** column, double-click the *Controller* entry, which has *DB000015* in the **Screen ID** column. This selects the value, closes the lookup table, and fills in the **Home Page** box.

5. On the form toolbar, click **Save** to save your changes.

6. In the upper left corner of the Acumatica ERP screen, click the Home button to make sure that the *Controller* dashboard, which you have defined as your home page, opens.

Lesson 1.2: Administering Dashboards

This lesson explains how you can create a dashboard from scratch and assign access rights to it.

Dashboards: General Information

In Acumatica ERP, a dashboard is a collection of widgets—small components you configure to display a particular type of information—that are displayed on a single form and are designed to give you needed information at a glance.

When you create a dashboard, which is also an Acumatica ERP form, you can click buttons to perform dashboard-specific actions. You can share a dashboard with other users as you can other forms. That is, you can place any dashboard in a workspace by adding it to the Acumatica ERP site map and specifying different access levels to the dashboard form for the user roles available in the system.

Learning Objectives

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

- Create a dashboard form
- Manage access rights for the viewing and configuration of dashboard forms

Applicable Scenario

You administer dashboard forms if you are responsible for system administration or for the customization of Acumatica ERP in your company.

Creation of a New Dashboard Form

On the *Dashboards* (SM208600) form, you add the new dashboard form and enter its internal identifier in the **Name** box.

In the **Owner Role** box, you select a user role. All users that have the selected role assigned are the owners of the dashboard. That is, the **Design** button on the dashboard title bar is available to these users. If they click the button, the dashboard switches to design mode. In this mode, an owner of the dashboard can populate the dashboard with widgets, modify the dashboard layout, and edit widget properties.

Publication of a Dashboard

You publish a dashboard to make it available to users. To do this, on the form toolbar of the *Dashboards* (SM208600) form, you click the **Publish to the UI** button. The system opens the **Publish to the UI** dialog box.

In this dialog box, you make the needed changes to the default values in the **Site Map Title** (in which the system inserts the value you have specified as the name), **Workspace**, and **Category** boxes.

Also, the system assigns the dashboard an automatically generated ID in a format similar to the format of screen IDs of other dashboards, with *DB* as the two-letter module code: *DB000000*. When the ID is assigned, the system adds the dashboard to the site map on the *Site Map* (SM200520) form and shows its ID in the **Screen ID** box. This means that the dashboard is the dashboard is published on the Acumatica ERP site.

> ⚠️ If you publish a customization project that has a dashboard with the same ID as a dashboard that already exists in the system, the existing dashboard will be replaced with the custom one. To avoid this issue, add the first custom dashboard with some ID whose number you do not expect to reach (such as *DB1000000*). You then assign subsequent custom dashboard IDs with progressively lower numerical values (such as *DB999999*, *DB999998*, and so on).

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

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

After you specify the needed settings and click **Publish** in the dialog box, the dashboard is published. That is, it is assigned a screen identifier and becomes available in the specified workspace. Also, the system adds the new site map node for this form to the site map and applies the appropriate access rights to this site map node.

After the dashboard has been published, you can adjust access to the dashboard on the **Visible To** tab of the *Dashboards* form.

Configuration of Dashboard Visibility

On the **Visible To** tab of the *Dashboards* (SM208600) form, you specify the access levels for the roles defined in the system. To give the access, you select the *Granted* access level for the roles for which the dashboard should be available. Users that do not have a role for which the *Granted* access level is specified will not be able to view the dashboard.

Ability to Personalize a Dashboard

You can also control whether these users who can view a dashboard can personalize the dashboard—that is, create a personal copy of the dashboard and configure and modify the copied widgets. To provide users with this capability, you need to select the **Allow Users to Personalize** check box on the *Dashboards* (SM208600) form for the particular dashboard. With this check box selected, the **Create User Copy** button will be displayed on the title bar of the dashboard. A user clicks the button to create a personal copy of the dashboard.

If a user has created a personal copy of the dashboard and made modifications to it, this user can reset the copy to the original dashboard by clicking the **Reset to Default** button on the title bar of the dashboard.

A user who manages a particular dashboard can reset all user copies of the dashboard at once by clicking **Reset All User Copies** on the More menu of the *Dashboards* form.

Ability to Deactivate Widgets

In Acumatica ERP, you can deactivate a widget that consumes a lot of memory, malfunctions, or currently is not needed. On the **Widgets** tab of the *Dashboards* (SM208600) form, the list of widgets of the selected dashboard is shown. By default, the **Active** check box is selected for each widget, meaning that the widget is shown on the dashboard. You can deactivate a widget on the dashboard by clearing the **Active** check box for the widget. If you clear the check box, the widget is no longer shown on the dashboard in either view mode or design mode.

> ⚠ A user with the dashboard owner role or a user who has created a personalized copy of a dashboard can drag a widget to the place of an inactive widget. If the inactive widget is activated again, it may not reappear on the dashboard. In this case, you may need to know the hidden widget's coordinates so that you can quickly locate it and rearrange the widgets on the dashboard. Widget coordinates are shown in the **Row** and **Column** table columns on the **Widgets** tab of the *Dashboards* form for the dashboard. For details, see *Dashboards: Widget Location Within a Working Area*.

Ability to Delete Widgets

On the **Widgets** tab of the *Dashboards* (SM208600) form, you can delete a widget from a dashboard by selecting the row of the needed widget and clicking the **Delete Row** button on the form toolbar.

Exposure to the Acumatica Mobile App

If a dashboard should be displayed in the Acumatica mobile app connected to your Acumatica ERP site, you select the **Expose to the Mobile Application** check box on the *Dashboards* (SM208600) form for the particular dashboard.

Export of a Dashboard

On the *Dashboards* (SM208600) form, you can prepare a dashboard as an XML file to export it to another tenant of your Acumatica ERP site. You can do this by opening the needed dashboard and clicking the **Export as XML** command on the **Clipboard** menu of the form toolbar. For details, see *To Export Data to XML*. Then in the other

tenant, you open the *Dashboards* form and click the **Import from XML** command on the **Clipboard** menu of the form toolbar, as described in *To Import Data from XML*.

If a dashboard contains a widget that is a wiki page or a widget based on a generic inquiry (such as a table widget or a KPI widget), you need to make sure that this wiki page or generic inquiry exists in the tenant to which you are exporting the dashboard. If it does not, you need first to create the wiki page or generic inquiry in the tenant. You can also import the wiki page or generic inquiry from the tenant where it is stored along with the dashboard and then export the wiki page or generic inquiry to the same tenant where you are exporting the dashboard. After importing a dashboard, you need to reselect the wiki page or generic inquiry in the imported dashboard on the *Dashboards* form. For details, see *Widgets: Table Widgets*, *Specific Widgets: Wiki Page Widgets*, and *Widgets: KPI Widgets*.

Dashboards: Access Rights

In Acumatica ERP, you can allow users to manage dashboards, to view a dashboard, and to modify widgets on a dashboard. In this topic, you will read about access rights to dashboards.

Access Rights for Administering Dashboard Forms

When you want to allow users to administer dashboards, you need to assign them a user role with full access rights to the *Dashboards* (SM208600) form. Users with such a role can do the following:

- Add and remove dashboard forms
- Select the user role whose users are allowed to design a particular dashboard
- Specify the levels of access rights that each user role has to a specific dashboard
- Change the location of a particular dashboard in the site map
- Allow other users to personalize their copy of a specific dashboard

If you want a user who can administer a dashboard to also be able to design the dashboard (that is, make changes that are visible to all users who can view the dashboard), you should assign the dashboard owner role to this user.

> ⚠️ You can't delete system dashboards.

Access Rights for Designing Dashboards

A dashboard can be designed by only a user with the role specified as the owner role of the particular dashboard in the **Owner Role** box on the *Dashboards* (SM208600) form. A user with a dashboard owner role can design the contents of the dashboard from scratch or modify them: modify the dashboard layout, add and delete widgets, arrange widgets, and modify widget properties.

> ⓘ For predefined dashboards and dashboards created in previous versions of Acumatica ERP, the default owner role is the predefined role *DashboardDesigner*.

Suppose that your company has multiple departments and each department has a person or two people who are responsible for designing dashboards for their team. We recommend creating a separate user role for every department and then specifying that role as the owner role for the department dashboards. For example, you copy the predefined *DashboardDesigner* role and name it *Sales_Dashboards*, and you assign this role to a person from the sales department who is responsible for dashboard design. Then every time a manager from the sales department requests a new dashboard, you select this role in the **Owner Role** box on the *Dashboards* form for the dashboard.

Access Rights for Viewing Widget Data

The set of widgets that are displayed to the users who can view the dashboard depends on their access rights to the forms from which the widgets' source data is taken. If access to a form underlying a widget is denied for particular users, they see a placeholder with a grey lock icon instead of this widget on the dashboard. For example, suppose that you have added the following widgets to the dashboard you have defined as the home page in the system:

- *Bills to Approve*, which uses data from the *Approve Bills for Payment* (AP502000) form
- *Accounts Receivable Balances*, which is based on data from the *Vendor Summary* (AR401000) form

When users who do not have access to the *Approve Bills for Payment* form sign in to the system, they can view only the *Accounts Receivable Balances* widget; they cannot view the *Bills to Approve* widget on the dashboard. If the particular dashboard can be personalized, any of these users can delete the hidden widget or change its properties in their personal copy of the dashboard.
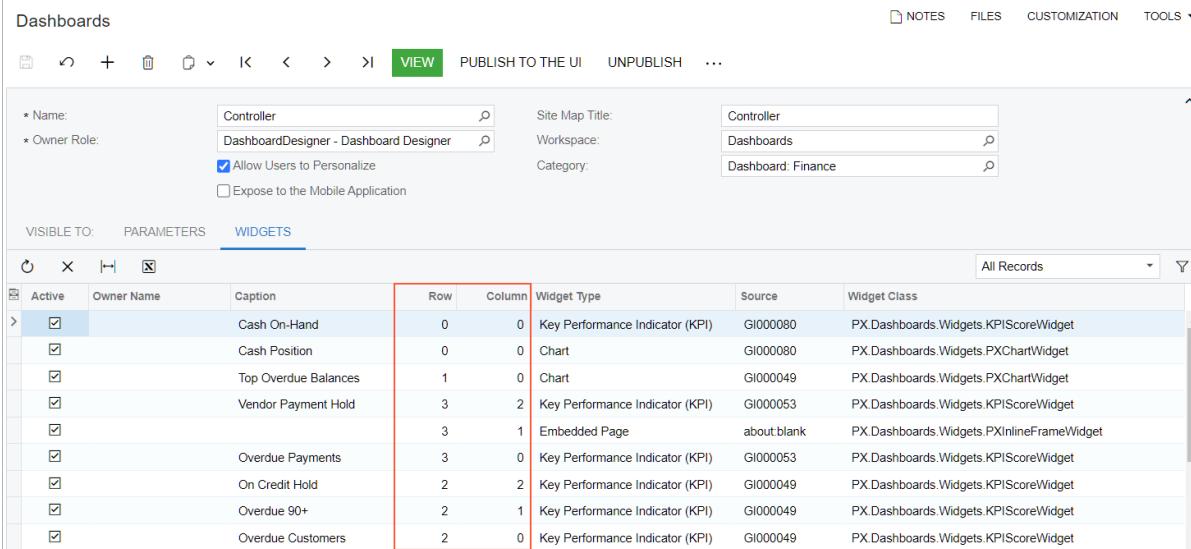
Dashboards: Widget Location Within a Working Area

You can use widget coordinates to locate a widget on a dashboard.

Widget Coordinates

Widgets are organized in rows and columns (or both) within a working area. A widget's coordinates represent its exact location: the number of its row and the number of its column. For example, the widget in the top left corner has a location of 0, 0: the 0 row and the 0 column.

Widget coordinates are shown in the **Row** and **Column** table columns on the **Widgets** tab of the *Dashboards* (SM208600) form for a dashboard (see the following screenshot).

Figure: The widget coordinates on the Widgets tab

Suppose that a dashboard has one working area and six widgets, three in the first row and three in the second row (see the following screenshot).
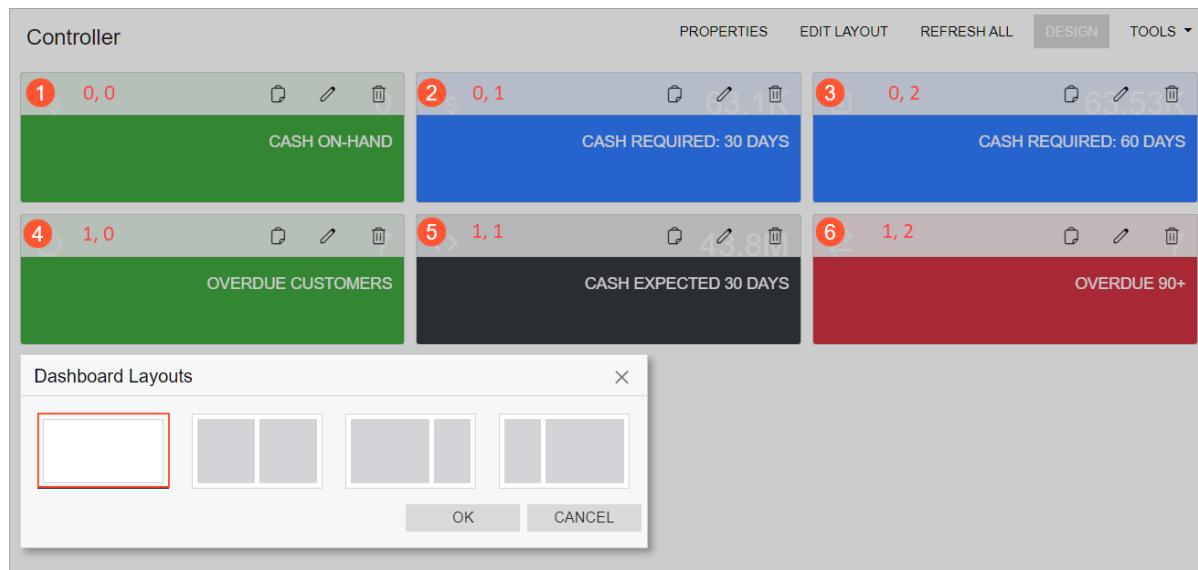
Figure: A dashboard with one working area and six widgets

The widgets in the first row have the following coordinates:

- Widget 1: 0, 0 (row 0 and column 0)
- Widget 2: 0, 1 (row 0 and column 1)
- Widget 3: 0, 2 (row 0 and column 2)

The widgets in the second row have the following coordinates:

- Widget 4: 1, 0 (row 1 and column 0)
- Widget 5: 1, 1 (row 1 and column 1)
- Widget 6: 1, 2 (row 1 and column 2)

If a dashboard layout has two independent working areas, the location of a widget is defined independently in each of the two working areas. Suppose that a dashboard has two working areas and eight widgets, four widgets in each working area. Each working area has two rows, and each row has two widgets (see the following screenshot).
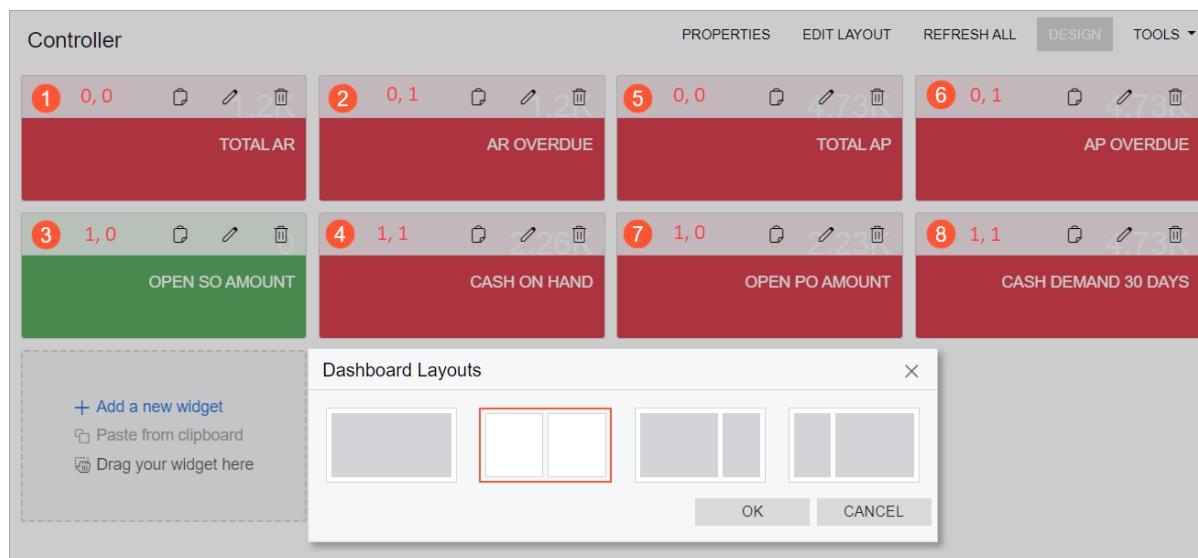

Figure: A dashboard with two working areas and eight widgets

The widgets in the first row of each working area have the following coordinates:

- Widgets 1 and 5: 0, 0
- Widgets 2 and 6: 0, 1

The widgets in the second row of each working area have the following coordinates:

- Widgets 3 and 7: 1, 0
- Widgets 4 and 8: 1, 1

Finding of Deactivated Widgets

A widget that has the **Active** check box cleared on the **Widgets** tab of the *Dashboards* (SM208600) form is not shown on the dashboard in either view mode or design mode. A user with the dashboard owner role or a user that has created a personalized copy of the dashboard can drag another widget into the location of the inactive widget. If you then select the **Active** check box for this inactive widget, it may remain hidden on the dashboard. You can quickly locate the hidden widget by using its coordinates in the **Row** and **Column** table columns on the **Widgets** tab.

If you do not use a widget anymore, you can remove it from the selected dashboard. To do this, click the row with this widget, and then click **Delete Row** on the table toolbar.

Dashboards: To Add a Dashboard Form

The following activity will show you how to create a dashboard and share it with other users.

Story

Suppose that you are Kimberly Gibbs, a technical specialist in your company who is working on simple customizations. A sales manager of your company has requested a dashboard named *Sales Mgr Dashboard*. Every sales manager would like to have the capability to create a personal copy of the dashboard and populate it with widgets on their own. The dashboard should be visible to sales managers only and made available through a link in the **Opportunities** workspace under the **Dashboards** category.

Process Overview

In this activity, you will do the following:

1. Create a record for the dashboard on the *Dashboards* (SM208600) form and specify the requested settings. You will specify your role (*Administrator*) as the owner role of this dashboard so that you can design the dashboard later if this is requested.

2. Review how the access rights assigned to the dashboard are working. You will try to view the created dashboard as a technical specialist (with the *Administrator* role) and then as a sales manager (with the *Sales Manager* role).

3. Change access rights to the dashboard so that users with the *Administrator* role can open the dashboard in order to begin adding widgets to it.

System Preparation

Launch the Acumatica ERP website, and sign in to a tenant with the *U100* dataset preloaded as system administrator Kimberly Gibbs. You should sign in by using the *gibbs* username and the *123* password.

> ⓘ The *gibbs* user is assigned the *Administrator* role, which has sufficient access rights to manage the system configuration and to modify generic inquiries, advanced filters, pivot tables, and dashboards.

Step 1: Creating a Dashboard

To create the dashboard that the sales managers need, do the following:

1. Open the *Dashboards* (SM208600) form.
2. In the Summary area, in the **Name** box, type the name for the dashboard: `SalesMgrDashboard`.
3. In the **Owner Role** box, select *Administrator*.
4. Make sure that the **Allow Users to Personalize** check box is selected.
5. On the form toolbar, click **Save**.
6. On the form toolbar, click **Publish to the UI**. In the dialog box that opens, do the following:
   a. In the **Site Map Title** box, change the system-specified value, which was copied from the **Name** box, to `Sales Mgr Dashboard`.
   b. In the **Workspace** box, select *Opportunities*.
   c. In the **Category** box, leave the default value, *Dashboards*.
   d. In the **Screen ID**, leave the automatically assigned identifier.
   e. In the **Access Rights** section, select the **Set to Revoked for All Roles** option button.
   f. Click **Publish** to publish the dashboard and close the dialog box.
7. On the **Visible To** tab, do the following:
   a. Locate the row with *Sales Manager* in the **Role** column.

   > (i) You can use the search box in the left corner of the table footer.

   b. In the **Access Rights** column of this row, select *Granted* to assign this level of access rights to the role.
8. On the form toolbar, click **Save**.

You have created an empty dashboard, which will later be designed and populated with widgets. Because a workspace and category have been specified, a user with the *Sales Manager* role can access the dashboard through the workspace.

Step 2: Accessing the Dashboard

To review how the access rights you have specified for the dashboard are working, do the following:

1. While you are still signed in as *gibbs* (to which the *Administrator* role is assigned), navigate to the **Opportunities** workspace.

   > (i) If the **Opportunities** menu item is not on the main menu, click the **More Items** menu item and then click the **Opportunities** tile.

2. On the workspace footer, click the **Show All** button to expand the workspace menu, and look for the *Sales Mgr Dashboard* link under the **Dashboards** category.

   The system does not display a link to the dashboard you have created because you have limited the access to the dashboard to only those who have the *Sales Manager* role. The *Administrator* role does not have access to the dashboard.

> (i) In Step 1, you specified the *Administrator* role as the **Owner Role** of the dashboard, indicating that a user with this role assigned can design the dashboard and edit its settings. This setting does not control, however, whether the *Administrator* role can access the dashboard. The rights of all roles to the dashboard are specified on the **Visible To** tab of the *Dashboards* (SM208600) form.

3. Sign out, and then sign in by using the *chubb* username and the *123* password. These are the credentials of David Chubb, whose user account has the *Sales Manager* role.

4. Navigate to the **Opportunities** workspace, and click the *Sales Mgr Dashboard* link.

   The system opens the dashboard, indicating that users with the *Sales Manager* role can access the dashboard. On the dashboard title toolbar, notice that the **Create User Copy** button is available (as shown in the following screenshot). This illustrates that users with the *Sales Manager* role can create a personal copy of the dashboard.


Figure: Sales Mgr Dashboard viewed by a sales manager

Step 3: Changing the Assess Rights to the Dashboard

Now you need to change the access rights of the dashboard so that users with the *Administrator* role can open the dashboard in order to begin adding widgets. To change the access rights to the dashboard, do the following:

1. Sign out, and sign in by using the *gibbs* username and the *123* password. These are the credentials of the technical specialist with the *Administrator* role (which you used earlier).

2. Open the *Dashboards* (SM208600) form.

3. In the Summary area, in the **Name** box, select *SalesMgrDashboard*.

4. On the **Visible To** tab, do the following:

   a. Locate the row with *Administrator* selected in the **Role** column.

   b. In the **Access Rights** column of this row, select *Granted* to assign this level of access rights to the role.

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

6. Open the **Opportunities** workspace, and click the *Sales Mgr Dashboard* link.

> (i) If the dashboard link is not displayed in the workspace right away, refresh your browser window.

The system opens the dashboard, indicating that you have the needed access rights to view the dashboard. On the dashboard title toolbar, notice that the **Design** button is displayed (as shown in the following screenshot). This means that as an owner of the dashboard, you can populate it with widgets.

Figure: Sales Mgr Dashboard viewed by the owner of the dashboard

Part 2: Configuring Widgets

The lessons of this part explain how you can add various types of widgets to a dashboard and filter widget data.

Lesson 2.1: Specifying General Widget Settings

This lesson explains how you can configure widgets and change their caching settings.

Widget Settings: General Information

Acumatica ERP dashboards support various types of widgets, which have drill-down capabilities. By using the drill-down capabilities, you can navigate directly from a dashboard widget to the source of the data you are viewing, so that you can learn more about the data that is highlighted on the dashboard and take actions on it. This data might be, for example, key customers' details for the past 12 months or the number of projects that will be closed within 30 days.

Learning Objectives

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

- Recognize the types of widgets and their main features
- Configure different types of widgets
- Filter the data that is used for a widget

Applicable Scenario

You need to configure widgets when you are designing a new dashboard or modifying an existing one that requires changed or added widgets. Every widget type has a different appearance and serves a specific purpose.

Widget Type Selection

When you click **Add a New Widget** in a widget placeholder, the system opens the **Add Widget** dialog box. You select a widget type and click **Next** (see the following screenshot). The system opens the **Widget Properties** dialog box, whose elements you use to configure the settings of the widget.
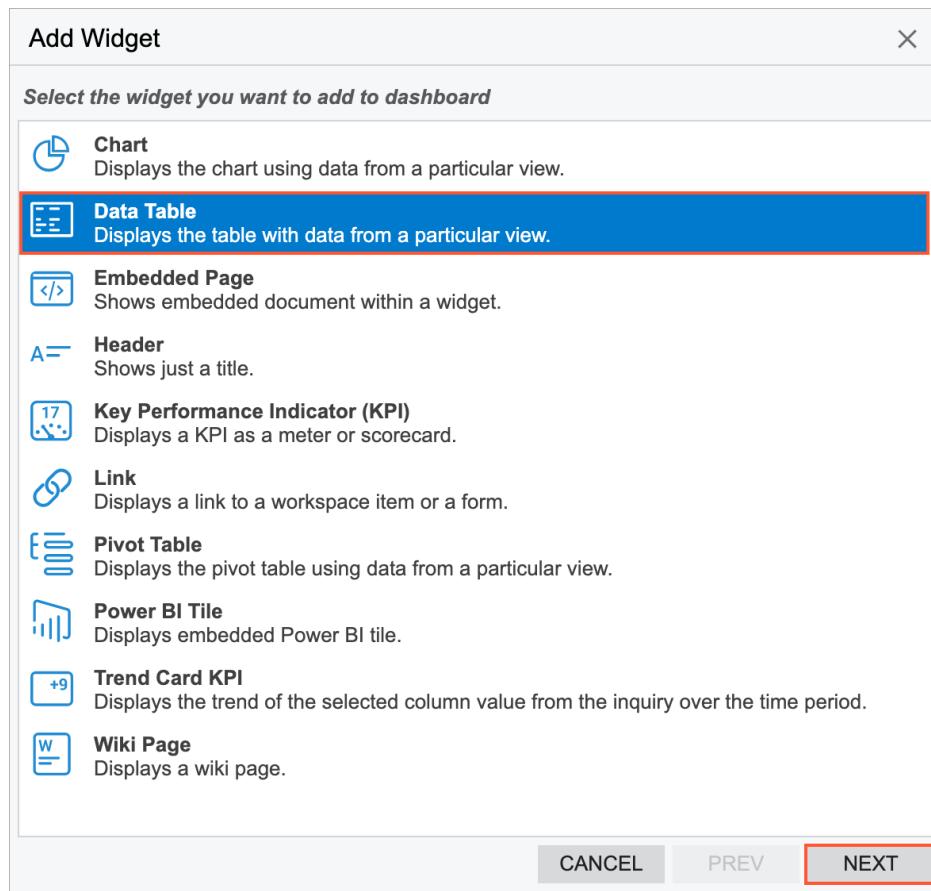
Figure: The Add Widget dialog box with the Data Table widget type selected

Caption

For all widget types, the **Caption** box, in which you specify the widget title, appears in the **Widget Properties** dialog box. The system displays the title in all capital letters in the widget, regardless of the capitalization you used while typing the title.

Caching of Dashboard Widgets

When a dashboard with many widgets is refreshed or opened, it may take a lot of time to load data for all widgets. Dashboard widgets can display information that is updated very frequently (such as every five minutes) or very rarely (such as once a week). When you design the dashboard, you can manage the interval at which the system refreshes data for each widget.

You can specify the interval at which the system refreshes data (see the following screenshot) or you can switch off caching by using the **Refresh Data** box of the **Widget Properties** dialog box for any type of widget.
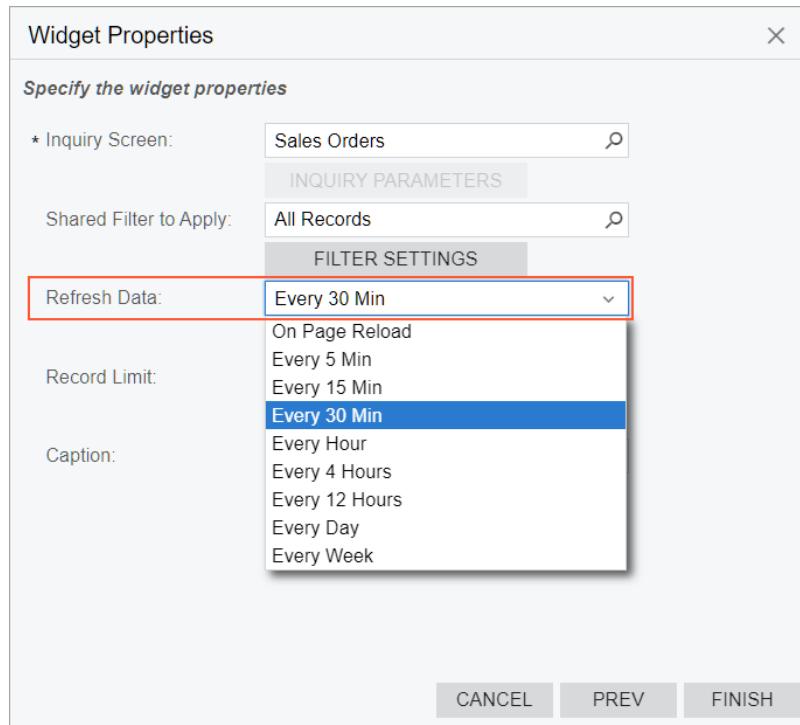
Figure: Caching settings of a widget

After you specify the refresh interval for a widget, the system loads the widget data from the database and caches the data when a user opens the dashboard with the widget for the first time. When the dashboard is reopened or the dashboard page is refreshed by the user, the system displays the data in the widget from the cache (that is, it does not load the data from the database) if the data was updated a shorter time ago than the interval specified in the **Refresh Data** box.

To switch off caching for a particular widget and make the system update the widget's data each time a dashboard is opened or refreshed, the dashboard designer should select *On Page Reload* in the **Refresh Data** box for the widget.

A user can view information about how much time has passed since the last update of a widget's data in the pop-up toolbar that appears when the user points to the widget (as shown in the following screenshot). The user can manually update the widget data by clicking **Update** on this toolbar.
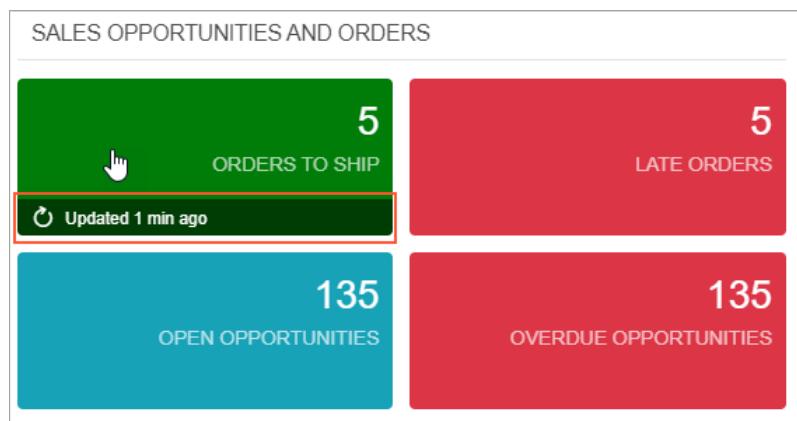
Figure: The elapsed time since the last update of the widget's data

Widget Settings: To Change a Widget's Title and Caching Settings

The following activity will show you how to change a widget's title (caption) and its caching settings.

Story

Suppose that you are David Chubb, a sales manager of the SweetLife Fruits & Jams company. You have created your own copy of the predefined *Controller* dashboard in order to monitor the balances of customers. Also, you have defined this dashboard as your home page.

You would like to change the predefined title for the *Overdue Customers* widget to *Overdue Customer Accounts*. Also, you would like the list of the top overdue balances to be updated every day, instead of using the default setting (which is *On Page Reload*).

Process Overview

In this activity, you will do the following:

1. Switch on design mode for the dashboard
2. Change the caption of a widget
3. Change the caching settings of a widget

System Preparation

Before you start adding the widgets, launch the Acumatica ERP website, and sign in to a tenant with the *U100* dataset preloaded as sales manager David Chubb with the *chubb* username and the *123* password.

Step: Changing the Widget's Title and Caching Settings

To modify the settings of the widget, do the following:

1. Open the *Controller* dashboard.

   > (i) The system displays the dashboard after you sign in, because you defined it as your home page. If you have opened some other form after signing in, click Home in the top left corner of the screen (usually a company logo is displayed there).

2. On the dashboard title bar, click the **Design** button.
3. On the title bar of the *Overdue Customers* widget, click Edit (the pencil icon).
4. In the **Widget Properties** dialog box, in the **Caption** box, change the title of the widget to `overdue customer accounts`.
5. Click **Finish** to save your changes and close the dialog box.
6. On the title bar of the *Top Overdue Balances* widget, which is located at the bottom of the *Controller* dashboard, click Edit.
7. In the **Widget Properties** dialog box, in the **Refresh Data** box, select the *Every Day* option.
8. Click **Finish** to save your changes and close the dialog box.
9. On the dashboard title bar, click the **Design** button.
10. Wait for a minute and refresh the browser page. Point to each widget with a mouse. Notice that the system has updated the information for all the widgets on the dashboard, except for the *Top Overdue Balances* table

widget and the *Customer Details* link widget. The *Top Overdue Balances* table widget was updated a minute ago (see the following screenshot).


Figure: The information about the widget's last data update

You have modified the title and caching settings of a widget.

Lesson 2.2: Configuring Header, Table, Link, and Embedded Page Widgets

This lesson explains how you can add a header, table, link, and embedded page widgets to the dashboard and configure their settings.

Widgets: Header Widgets

We recommend that you place widgets on a dashboard in ways that help users to grasp the information. During the design of a dashboard, you may want to organize widgets into sections and add a header to each section.

Applicable Scenario

You use a header widget to group multiple widgets under a caption (that is, a header), so that users can find the information they need more quickly.

Header Widgets

A header widget is a box with a fixed height, white background, and gray bottom border. For an example of header widgets, see the *CASH KPIS* and *OVERDUE KPIS* header widgets in the following screenshot.
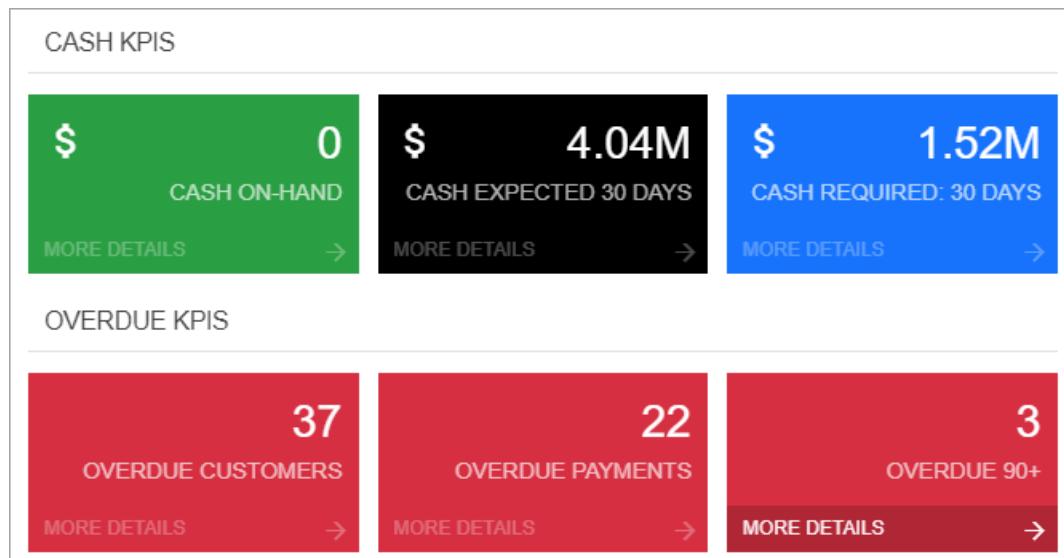
Figure: Widgets grouped in sections under two header widgets

To add a header widget, you select the **Header** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder. In the **Widget Properties** dialog box, you enter the caption you would like to use in the **Caption** box (see the following screenshot). The system displays it in all capital letters on the dashboard.
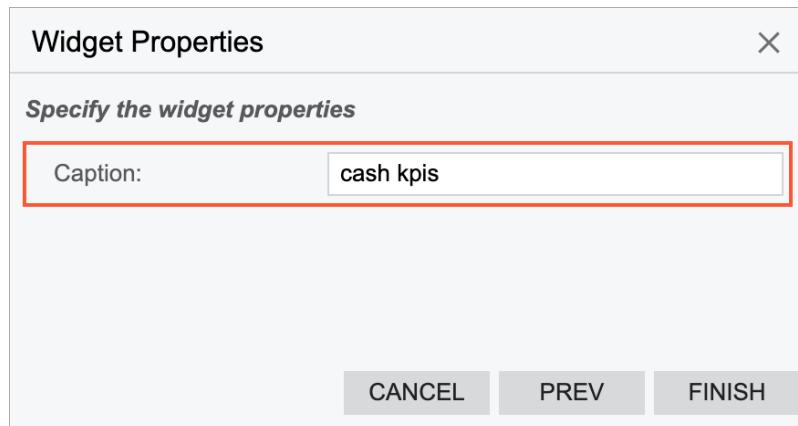
Figure: Properties of a header widget

Widgets: Table Widgets

You can use tables as widgets on dashboards. Although tables are not as eye-catching as charts, they are often the best way to help the viewer grasp key ideas about the data. Acumatica ERP gives you the ability to add data tables and pivot tables to a dashboard as widgets.

Applicable Scenario

You use a data table widget when you want to show multiple types (columns) of data for each data record (row). To show summarized data of a more extensive table, you use a pivot table widget.

Data Source for Table Widgets

Table widgets show the data collected by a generic inquiry from the system database. You can use a predefined generic inquiry or develop one that suits your needs.

Also, you can compose a pivot table based on a generic inquiry on the *Pivot Tables* (SM208010) form and then use the table as a source for a pivot table widget.

Data Table Widgets

A table is an arrangement of numerical data in rows and columns. It is designed to show a set of related facts in a compact yet comprehensive form. For an example of a data table widget, see the following screenshot.

HIGH PRIORITY CASES

Case ID	Severity	Subject	Account Name	Owner Name
000160	Medium	Credit Hold inquiry	Veracity Credit Co...	Regina Wiley
000124	High	Client cannot access s...	Artcages	Maxwell Baker
000123	High	SaaS service request -...	Widget Connection	Alberto Jimenez
000117	Medium	Request for billing credit	Bibimbab Korean ...	Regina Wiley
000116	High	Billing address change	WFAN Radio	Regina Wiley

Figure: Data table widget

To add a data table widget, you select the **Data Table** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder. You select the generic inquiry to use as a source in the **Inquiry Screen** box of the **Widget Properties** dialog box.

By clicking the **Column Settings** button, you open the standard **Column Settings** dialog box, where you can specify which columns to show and in what order. You can select the columns for display from only the set of columns defined for the generic inquiry on the *Generic Inquiry* (SM208000) form.

Also, you can limit the number of records to show by selecting the **Automatically Adjust Height** check box and specifying the number in the **Record Limit** box. In this case, you will not be able to adjust the widget height manually. The system locks the widget height to accommodate the specified number of rows.

The following screenshot shows an example of the configuration settings of a table widget that lists customer records.
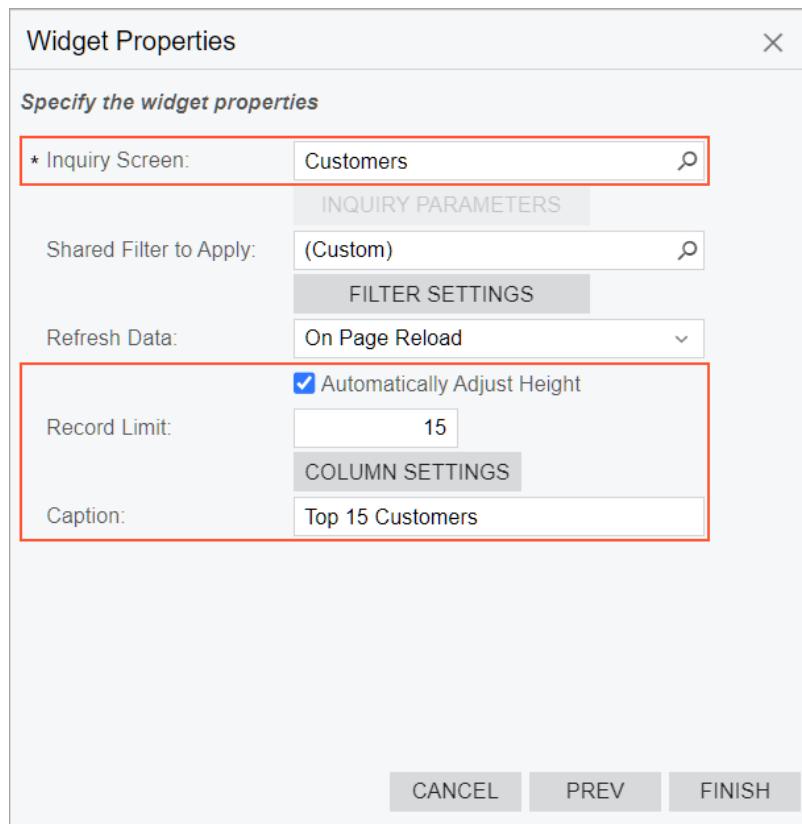
Figure: Properties of a table widget

Pivot Table Widgets

A pivot table is an arrangement of numerical data in rows and columns. It is designed to show a set of data based on a generic inquiry. The following screenshot shows an example of a pivot table widget.

CASE TRENDS BY SUPPORT TECH

Owner Name	2022 - Jan	2022 - Apr	2022 - May	2022 - Aug	Total
Is Empty				1	1
Chris Worobey	5	1			6
Fadi Kabuk	19				19
Michal Hampejs	1				1
Regina Wiley	5	1	1	1	8
Total	30	2	1	2	35

Figure: Pivot table widget

To add a pivot table widget, you select the **Pivot Table** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder. In the **Widget Properties** dialog box, you select the inquiry to use as a source in the **Inquiry Screen** box. Multiple pivot tables can be based on a single inquiry, so in the **Pivot Table** box, you select the table to be displayed. You also specify the name of the pivot table widget in the **Caption** box.

The following screenshot shows an example of the configuration settings of a pivot table widget that summarizes case information.

Figure: Properties of a pivot table widget

Widgets: Link Widgets

You can add a link to an Acumatica ERP form as a widget on a dashboard. When a user clicks the link, the system opens the corresponding form in a new tab, in the same tab or in the pop-up window (depending on the setting you specify).

Applicable Scenarios

You use a link widget to give users the ability to easily navigate to the needed form right from the dashboard. You may need this in either or both of the following cases:

- You are using a dashboard as a starting point of your day-to-day operations and want to have your most-used forms on one page.
- You track metrics that require immediate action, so you want to place a link to a form next to the widget that tracks the metrics. For example, if a dashboard has a scorecard that displays the current quantity of some stock item, you can place next to the scorecard a link to the *Purchase Orders* (PO301000) form.

Link Widget

A link widget is a rectangle with the name of a form in blue type on the white background. Optionally, it may display an icon of your choice in the upper left corner and a form description you provide under the form name. The following screenshot shows an example of a link widget.
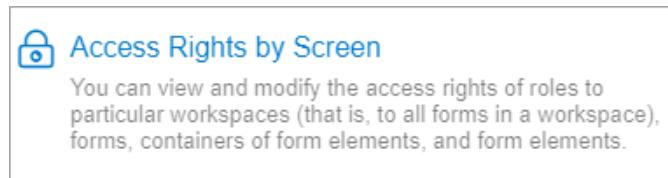
Figure: Link widget

To add a link widget, you select the **Link** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder.

In the **Widget Properties** dialog box, you select the Acumatica ERP form in the **Form** box. In the **Window Mode** box, you select *New Tab*, *Same Tab*, or *Pop-Up Window* to define how the system should open the form. You can use the default form title or use the **Caption** setting to specify another title for the form link on a dashboard. To provide more information about the form, you can also add a description for the form link in the **Description** box. In the **Icon** box, you can select any of the predefined icons to be displayed in the widget.

Adding Parameters to a Link

If the employees of your organization frequently create an entity with a particular set of settings, you can make this operation faster by adding a link that includes the needed settings. For example, a link could be added that a user can click to open the *Vendor Details* (AP402000) form with a particular vendor selected in the **Vendor** box.

To indicate the elements and values that need to be provided to the system when a user clicks the link, you specify fields and their values as URL parameters in the **Widget Parameters** dialog box for the link (which is opened when you select a widget type in the **Add Widget** dialog box or click Edit on a title bar of an existing widget). You can add multiple parameters separated by *&*.

To determine the URL parameters, for some boxes located in the Summary or Selection area of a form, you can open the form, select the box value in the area, and look at the form URL. The system adds to the URL the parameter that corresponds to the box on a form with the selected value, as shown in the following screenshot.
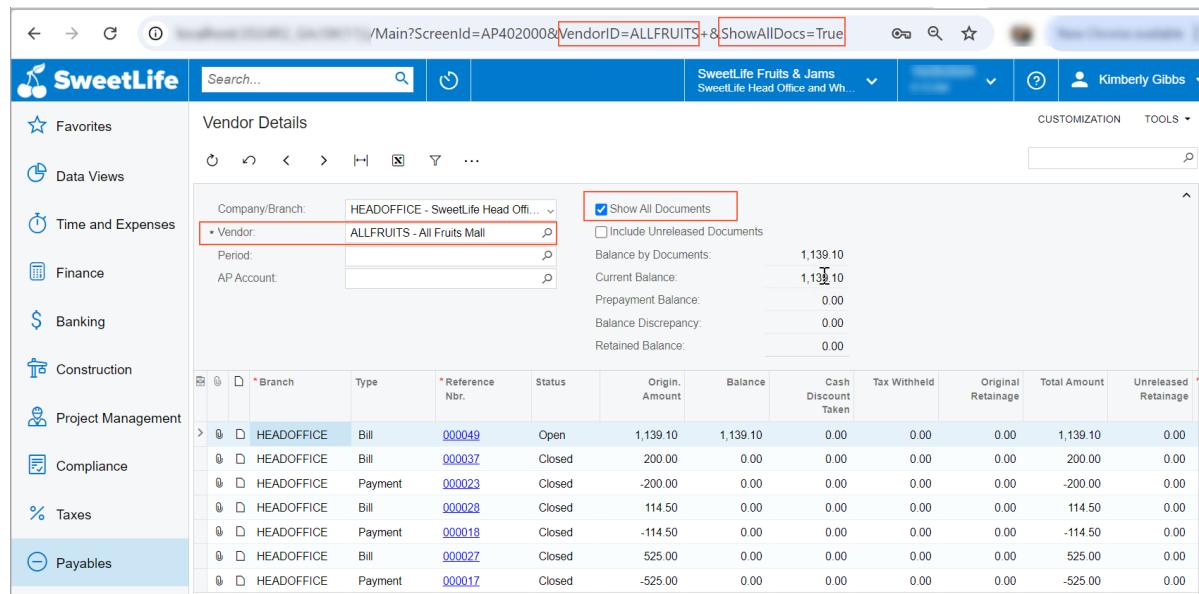
Figure: The correspondence of form boxes with URL parameters

Alternatively, to determine the URL parameters for the boxes that the system does not add as URL parameters, you can inspect each form element and find out what data field corresponds to the element. On the form that the link will open, you press Ctrl+Alt and click the needed element. The **Element Properties** dialog box opens. In the dialog box, you copy the value specified in the **Data Field** box, as the following screenshot shows for the **Vendor** box of the *Bills and Adjustments* (AP301000) form. In the URL shown in the screenshot, notice that the system has

added to the URL only the document type and its reference number, because these two values explicitly identify the document, so adding other parameters to the URL is not needed.
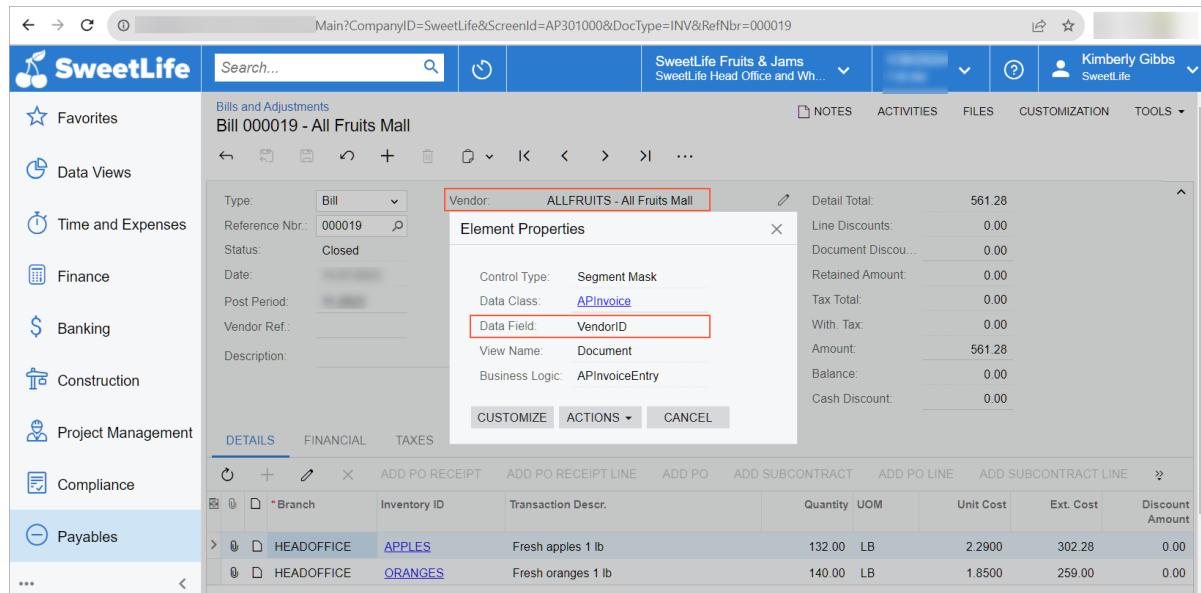
Figure: The inspection of a form element

After you find out which data fields correspond to all the elements whose settings you want to provide to the system when a user clicks the link, you add the parameters for the link widget. You open the **Widget Properties** dialog box for the needed link widget and specify the parameters in the **Parameters** box. The following screenshot shows an example of the configuration settings of a link widget.
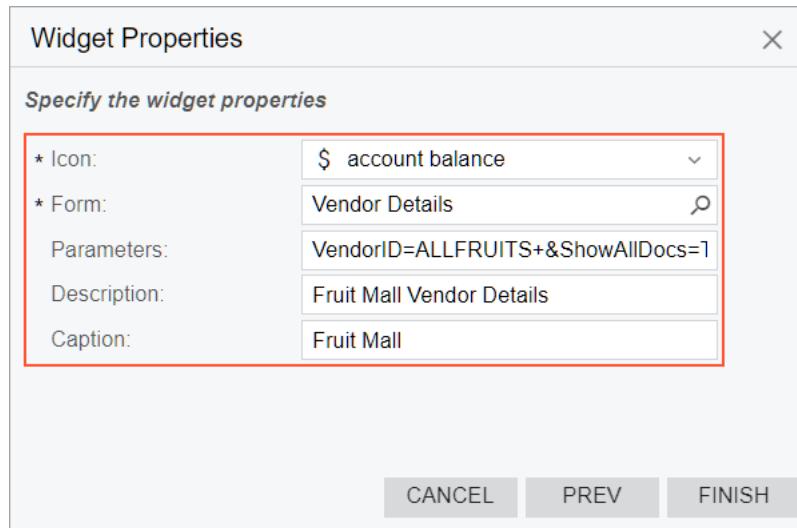
Figure: Properties of a link widget

Widgets: Embedded Page Widgets

You can embed a page from an external website as a widget on a dashboard.

Applicable Scenario

You use an embedded page widget to display important information from external systems in Acumatica ERP to provide dashboard users with consolidated information on one dashboard. An embedded page may display, for example, a currency rate, a weather forecast, or a document from an external cloud storage.

Embedded Page Widgets

An embedded page widget is a widget that displays a webpage, as shown in the following screenshot.
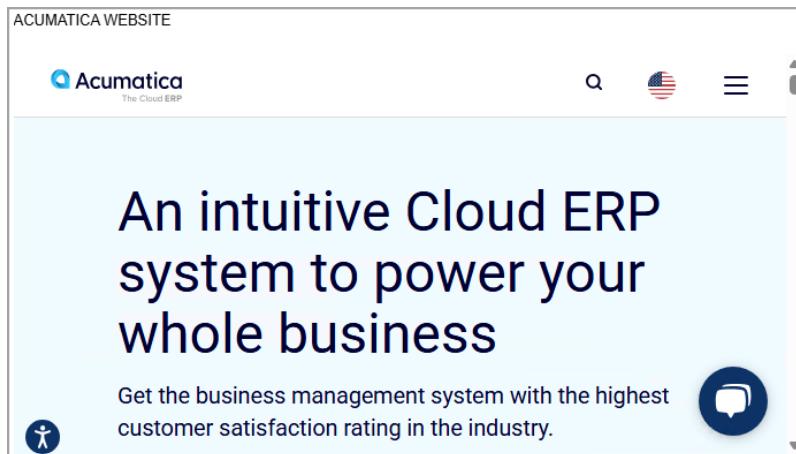
Figure: Embedded page widget

To add an embedded page widget, you select the **Embedded Page** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder. In the **Widget Properties** dialog box, you specify the URL of the webpage to be displayed on the dashboard in the **Source** box and its caption in the **Caption** box.

The following screenshot shows an example of the configuration settings of an embedded page widget.
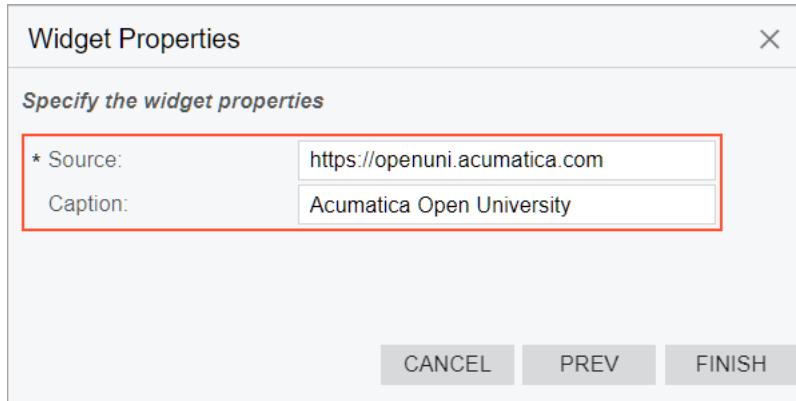
Figure: Properties of an embedded page widget

Widgets: To Add Link, Table, and Embedded Page Widgets

The following activity will show you how to add and configure link, table, and embedded page widgets.

Story

Suppose that you are Kimberly Gibbs, a technical specialist in your company who is working on simple customizations. A sales manager of your company had previously requested a dashboard named *Sales Mgr Dashboard*, and you created the requested dashboard form. The sales manager has now requested that you add the following widgets to the dashboard:

- A link to the *Customer Details* (AR402000) form
- A table that lists customer accounts and has the following columns: **Customer ID**, **Customer Name**, **Country**, **City**, **Terms**, and **Customer Status**
- An embedded page that displays the Acumatica website or the website of your company

Process Overview

In this activity, you will add and configure widgets of the following types: link, table, and embedded page.

System Preparation

Launch the Acumatica ERP website, and sign in to a tenant with the *U100* dataset preloaded as system administrator Kimberly Gibbs. You should sign in by using the *gibbs* username and the *123* password.

> (i) The *gibbs* user is assigned the *Administrator* role, which has sufficient access rights to manage the system configuration and to modify generic inquiries, advanced filters, pivot tables, and dashboards.

Step 1: Adding a Link Widget

To add a link widget, do the following:

1. On the main menu, click the **Opportunities** menu item to open the **Opportunities** workspace, and click the *Sales Mgr Dashboard* link.

   > (i) If the **Opportunities** menu item is not on the main menu, click the **More Items** menu item and then click the **Opportunities** tile.

2. On the dashboard title bar, click **Design**.

3. In the widget placeholder, click **Add a new widget**.

4. In the **Add Widget** dialog box, select **Link** and click **Next**.

5. In the **Widget Properties** dialog box, specify the following settings:

   - **Icon**: *account details*
   - **Form**: *Customer Details (AR402000)*
   - **Window Mode**: *New Tab*
   - **Description**: `You use this form to track outstanding balances for a specific customer.`

6. Click **Finish** to save your changes and close the dialog box.

Step 2: Adding a Table Widget

To add a table widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, in the widget placeholder below the link widget, click **Add a new widget**.

2. In the **Add Widget** dialog box, select **Data Table** and click **Next**.

3. In the **Widget Properties** dialog box, in the **Inquiry Screen** box, select *Customers (AR3030PL)*.

4. Click **Column Settings**.

5. In the **Column Settings** dialog box, move the following columns from the **Selected Columns** list to the **Available Columns** list:

   - *Customer Class*
   - *Currency ID*
   - *Customer Status*
   - *State*

6. Click **OK** to save your changes and close the dialog box.

7. In the **Caption** box, type `customer accounts`.

8. Click **Finish** to save your changes and close the dialog box.

Step 3: Adding an Embedded Page Widget

To add an embedded page widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, in the widget placeholder next to the link widget, click **Add a new widget**.

2. In the **Add Widget** dialog box, which opens, select **Embedded Page** and click **Next**.

3. In the **Widget Properties** dialog box, specify the following settings:

   - **Source**: address of your company website or `https://acumatica.com`
   - **Caption**: `<company name> website` or `acumatica website`

4. Click **Finish** to save your changes and close the dialog box.

5. Drag the bottom border of the widget to change its height until you are satisfied with the information displayed.

6. On the dashboard title bar, click the **Design** button.

You have added widgets of the following types to the dashboard: link, table, and embedded page (see the following screenshot).
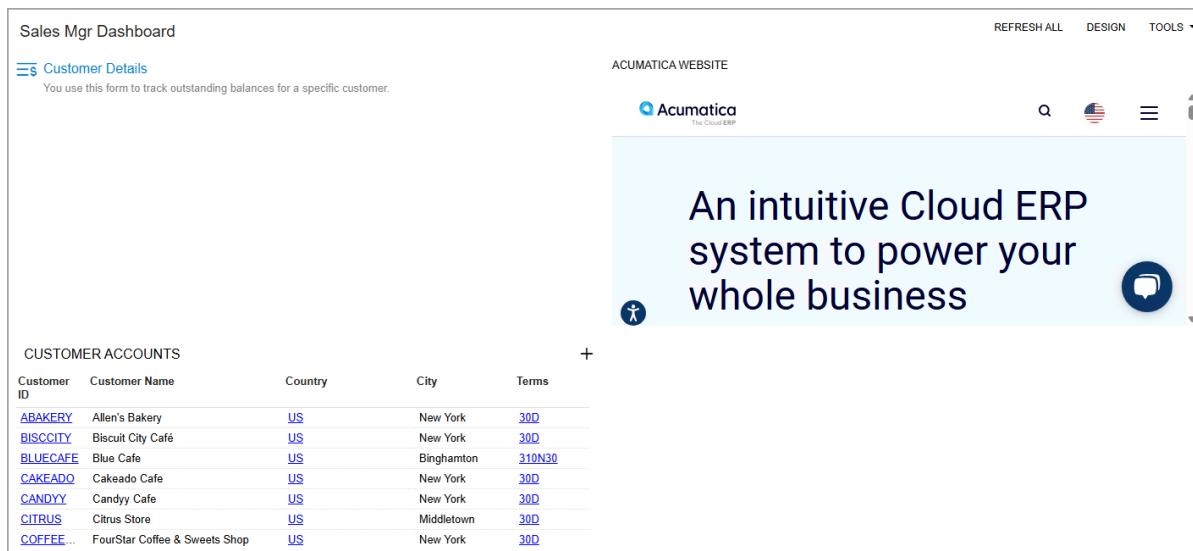
Figure: Sales Mgr Dashboard with the link, table, and embedded page widgets

Lesson 2.3: Configuring KPI Widgets

This lesson explains how you can add KPI widgets to the dashboard and configure their settings.

Widgets: KPI Widgets

A KPI widget is a ticker that will give you an immediate overview of a particular key performance indicator (KPI). In Acumatica ERP, you can configure a scorecard, meter, or trend card widget to track KPI.

Applicable Scenarios

You use KPI widgets to show any of the following:

- Single parameters that are critical for particular business processes in your organization, such the number of new support cases from customers
- Progress against a key business indicator, such as the current number of deals against the goal number
- A trend of metrics that change over time, such as the total sum of closed deals in the current month in comparison to the sum in the previous month, so you can see if it is increasing or decreasing

Data Source for KPI Widgets

The source of the calculation of a KPI is data collected by an inquiry from the system database. You select a source inquiry in the **Inquiry Screen** box of the **Widget Properties** dialog box for a KPI widget (see Item 1 in the screenshot below). You can use a predefined inquiry or develop one that suits your needs by using the *Generic Inquiry* (SM208000) form.

Each column of a generic inquiry is a data field configured in the inquiry settings. It can be a data field from an existing database table or a custom data field whose value is calculated by the system based on the formula specified for this field in the generic inquiry.

By using data fields from the generic inquiry specified as a source for the widget you are configuring, you define the metric to track with the widget in the **Field to Aggregate** box (Item 2). Also, you can use data fields to define thresholds of KPI if you select the *Inquiry Field* option in the **Normal Level Type** or **Alarm Level Type** box (Item 3).
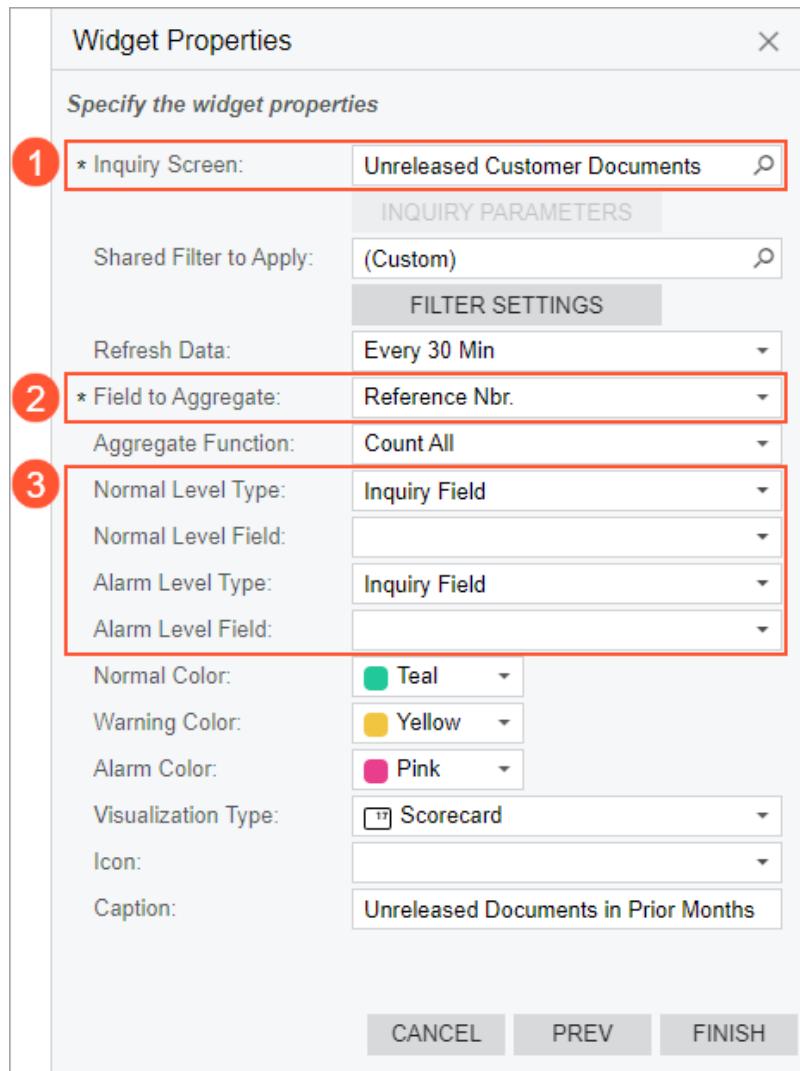
Figure: The settings of a KPI widget where a user can use data fields of a source inquiry

Operations Used to Calculate a KPI

A KPI is a measurement that evaluates the performance of a business activity. To measure the business activity, you need to define the data field and the operation to perform upon the values provided by the field.

In the **Widget Properties** dialog box for a KPI widget, you specify a data field by selecting a column from the source generic inquiry in the **Field to Aggregate** box. In the **Aggregate Function** box, you select one of the following operations:

- *Average*: Calculates the average value in the column.
- *Count All* (default value): Determines the number of unique items in the column.
- *Max*: Determines the highest individual value in the column. For text data, the highest value is the last alphabetic value. This function ignores null values.
- *Min*: Determines the lowest individual value in the column. For text data, the lowest value is the first alphabetic value. This function ignores null values.
- *Sum*: Calculates the sum of the items in the column.

The system performs the selected operation on the data from the specified column and displays the result on the KPI widget.

Threshold Values of KPI Widgets

To measure the performance of a business activity, you need to define thresholds that help you gauge success and failure (that is, what number is considered to be successful performance and what number is considered unsuccessful).

In Acumatica ERP, a KPI value can be placed in any of the following ranges: normal, warning, and alarm. In the **Widget Properties** dialog box for a KPI widget, you can define the upper bound of the normal range (the **Normal Level** or **Normal Level Field** box) and the lower bound of the alarm range (the **Alarm Level** or **Alarm Level Field** box). The system calculates the warning range as the difference between these two values. You can identify the ranges on a widget by the colors assigned to each range.

To define the upper bound of the normal range or the lower bound of the alarm range, you should first select a source type for the thresholds and then specify the values that will indicate bounds. The following source types are available:

- *Fixed Value*: The value to be specified for the level is any positive or negative integer or decimal number.
- *Inquiry Field*: The value to be specified for the level is any inquiry field (that is, any field represented by a column in the results grid of the inquiry form selected in the **Inquiry Screen** box) that contains numeric values. The system adds up the values in the column of the specified field. That is, it uses the SUM operation for the returned results.
- *Percent Value*: The value to be specified for the level is any positive or negative integer or fractional number that represents the percent value (without %). If the percent value is specified for the normal level, the system calculates it as the percentage of the value specified for alarm level. If the percent value is specified for the alarm level, the system calculates it as the percentage of the value specified for the normal level. Thus, you can select this option as a source either for the normal level or for the alarm level.

You select a source type for both the normal level (success) and the alarm level (failure) and then specify the exact values. You can select different source types for both levels if it works for your KPI.

Background Colors of KPI Widgets

The background color of the KPI widgets is used to convey the trend of the KPI. The color helps viewers to instantly understand whether immediate action is needed or the KPI is under control.

In Acumatica ERP, you can specify colors for the normal, warning, or alarm levels for the scorecard and meter widgets. Similarly, for a trend card, you can specify the colors that indicate whether a trend is rising, flat, or falling.

If a number you are tracking is for informational purposes only and its change does not require any action, you can specify the same color for all three KPI positions.

Visual Representation of Ranges

When you have specified the source and the values for the upper bound of the normal range and the lower bound of the alarm range and you have assigned colors to each range, the system calculates the bounds for each range and shows them in the widget.

Suppose that in the **Widget Properties** dialog box, you have assigned the colors to the ranges as follows:

- **Normal Color**: *Green*
- **Warning Color**: *Yellow*
- **Alarm Color**: *Red*

If the **Normal Level** value specified in the **Widget Properties** dialog box is a positive number and less than the **Alarm Level** value, then the system defines the bounds for each range as follows:

- Normal range: From zero to the **Normal Level** value
- Warning range: From the **Normal Level** value to the **Alarm Level** value
- Alarm range: From the **Alarm Level** value to the **Alarm Level** value plus 20 percent of the sum of the **Normal Level** value and the **Alarm Level** value

Suppose that the **Normal Level** value is 25 and the **Alarm Level** value is 50. The system will calculate the ranges as shown in the following screenshot.
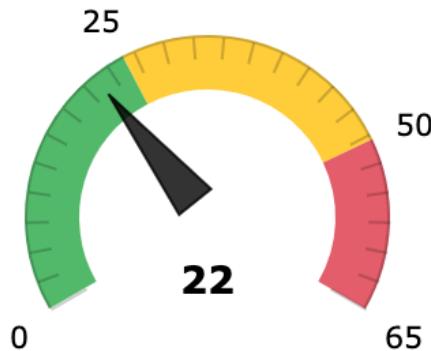

Figure: Range placement if the Normal Level value is positive and less than the Alarm Level value

If the **Normal Level** value is a negative number and less than the **Alarm Level** value, the system defines the bounds for each range as follows:

- Normal range: From the **Normal Level** value plus 20 percent of the range between the **Normal Level** value and the **Alarm Level** value to the **Normal Level** value
- Warning range: From the **Normal Level** value to the **Alarm Level** value
- Alarm range: From the **Alarm Level** value to the **Alarm Level** value plus 20 percent of the range between the **Normal Level** value and the **Alarm Level** value

Suppose that the **Normal Level** value is minus 25 and the **Alarm Level** value is 50. The system will calculate the ranges as shown in the following screenshot.
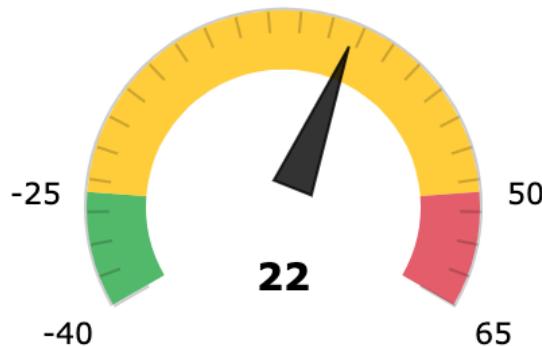

Figure: Range placement if the Normal Level value is negative and less than the Alarm Level value

If the **Normal Level** value is a positive number and larger than the **Alarm Level** value, the system defines the bounds for each range as follows:

- Normal range: From the **Normal Level** value to the **Normal Level** value minus 20 percent of the sum of the **Normal Level** value and the **Alarm Level** value
- Warning range: From the **Alarm Level** value to the **Normal Level** value
- Alarm range: From zero to the **Alarm Level** value

Suppose that the **Normal Level** value is 75 and the **Alarm Level** value is 35. The system will calculate the ranges as shown in the following screenshot.
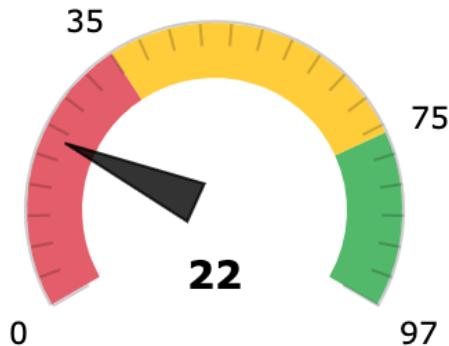

Figure: Range placement if the Alarm Level value is less than the Normal Level value

Scorecard Widget

A scorecard is a rectangle with a number and title in the upper right corner. Optionally, it can display an icon of your choice in the upper left corner and a different background color to indicate a change in the value it is showing.

A scorecard widget is useful when you need to monitor single parameters that are critical for particular business processes in your organization. For example, a scorecard can display the number of new support cases from customers. For an example of a scorecard KPI widget, see the following screenshot.
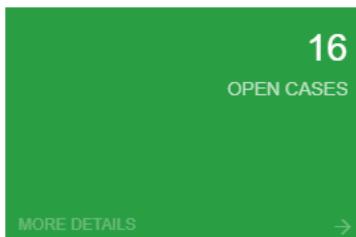
Figure: Scorecard KPI widget

To add a scorecard widget, you select the **Key Performance Indicator (KPI)** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder. You specify the following information in the **Widget Properties** dialog box:

- The inquiry to provide data for the widget
- The column from the inquiry to be used for calculation
- The operation to perform with the column values
- The normal and alarm level types
- The threshold values for normal and alarm levels
- The colors for the widget background based on the level

The following screenshot shows an example of the configuration of a scorecard that displays the current number of open opportunities in the system.
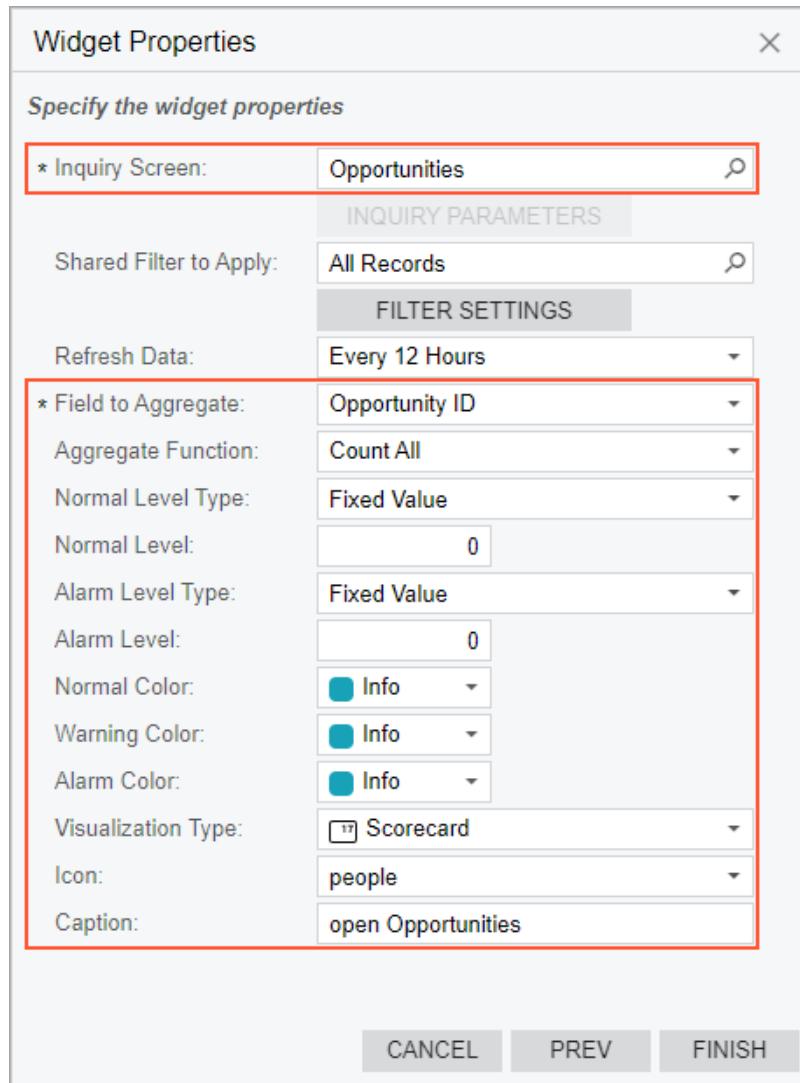
Figure: Properties of a scorecard widget

Meter Widget

A meter widget uses a needle and colors to show data similarly to a reading on a speedometer. Meters are useful when you need to monitor all levels of the data (normal, warning, and alarm), with the colors and values that the user designing the widget has assigned to each level. For an example of a meter KPI widget, see the following screenshot.
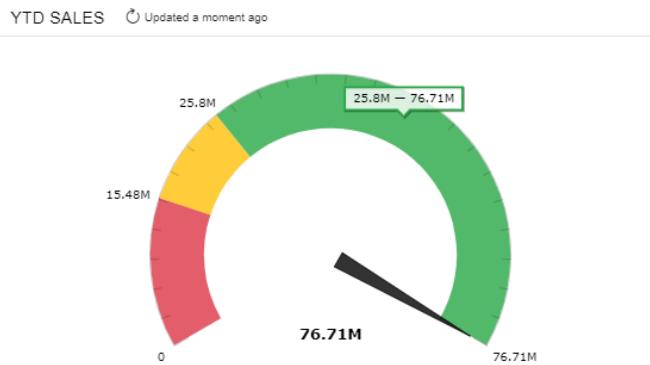
Figure: Meter KPI widget

The system builds the view of each widget automatically, based on the properties specified for the widget in the **Widget Properties** dialog box. If the numbers defining the ranges of the normal, warning, and alarm levels (for the selected field of the specified form) are positive, then the starting point of the meter is *0*; if any number defining the levels is negative, then the starting point of the gauge is a negative number.

You configure the widget in the same way as you configure a scorecard widget, except that you select the *Meter* option in the **Visualization Type** box of the **Widget Properties** dialog box.

Trend Card Widget

The KPI values to be displayed on the trend card KPI widget are calculated based on the selected period, the aggregate function, and the current business date.

> ⚠️ The source inquiry should include a date parameter to be used by the system for the calculation of a trend.

For example, suppose that you want to display the number of support cases and compare it with the number in the previous month on the trend card KPI widget. The inquiry should include the date when a case was created. By using this date, the system will calculate the number of cases created during a particular period of time. Further suppose that the current business date is July 14, 2025. To find the current KPI value, the system counts the number of cases from July 1, 2025, to July 14, 2025. To find the difference, the system counts the number of cases in the previous calendar month—from June 1, 2025, to June 14, 2025—and calculates the difference between the current value and the previous one. Then the absolute difference, the difference expressed as a percent, and the current number of cases are displayed in the widget.

The following screenshot shows an example of a trend card KPI widget and its elements.
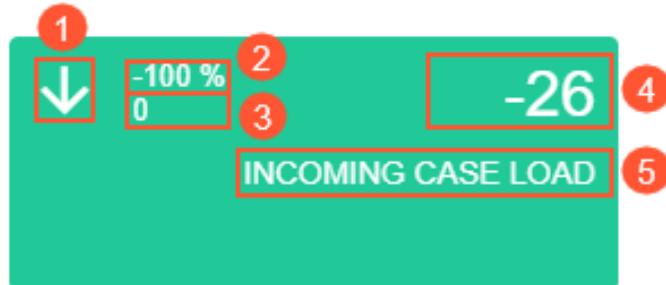

Figure: Trend card widget

The trend card widget consists of the following parts:

1. An arrow that shows whether the trend is rising or falling

2. The difference in the percent between the current KPI value and the previous one

3. The current KPI value

4. The difference between the current KPI value and the previous one

5. The trend card title (caption)

The color of the background indicates whether a trend is rising, falling, or flat.

To add a trend card widget, you select the **Trend Card KPI** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder. You specify the following settings in the **Widget Properties** dialog box:

- The inquiry form to provide data for the dashboard
- The column from the inquiry to be used for calculation
- The operation to perform with the column values to calculate the KPI
- The timeline field from the inquiry to provide data about dates
- The period for comparison
- The trend name, which is displayed in all capital letters on the card
- The colors for the widget background based on the trend direction

The following screenshot shows an example of the configuration of the trend card widget to calculate the number of created cases in a month in comparison to the previous month.
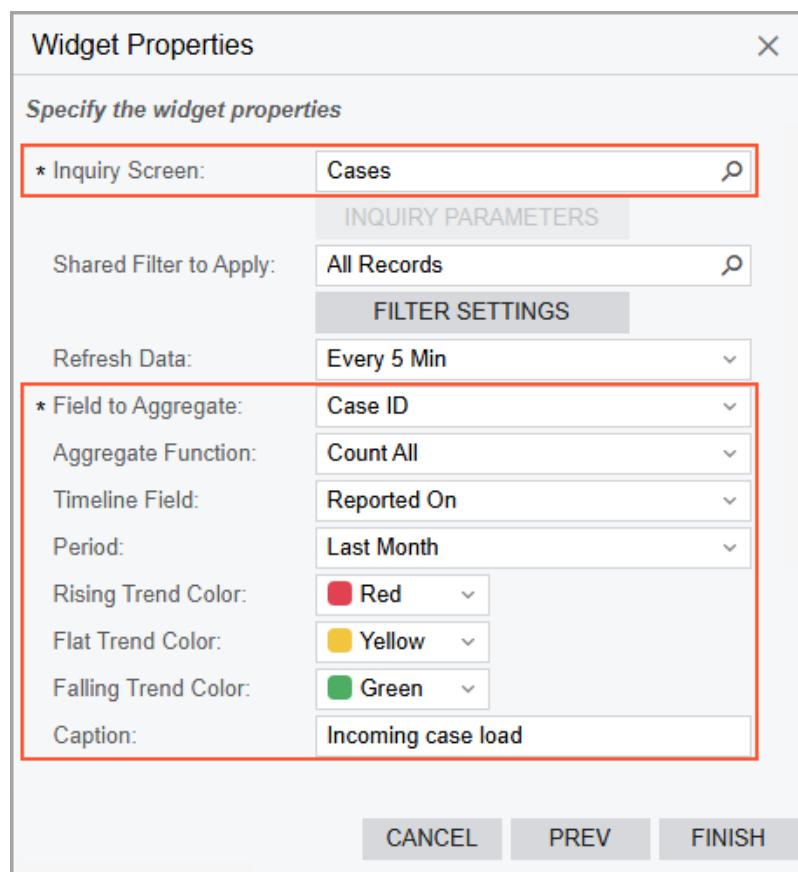
Figure: Properties of a trend card widget

Widgets: To Add KPI Widgets

The following activity will show you how to add and configure scorecard, meter, and trend card widgets.

Story

Suppose that you are Kimberly Gibbs, a technical specialist in your company who is working on simple customizations. A sales manager of your company had previously requested a dashboard named *Sales Mgr Dashboard*. You had created the requested dashboard form. The sales manager has now requested that you add the following widgets to the dashboard to track the described KPIs:

- *Profitability Trend*: The trend for the cumulative margin percentage in comparison to the previous week
- *Number of Customers*: The current number of customers (which is 33 at the moment) in comparison with the department goal to have at least 50 customers by the end of the next quarter
- *Orders to Ship*: The current number of sales orders ready to ship, which should not exceed 50 percent of the number the department defines as a high load (40 open orders at a time)

Also, the new KPI widgets should be located in the upper left corner of the dashboard, and the *Orders to Ship* widget should be separated from the upper widgets, which have the *Sales Orders* header.

Process Overview

In this activity, you will change the dashboard layout and rearrange the existing widgets to accommodate more widgets. Then you will add and configure widgets of the following types: trend card, meter, header, and scorecard.

System Preparation

In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2025*. If a different date is displayed, click the Business Date menu button, and select *1/30/2025* on the calendar.

Step 1: Modifying the Dashboard Layout

You previously added three widgets to the *Sales Mgr Dashboard* dashboard. You need to rearrange the existing widgets to free up the upper left corner for KPIs. To change the layout, do the following:

1. On the main menu, click the **Opportunities** menu item to open the **Opportunities** workspace, and click the *Sales Mgr Dashboard* link.

   > (i) If the **Opportunities** menu item is not on the main menu, click the **More Items** menu item and then click the **Opportunities** tile.

2. On the dashboard title bar, click the **Design** button.

3. On the dashboard title bar, click the **Edit Layout** button.

4. In the **Dashboard Layouts** dialog box, which opens, do the following:

   a. Select the layout template where both working areas have the same width.

   b. Click **OK**. The dialog box is closed, and the dashboard widgets are arranged within the selected layout.

5. Move the *Customer Details*, *Customer Accounts*, and *Acumatica Website* widgets to the right working area, and modify their widths and heights to accommodate the information they display. The modified dashboard should be similar to the dashboard in the following screenshot.
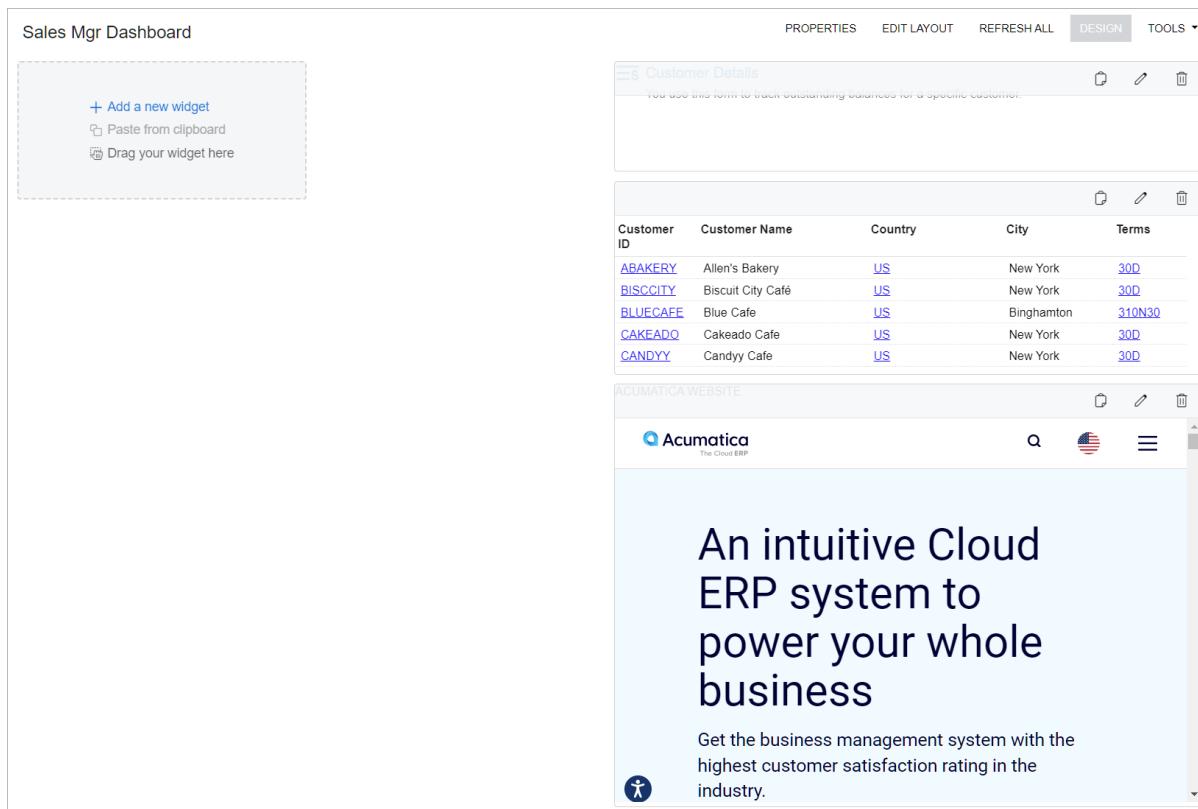
Figure: The dashboard with the changed layout and rearranged widgets

Step 2: Adding a Trend Card Widget

To add a trend card widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, in the widget placeholder in the upper left corner, click **Add a new widget**.

2. In the **Add Widget** dialog box, which opens, select **Trend Card KPI** and click **Next**.

3. In the **Widget Properties** dialog box, which opens, specify the following settings:

   - **Inquiry Screen**: *Sales Profitability Analysis (AR409000)*
   - **Field to Aggregate**: *Margin %*
   - **Aggregate Function**: *Average*
   - **Timeline Field**: *Date*
   - **Period**: *Last Week*
   - **Rising Trend Color**: *Teal*
   - **Flat Trend Color**: *Yellow*
   - **Falling Trend Color**: *Pink*
   - **Caption**: `Profitability trend`

4. Click **Finish** to save your changes and close the dialog box.

Step 3: Adding a Meter Widget

To add a meter widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, in the widget placeholder next to the *Profitability Trend* widget, click **Add a new widget**.
2. In the **Add Widget** dialog box, which opens, select **Key Performance Indicator (KPI)** and click **Next**.
3. In the **Widget Properties** dialog box, which opens, specify the following settings:
   - **Inquiry Screen**: *Customers (AR3030PL)*
   - **Field to Aggregate**: *Customer ID*
   - **Aggregate Function**: *Count All*
   - **Normal Level Type**: *Fixed Value*
   - **Normal Level**: 33
   - **Alarm Level Type**: *Fixed Value*
   - **Alarm Level**: 50
   - **Normal Color**: *Pink*
   - **Warning Color**: *Yellow*
   - **Alarm Color**: *Teal*
   - **Visualization Type**: *Meter*
   - **Caption**: Number of customers
4. Click **Finish** to save your changes and close the dialog box.

Step 4: Adding a Header Widget

To add a header widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, in the widget placeholder below the *Profitability Trend* widget, click **Add a new widget**.
2. In the **Add Widget** dialog box, which opens, select *Header* and click **Next**.
3. In the **Widget Properties** dialog box, which opens, type sales orders in the **Caption** box.
4. Click **Finish** to save your changes and close the dialog box.
5. Drag the right widget border to the right until it aligns with the right border of the working area.

Step 5: Adding a Scorecard Widget

To add a scorecard widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, in the widget placeholder below the *Sales Orders* widget, click **Add a new widget**.
2. In the **Add Widget** dialog box, select **Key Performance Indicator (KPI)** and click **Next**.
3. In the **Widget Properties** dialog box, specify the following settings:
   - **Inquiry Screen**: *Sales Orders (SO3010PL)*
   - **Field to Aggregate**: *Order Nbr.*
   - **Aggregate Function**: *Count All*
   - **Normal Level Type**: *Percent Value*
   - **Normal Level**: 50
   - **Alarm Level Type**: *Fixed Value*
   - **Alarm Level**: 40
   - **Normal Color**: *Teal*
   - **Warning Color**: *Yellow*

- **Alarm Color**: *Pink*
- **Visualization Type**: *Scorecard*
- **Caption**: `Orders to ship`

4. Click **Finish** to save your changes and close the dialog box.

5. Drag the right widget border to the right until it aligns with the right border of the working area.

6. On the dashboard title bar, click the **Design** button.

You have changed the dashboard layout and arranged the previously added widgets in the right working area. Then you have added widgets of the following types to the dashboard: trend card, meter, header, and scorecard (see the following screenshot).

> (i) The width of the widgets and number of available widget placeholders depend on the size of your browser window. You may need to resize other widgets as well to get the same arrangement.
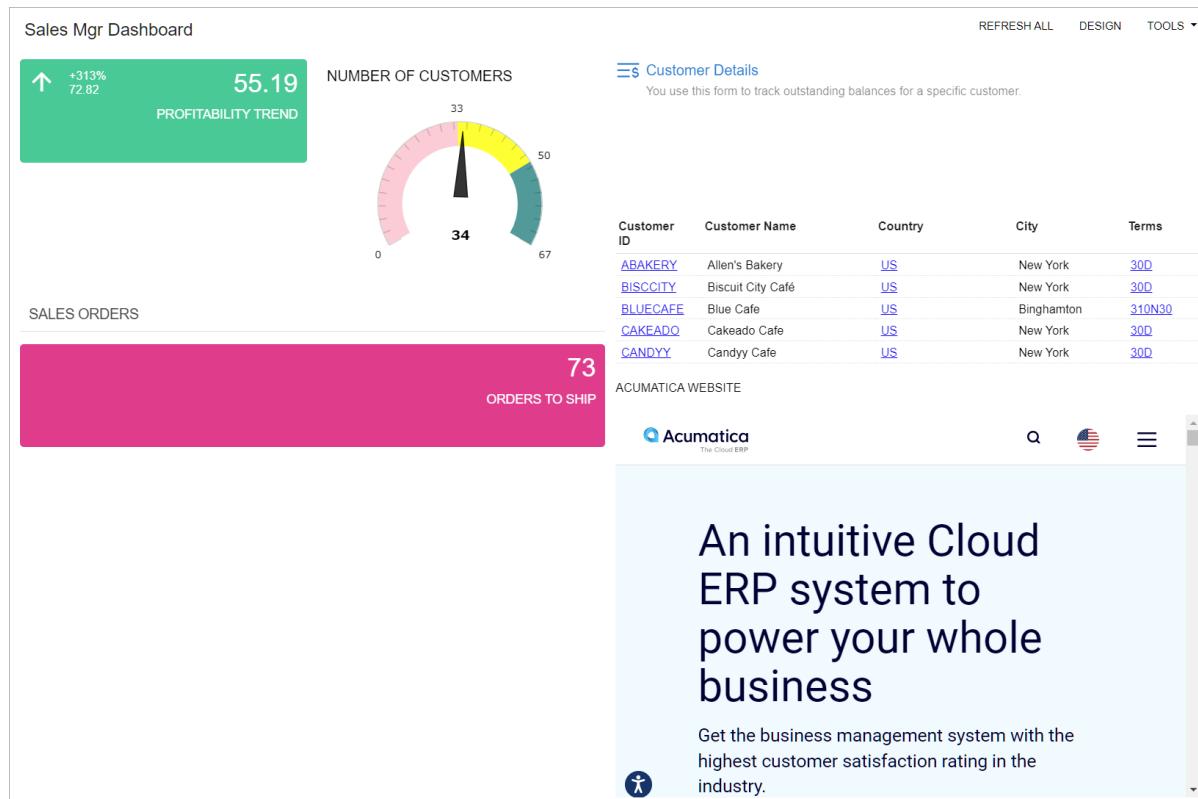
Figure: The Sales Mgr Dashboard with the changed layout and additional widgets

Lesson 2.4: Configuring Chart Widgets

This lesson explains how you can add chart widgets to the dashboard and configure their settings.

Widgets: Chart Widgets

You can use various types of charts, which are graphical representations of data, as widgets on dashboards. If a chart is well designed, it can convey ideas, such as trends or comparisons, that might not be apparent if the data were shown in a table or presented as text.

You can easily change the type of a particular chart without changing its properties, such as chart axis values or sort order, as long as the properties are applicable to both chart types. For example, you can create a line chart widget and later convert this widget to another chart type with a couple clicks.

Applicable Scenarios

You may need to work with chart widgets when you want to show any of the following:

- Comparison of multiple items (comparative ranking)
- Comparison of items over time (trends, accelerations or decelerations, and volatility)
- Proportional composition (part-to-whole relationship) of a particular variable over a static time frame
- Changes in composition over time

Data Source for Chart Widgets

The source of the information shown in a chart widget is data collected by a generic inquiry from the system database. You can use a predefined generic inquiry or develop one that suits your needs.

Each column of a generic inquiry is a data field configured in the inquiry settings. Data field can be a data field from an existing database table or a custom data field whose value is calculated by the system based on the formula specified for this field in the inquiry.

By using data fields from the generic inquiry specified as a source for a widget, you define the metrics to track with the widget.

Chart Widget Configuration

To add a chart widget, you select the **Chart** widget type in the **Add Widget** dialog box, which opens when you click **Add a New Widget** in a widget placeholder. In the **Widget Properties** dialog box, you specify the inquiry to provide data for the widget in the **Inquiry Screen** box, as well as any other needed settings, and click **Configure** (see the following screenshot).
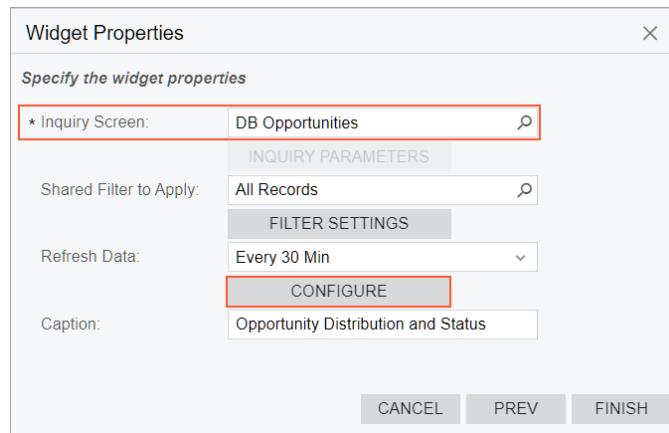
Figure: Specification of a data source for a chart widget

In the **Chart Settings** dialog box, which opens after you click **Configure**, you select the chart type in the **Chart Type** box (see the following screenshot).
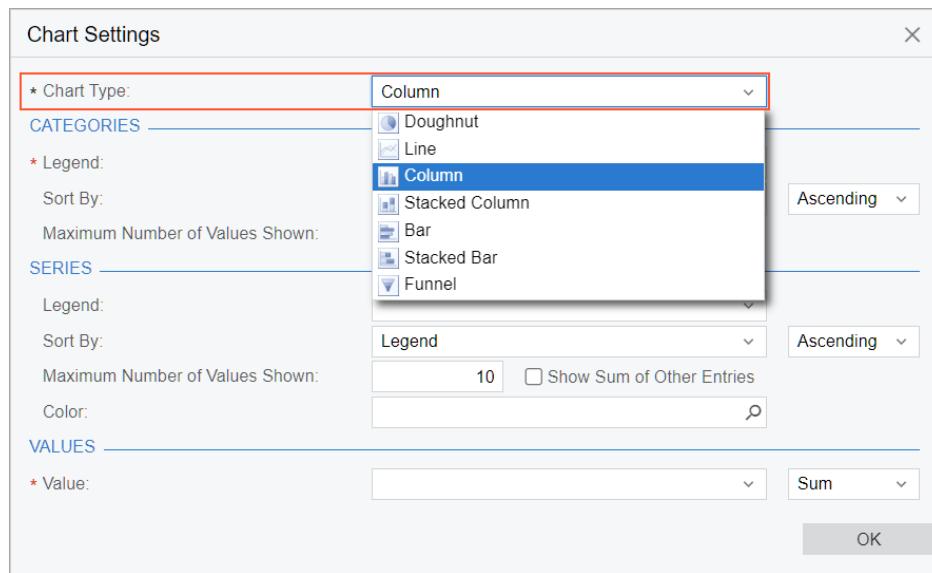
Figure: Selection of a chart type

In the **Categories** section of the dialog box, you specify the data field to be the source of the categories into which the data from each series is sorted (see Item 1 in the screenshot below). In most charts, the *x* axis displays category names.

Optionally, in the **Series** section, you specify the data field to be the source of the series (Item 2), which is a set of related data. A chart can have no series or one series. Each chart type displays series differently. The values of the data field specified as the source of the series compose the chart legend.

Finally, in the **Values** section of the dialog box, you specify the data field to be the source of the business metric calculation and the operation to perform with the value provided by the field (Item 3). The following operations are available for metric calculation:

- *Average*: Calculates the average value in the column.
- *Count All* (default): Determines the number of items in the column.
- *Count Distinct*: Determines the number of unique items in the column.
- *Max*: Determines the item with the highest value in the column. For text data, the highest value is the last alphabetic value. This function ignores null values.
- *Min*: Determines the item with the lowest value in the column. For text data, the lowest value is the first alphabetic value. This function ignores null values.
- *Sum*: Calculates the sum of the items in the column.
- *Median*: Finds the middle value among all the values in the column.

The following screenshot shows an example of the configuration settings of the column chart type.
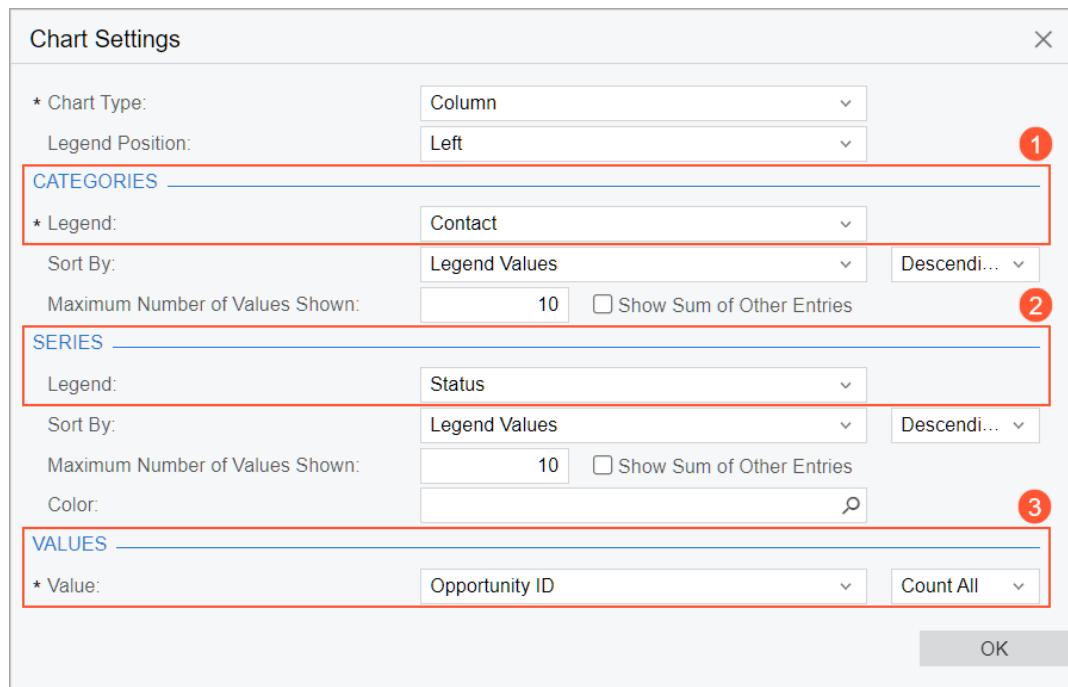
Figure: Sample configuration of column chart widget

The following screenshot shows the resulting chart on a dashboard.
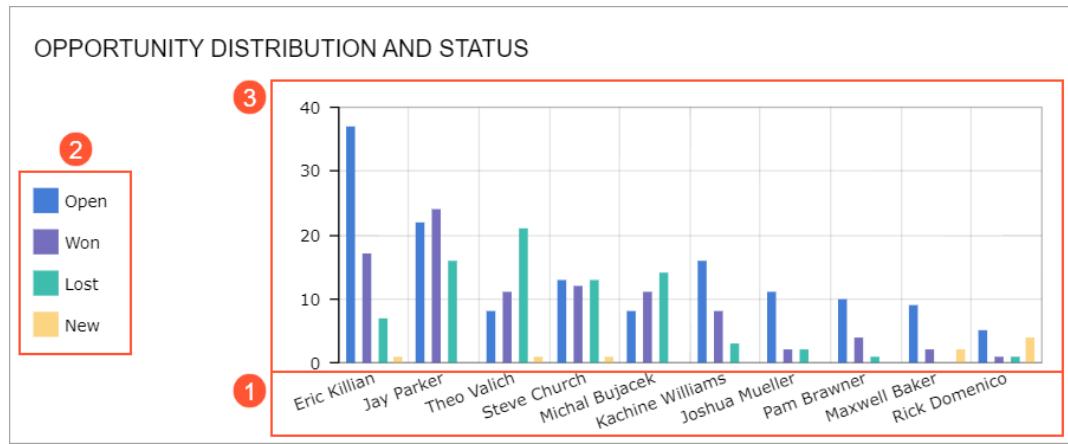
Figure: A column chart with series

Legend Position

If you use a doughnut or funnel chart type or your chart has at least one series defined, the **Legend Position** box appears in the **Chart Settings** dialog box. The value in this box defines the location of the legend in the widget. The following options are available:

- *None*: The legend is not displayed in the widget.
- *Left*: The legend is located to the left of the chart.
- *Right*: The legend is located to the right of the chart.
- *Top*: The legend is located above the chart.
- *Bottom*: The legend is located below the chart.

- *Popup*: The user can open the legend as a pop-up box by clicking the icon in the bottom left corner of the widget. This is the default value.

Sorting Order of Categories and Series

In the **Chart Settings** dialog box for a widget, to define the data source for the categories and series of a chart, you specify a data field from the source inquiry in the **Legend** box of the **Categories** and **Series** sections, respectively.

You can define the value by which the values of the data field specified in the **Legend** box are sorted and the sort order. The **Sort By** box defines the sequence to be sorted as follows:

- *Legend*: The legend data is sorted by the values returned by the data field you select in the **Legend** box.
- *Legend Values*: The legend data is sorted by the value you select in the **Value** box.
- *Field*: The legend data is sorted by a data field you select in the **Field to Sort By** box, which appears when you select this option.
- *Field Value*: The legend data is sorted by the value of the field you select in the **Field to Sort By** box, which appears when you select this option.
- *Date (Ascending)*: The legend data is sorted in the ascending order. The option is available if a data field that represents a date is selected in the **Legend** box.

The box next to **Sort By** defines the sort order—ascending or descending. The way the values are sorted depends on the chart type as well as this selection. The box is not available if the *Date (Ascending)* option is selected.

Limitation of Displayed Values of Categories and Series

In some cases, you would like to limit the number of values displayed in a widget to get a clearer picture. The elements that control this setting are available in the **Categories** and **Series** sections.

In the **Maximum Number of Values Shown** box, you specify the number of values to be individually shown on the chart. The system always selects the values starting from the largest ones. The default value is *10*; that is, the system will display values for only the 10 largest categories. The maximum allowed value is *150*. If you want the system to individually display all values, set the value of this box to *0*.

You can make the system add up the values that are not among the largest values (those to be displayed based on the **Maximum Number of Values Shown** setting) and show the sum on the chart as a single element. To do this, you select the **Show Sum of Other Entries** check box.

Color Configuration for Chart Widgets

If you configure different charts based on the same inquiry or on inquires that have matching data fields, you should use the same color for matching items across all charts of a dashboard. Doing so will minimize the mental effort required from a users' perspective, making dashboards more comprehensible.

You can specify custom colors for series in chart widgets. Series can be displayed on the following types of chart widgets: line, column, stacked column, bar, and stacked bar. You may need to change the default colors of series, for example, to make the dashboard correspond to your corporate style.

To specify the colors depending on the series values, you should use expressions in the **Color** box of the **Chart Settings** dialog box. For example, to make a chart element red if the series value is *USD* and blue if the series value is *EUR*, you would specify the following expression: `=Switch(Value = 'USD', '#FF0000', Value = 'EUR', '#0A26FF')`. For details on expressions, see *Variables and Expressions: General Information*.

Line Chart

A line chart is a type of chart that displays information as a series of data points connected by straight line segments. The purpose of a line chart is to show trends, accelerations (or decelerations), and volatility. Line charts display how data changes over a period of time.

The following line chart shows sales values by financial period. The *x* axis entity is the quarter, and the *y* axis entity is the sales amount. Each line on the chart corresponds to a salesperson.
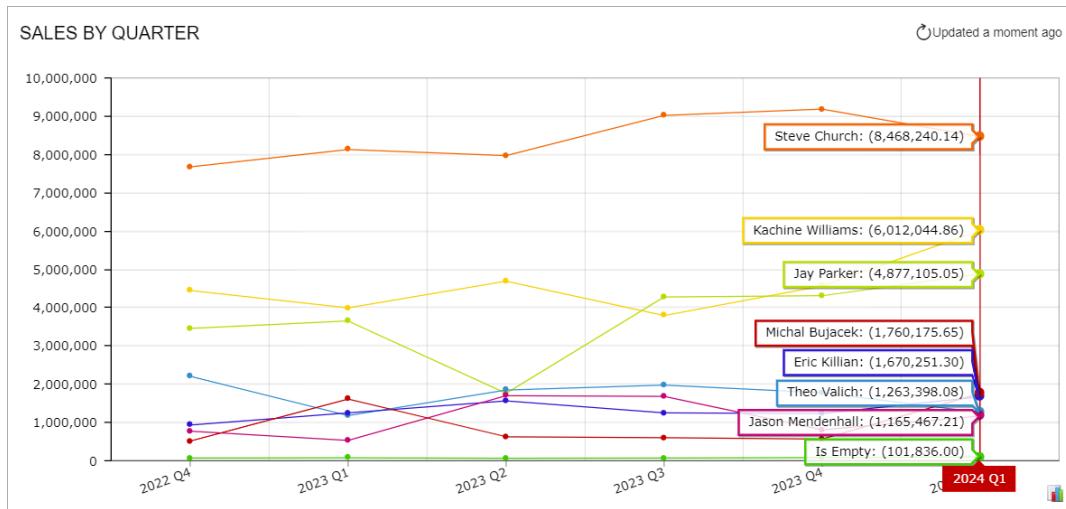

Figure: Line chart with multiple lines

Column Chart

A column chart is a chart with bars whose lengths are proportional to the values they represent. Column charts are used for plotting data that has discrete values. They are the standard chart for showing chronological data, such as growth over specific periods, and for comparing data across categories.

The following chart represents sales values calculated by financial period. The *x* axis entity is the month, and the *y* axis entity is the sales amount.
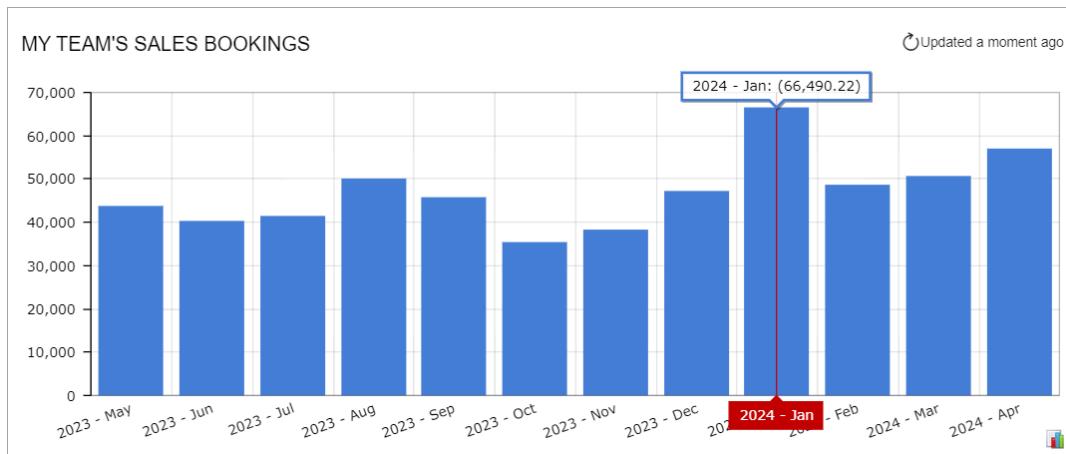
Figure: Column chart

You should generally use column charts instead of doughnut charts when you want to show how parts compare to one another, because it is easier for the viewer to estimate the relative column height than to assess the size of doughnut chart sectors.

The column chart in the following screenshot shows sales amounts for salespeople divided by financial period. The sales amount for each salesperson is displayed as a separate column within each financial period.
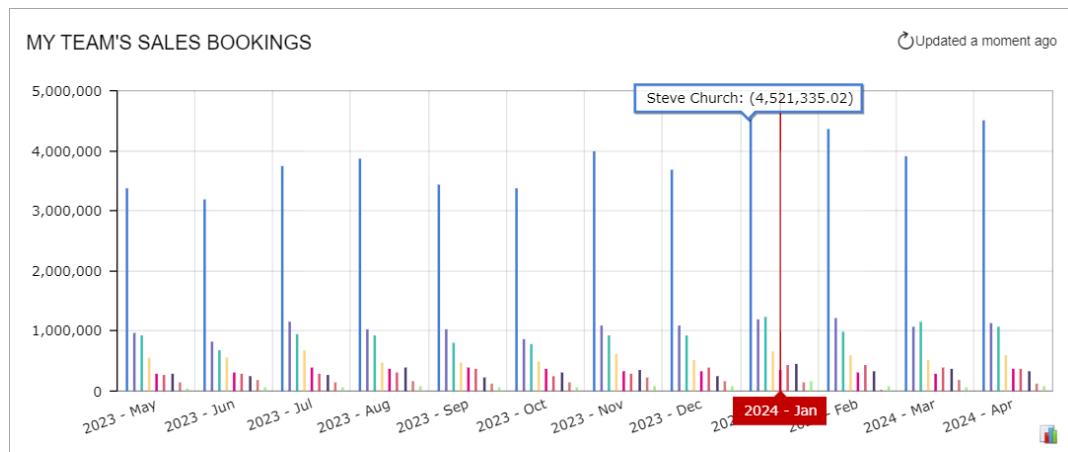
Figure: Column chart with series

Bar Chart

A bar chart is a chart with rectangular bars that are plotted horizontally and have lengths proportional to the values that they represent. Bar charts are used for clearly showing data that has discrete values. Horizontal bar charts are perfect for comparative ranking, as with a top-five list. They are also useful if your data labels are lengthy.

The following bar chart displays sales values calculated for a financial period. The *x* axis entity is the total amount of period-to-date sales, and the *y* axis entity is the financial period.
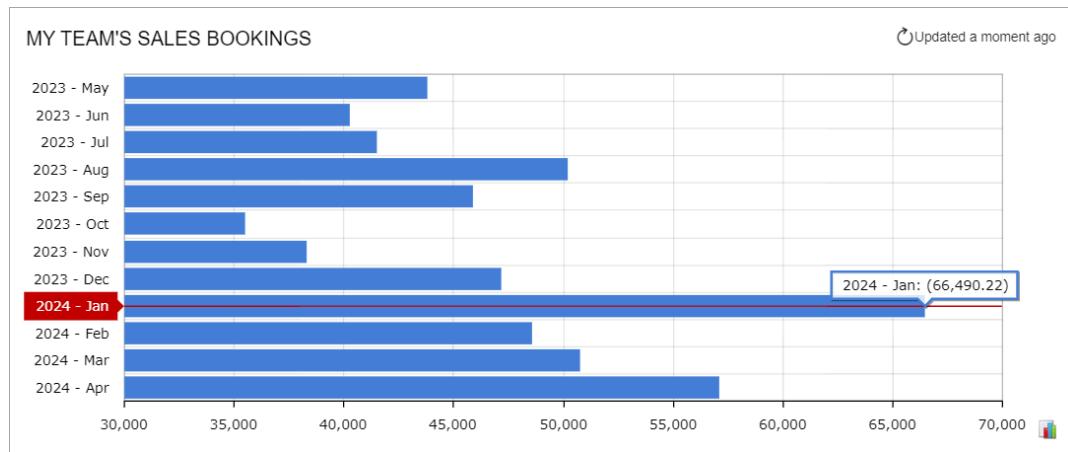

Figure: Bar chart

Another example of a bar chart, which you can see below, represents sales amounts, divided by salesperson, for each financial period. The sales amount for each salesperson is displayed as a separate bar within a financial period.
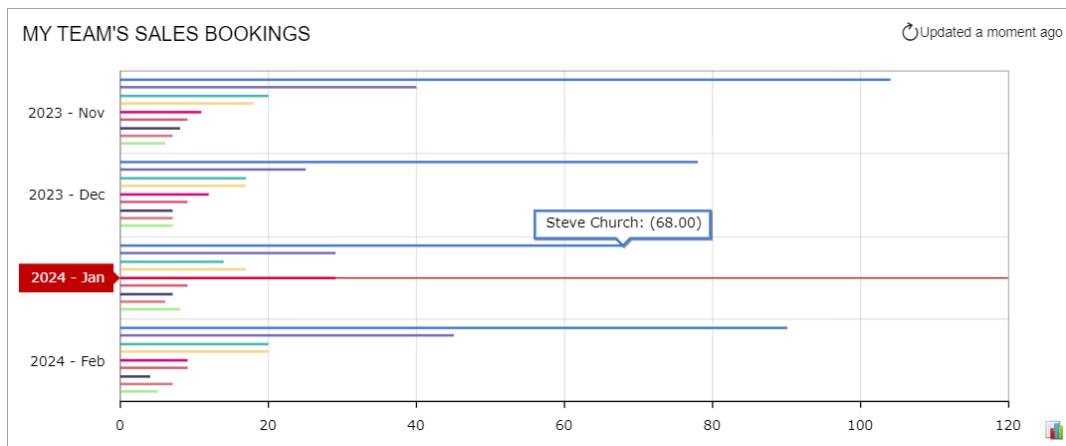
Figure: Bar chart with series

Stacked Column Chart

A stacked column chart illustrates the relationship of the parts to the whole. The columns in a stacked column chart are divided into legend categories, and each column represents a total.

The following chart shows the contribution of individual salespeople to the monthly sales totals over time. The *x* axis defines the financial periods within the specified time range, and the *y* axis defines the measurable entity—period-to-date sales totals in the base currency.
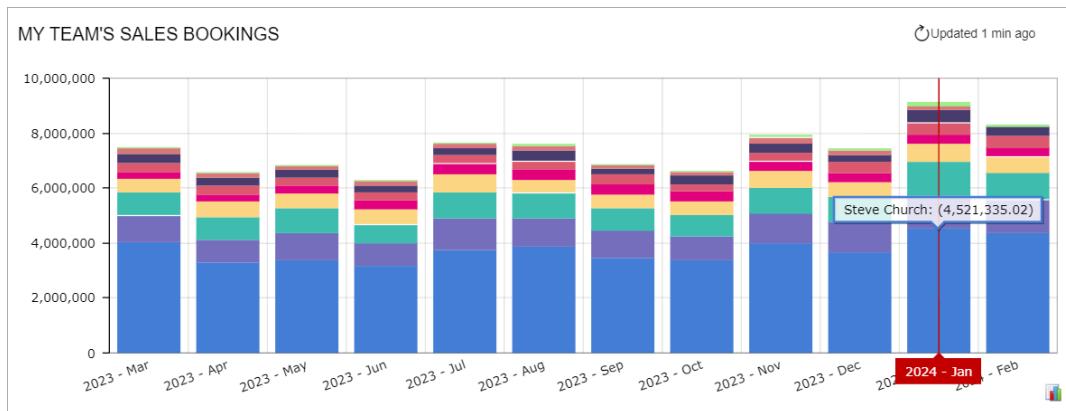
Figure: Stacked column chart

Stacked Bar Chart

A stacked bar chart is an inverted stacked column chart in which the horizontal and vertical axes are reversed. A stacked bar chart also illustrates the relationship of the parts to the whole, and its bars are divided into legend categories, with each bar representing a total.

The following chart shows the contribution of salespeople to the monthly sales totals over time. The *y* axis defines a series of financial periods within the specified time range, and the *x* axis defines the measurable entity—period-to-date sales totals. Each stacked bar represents the monthly sales total, with the parts of different colors indicating the different salespeople that contribute to the monthly total.
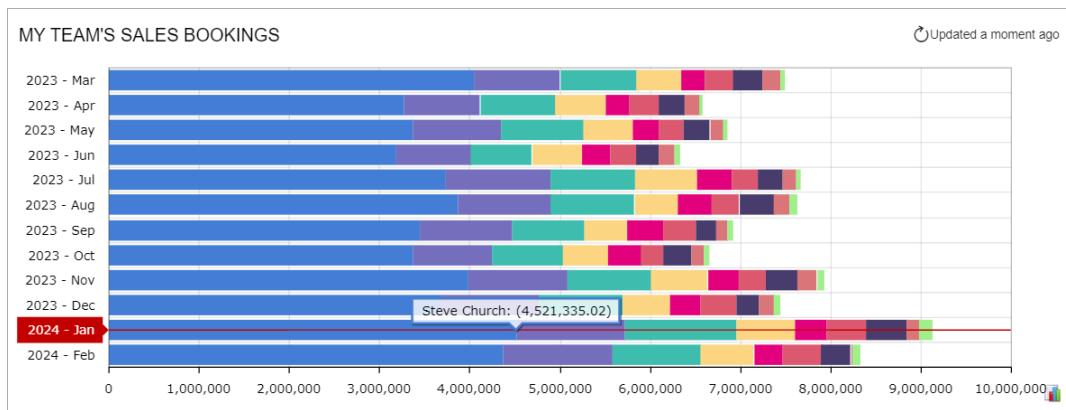
Figure: Stacked bar chart

Doughnut Chart

A doughnut chart is a circular chart (with a hole extracted from the middle) divided into sectors or parts that illustrate proportions. This type of chart works well when you want to show how the parts relate to the whole at a fixed point in time.

This type of chart is particularly effective when the following criteria are met:

- The parts add up to 100%.
- You do not need to make precise comparisons.
- You have a small number of sectors (three to five) and smaller sectors are either combined or not shown at all.

A doughnut chart helps its viewers to answer questions like *Who are our two largest vendors?* or *What is the biggest sales driver?*

The following doughnut chart displays the time spent on processing support cases for all employees by period-to-date. Each section represents a portion of the total number of support cases.
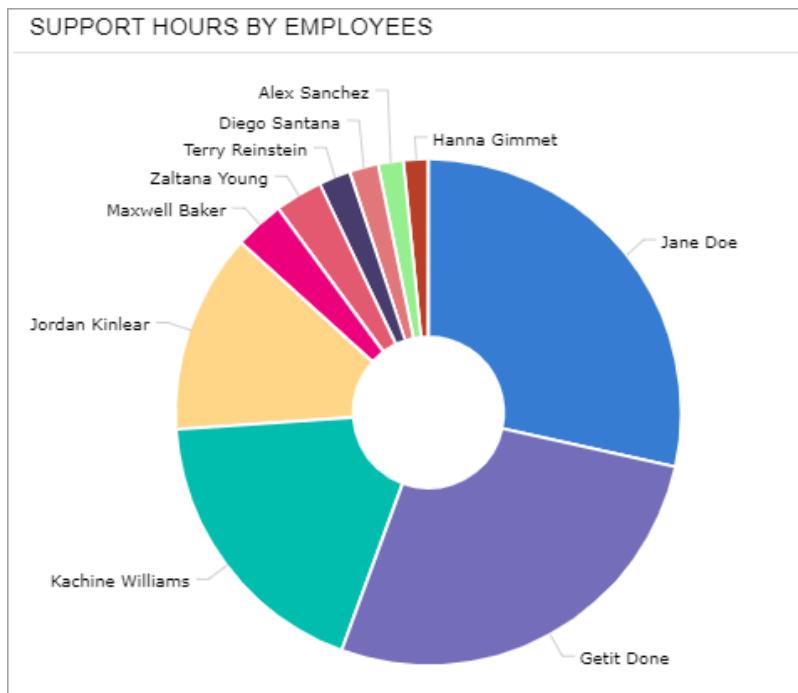
Figure: Doughnut chart

The system displays legend captions around the chart if the legend position is set to *None* or *Popup* in the widget settings.

Funnel Chart

A funnel chart is a chart with no axes that shows sectors or slices of data in a funnel shape. Each slice represents a portion of the whole, or the slices may represent a process flow, with each slice (or part of the process) having data filtered out from the previous slice. For example, with a sales process, you could use a funnel chart, with each slice corresponding to a stage in the process and showing the amount of potential revenue.

The following funnel chart shows the salespeople by period-to-date sales. Each slice represents a portion of the total amount of sales by a salesperson.

MY TEAM'S SALES BOOKINGS

Steve Church

Rick Domenico

Kachine Williams

Theo Valich

Jay Parker

Eric Killian

Joshua Mueller
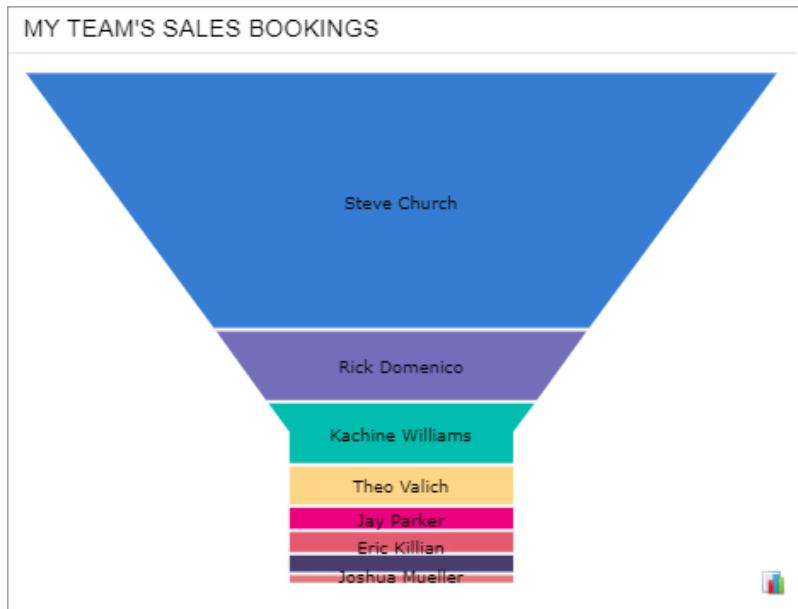
Figure: Funnel chart

Widgets: To Add Chart Widgets

The following activity will show you how to add and configure chart widgets.

Story

Suppose that you are Kimberly Gibbs, a technical specialist in your company who is working on simple customizations. A sales manager of your company had previously requested a dashboard named *Sales Mgr Dashboard*, and you created the requested dashboard form. The sales manager has now requested that you add the following widgets to present the listed data:

- *Sales Order Trend by Month*: The total amount of the sales orders by month
- *Top 5 Customers*: The top five customers by invoiced amount
- *Other Customers' Share*: The share of the total invoiced amount held by customers that are not among the top five customers by invoiced amount

Process Overview

In this activity, you will add and configure widgets of the following types: line chart, horizontal bar chart, and doughnut chart.

System Preparation

In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2025*. If a different date is displayed, click the Business Date menu button, and select *1/30/2025* on the calendar.

Step 1: Adding a Line Chart Widget

To add a line chart widget, do the following:

1. On the main menu, click the **Opportunities** menu item to open the **Opportunities** workspace, and click the *Sales Mgr Dashboard* link.

2. On the dashboard title bar, click the **Design** button.

3. In the widget placeholder under the *Orders to Ship* widget, click **Add a new widget**.

4. In the **Add Widget** dialog box, which opens, select **Chart** and click **Next**.

5. In the **Widget Properties** dialog box, which opens, specify the following settings:

   • **Inquiry Screen**: *Sales Orders (SO3010PL)*

   • **Caption**: `Sales Order Trend by Month`

6. Click **Configure**

7. In the **Chart Settings** dialog box, which opens, in the **Chart Type** box, select *Line*.

8. In the **Categories** section, specify the following settings:

   • **Legend**: *Date*

   • **Maximum Number of Values Shown**: `12`

   • **Date Rounding**: *Months*

9. In the **Series** section, in the **Legend** box, select *Order Type*.

10. In the **Values** section, in the **Value** boxes, select *Order Total* and *Sum*.

11. Click **OK** to save your changes and close the **Chart Settings** dialog box.

12. Click **Finish** to save your changes and close the **Widget Properties** dialog box.

13. Drag the right border of the widget to the right until it aligns with the right border of the working area.

Step 2: Adding a Bar Chart Widget

To add a bar chart widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, in the widget placeholder under the *Sales Orders Trend by Month* widget, click **Add a new widget**.

2. In the **Add Widget** dialog box, which opens, select **Chart** and click **Next**.

3. In the **Widget Properties** dialog box, which opens, specify the following settings:

   • **Inquiry Screen**: *Customer Summary (AR0008DB)*

   • **Caption**: `Top 5 Customers`

4. Click **Configure**

5. In the **Chart Settings** dialog box, which opens, in the **Chart Type** box, select *Bar*.

6. In the **Categories** section, specify the following settings:

   • **Legend**: *Customer Name*

   • **Maximum Number of Values Shown**: `5`

7. In the **Values** section, in the **Value** boxes, select *Amount* and *Max*.

8. Click **OK** to save your changes and close the **Chart Settings** dialog box.

9. Click **Finish** to save your changes and close the **Widget Properties** dialog box.

10. Drag the right border of the widget to the right until it aligns with the right border of the working area.

Step 3: Adding a Doughnut Chart Widget by Copying the Bar Chart Widget

To add a doughnut chart widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, on the title bar of the *Top 5 Customers* widget, click the Copy button. Notice that **Paste from clipboard** becomes available in the widget placeholders.

2. In the widget placeholder under the *Top 5 Customers* widget, click **Paste from clipboard**.

3. On the title bar of the pasted widget, click Edit.

4. In the **Widget Properties** dialog box, which opens, click **Configure**

5. In the **Chart Settings** dialog box, which opens, in the **Chart Type** box, select *Doughnut*.

6. In the **Categories** section, select the **Show Sum of Other Entries** check box.

7. Click **OK** to save your changes and close the **Chart Settings** dialog box.

8. In the **Widget Properties** dialog box, to which you return, in the **Caption** box, type `Other Customers' Share`.

9. Click **Finish** to save your changes and close the **Widget Properties** dialog box.

10. On the dashboard title bar, click the **Design** button.

You have added to the dashboard chart widgets of the following types: line, bar, and doughnut (see the following screenshot).

Figure: The Sales Mgr Dashboard with the three chart widgets

Lesson 2.5: Filtering Widget Data

This lesson explains how you can apply filters to widget data.

Widgets: Data Filtering

Data filtering can be used for the following types of widgets:

- Chart
- Data table
- Pivot table
- Key performance indicator (KPI)
- Trend card KPI

Inquiry Parameters

An inquiry that you are using as a data source for a widget may have multiple parameters configured. These parameters are displayed as optional or required UI elements in the Selection area of the inquiry form and are used to narrow the inquiry results.

In the **Widget Properties** dialog box, the **Inquiry Parameters** button becomes available if the inquiry selected in the **Inquiry Screen** box has parameters. You click the button to open the **Inquiry Parameters** dialog box (see the following screenshot). In the dialog box, you can enter specific values for these parameters in the **Value** column. Initially, the system displays any default values that have been specified for the parameters in the inquiry settings. When you modify a value in the **Value** column, the system clears the corresponding check box in the **Use Default Value** column to indicate that the custom value will be used instead.
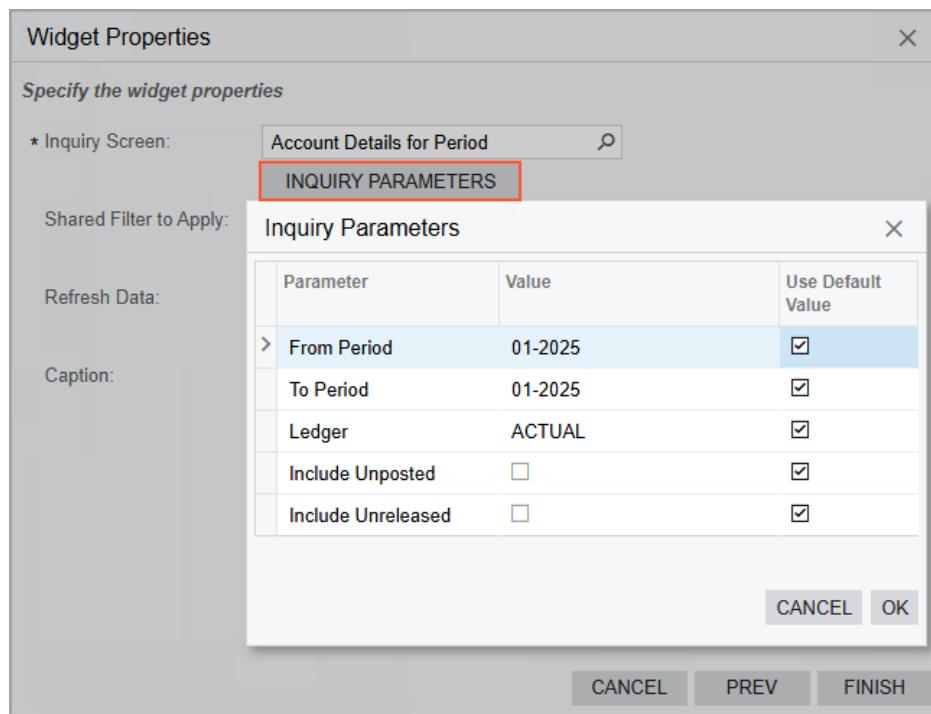

Figure: Modification of values for the source inquiry parameters

The system filters the inquiry data by using the values specified for the parameters before it applies any widget-specific filters.

Shared Filters of the Source Inquiry

Shared filters can be created for a generic inquiry form. If this generic inquiry form is used as the data source for a widget, you can select any of these shared filters in the **Shared Filter to Apply** box in the **Widget Properties** dialog box (see the following screenshot). This will filter the data in the widget.
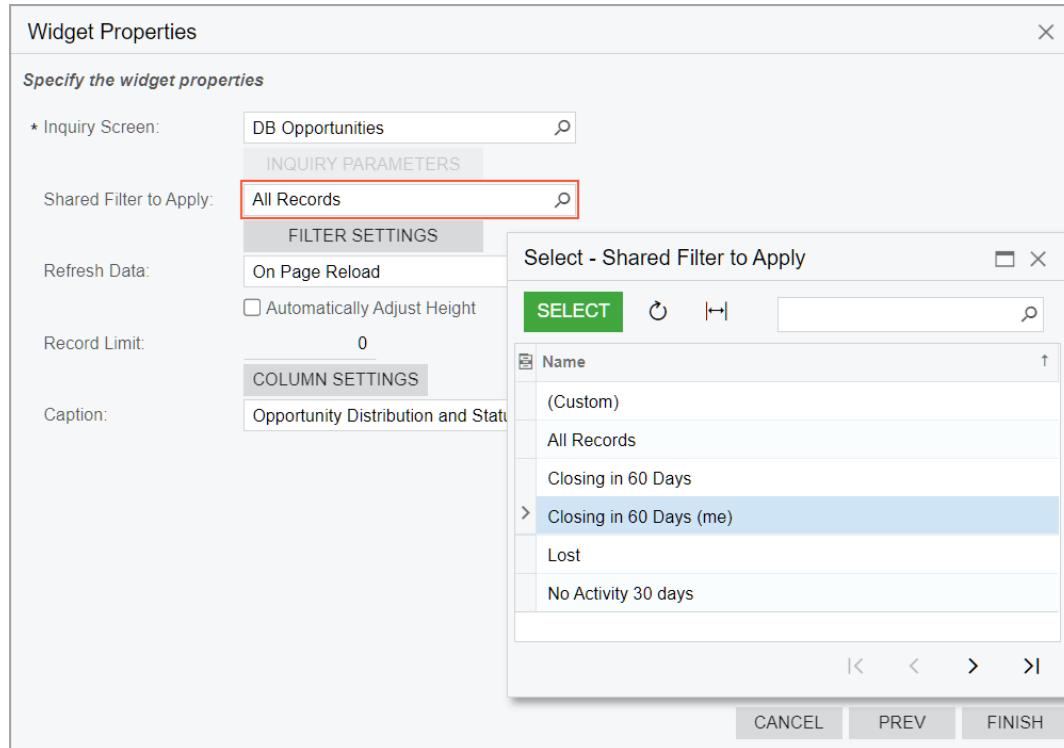

Figure: Selection of a shared filter for a widget

The system will display the name of the selected shared filter in the **Shared Filter to Apply** box.

By using the **Filter Settings** dialog box of the widget, you can further modify the filtering conditions that are copied from the selected shared filter.

Widget-Specific Filters

While configuring a widget by using the Acumatica ERP standard **Filter Settings** dialog box, you can specify filtering conditions that apply to only this widget. You open this dialog box by clicking **Filter Settings** in the **Widget Properties** dialog box (see the following screenshot).
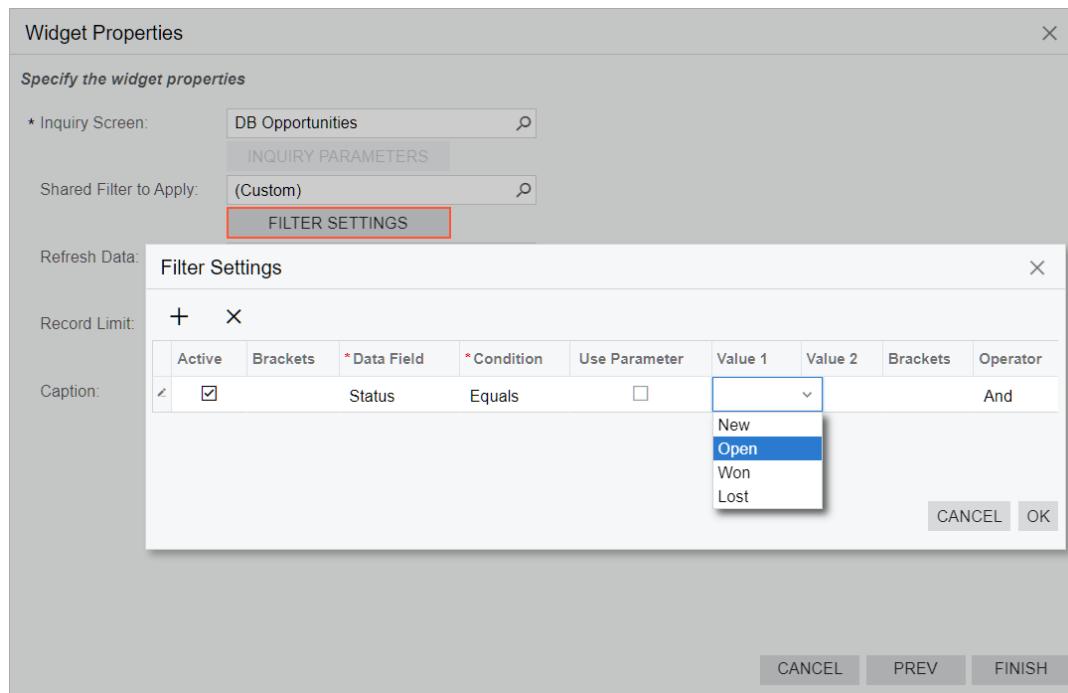
Figure: Filtering conditions that are specific to the widget

If you specify filtering conditions for the widget, the system will insert the *(Custom)* value in the **Shared Filter to Apply** box.

Dashboard Parameters

If you want to provide dashboard users with the ability to filter widget data on the fly, you can add parameters to the Selection area of a dashboard. The functionality of these parameters is similar to that of the parameters in the Selection area of inquiry forms. When a user selects values in the corresponding UI elements, the system filters the data on all applicable widgets by these values.

> ⚠ Widget data can be filtered by a parameter value only if the inquiry on which the widget is based contains the data field that is used by the parameter.

To add parameters to a dashboard, you select the dashboard on the *Dashboards* (SM208600) form, and on the **Parameters** tab, you add parameters that will be displayed in the Selection area of the dashboard.

For each widget whose data should be filtered by the values of the added parameter or parameters, in the **Filter Settings** dialog box, you add a corresponding filtering condition with the **Use Parameter** check box selected and the parameter name specified as a value in the **Value 1** column (see the following screenshot).
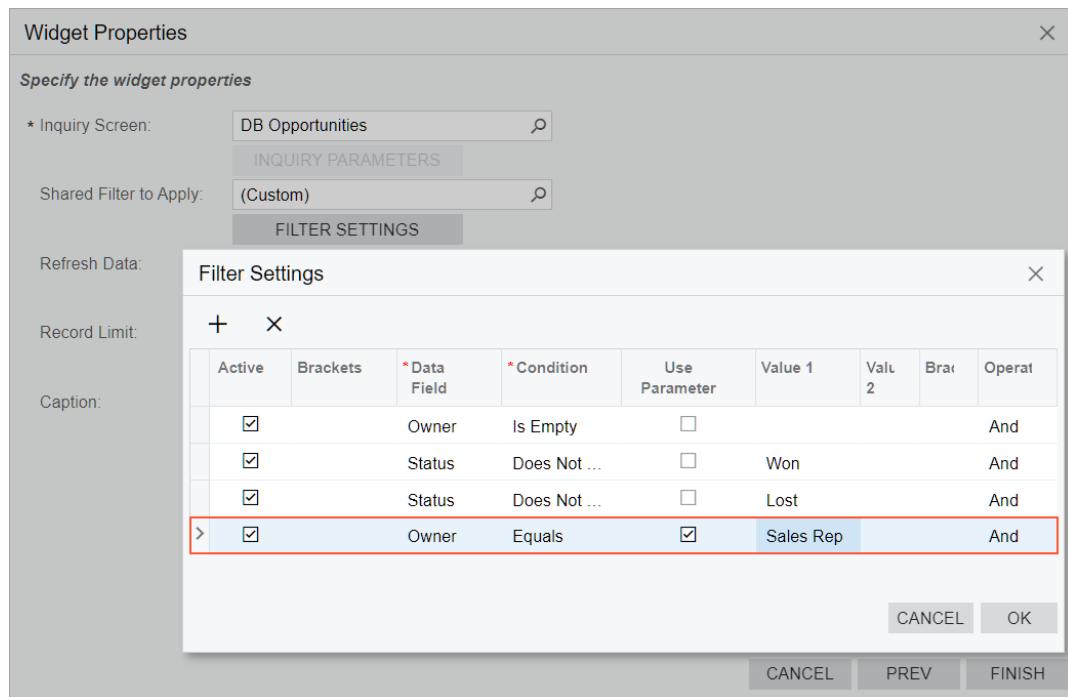
Figure: A dashboard parameter in a widget-specific filter

Widgets: To Filter Widget Data

The following activity will show you how to filter widget data.

Story

Suppose that you are Kimberly Gibbs, a technical specialist in your company who is working on simple customizations. A sales manager of your company had previously requested a dashboard named *Sales Mgr Dashboard*, and you created the requested dashboard form. After that, the sales manager requested that you add multiple widgets that track different KPIs and trends, and you added the needed widgets.

The sales manager has assessed the data displayed by the widgets and found the following issues:

- The *Orders to Ship* widget currently counts all orders, regardless of their status, but should count only orders with the *Open* status.
- The *Top 5 Customers* and *Other Customers' Share* widgets include The Equity Group Investors account, which is tracked by another department and should be excluded.

Also, the sales manager has asked you to add one more scorecard with the number of orders whose requested date is earlier than today—*Late Orders*. Finally, the manager has requested that you add a dashboard parameter to make it possible for the data of the *Orders to Ship* and *Late Orders* widgets to be filtered by customer (that is, showing only the data of the selected customer if the user makes a selection).

Process Overview

In this activity, you will do the following:

1. On the *Dashboards* (SM208600) form, add the **Customer ID** parameter for the *SalesMgrDashboard* dashboard.

2. On the *Customer Summary (AR0008DB)* generic inquiry form, you will add a shared filter to exclude The Equity Group Investors from the list of customers.

3. On the *Sales Mgr Dashboard*, you will do the following:

   a. Configure the requested filtering conditions.

   b. Add the *Late Orders* scorecard by copying the similar widget.

   c. Apply the shared filter to the widget data.

System Preparation

In the info area, in the upper-right corner of the top pane of the Acumatica ERP screen, make sure that the business date in your system is set to *1/30/2025*. If a different date is displayed, click the Business Date menu button, and select *1/30/2025* on the calendar.

Step 1: Adding the Dashboard Parameter

To add the dashboard parameter for the customer ID to be selected, do the following:

1. Open the *Dashboards* (SM208600) form.

2. In the **Name** box, select *SalesMgrDashboard*.

3. On the **Parameters** tab, add a new row with the following settings:

   • **Active**: Selected
   • **Is Required**: Cleared
   • **Name**: `CustomerID`
   • **Schema Object**: *PX.Objects.AR.Customer*
   • **Schema Field**: *AcctCD*
   • **Display Name**: `Customer ID`

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

Step 2: Adding a Shared Filter

To add a shared filter, do the following:

1. Open the Customer Summary (AR0008DB) form.

2. On the table toolbar, click **Filter Settings**.

3. In the bottom left of the **Filter Settings** dialog box, which opens, click **New**.

4. Add a row to the table with the following settings:

   • **Property**: *Customer ID*
   • **Condition**: *Does Not Equal*
   • **Value**: *EQUGRP*

5. In the bottom left of the dialog box, click **Save**. In the dialog box that opens, type `Local Customers`, and click **OK**.

6. In the upper part of the **Filter Settings** dialog box, to which you return, select the **Shared** check box.

7. At the bottom of the dialog box, click **Save**.

8. Click **Apply** to apply the filter settings to the table and close the dialog box.

9. On the generic inquiry form, notice that the **Local Customers** tab has been added.

Step 3: Configuring the Widget Filter and Using the Dashboard Parameter

To configure filtering conditions for the *Sales Orders* widget and use the dashboard parameter to filter its data, do the following:

1. On the main menu, click the **Opportunities** menu item to open the **Opportunities** workspace, and click the *Sales Mgr Dashboard* link. Notice that the **Customer ID** parameter is displayed under the dashboard name.

2. On the dashboard title bar, click the **Design** button.

3. On the title bar of the *Orders to Ship* widget, click Edit.

4. In the **Widget Properties** dialog box, click **Filter Settings**.

5. In the **Filter Settings** dialog box, which opens, add a row with the following settings:

   - **Data Field**: *Status*
   - **Condition**: *Equals*
   - **Value 1**: *Open*
   - **Operator**: *And*

6. Add another row with the following settings:

   - **Data Field**: *Customer*
   - **Condition**: *Equals*
   - **Use Parameter**: Selected
   - **Value 1**: *Customer ID*

   With this condition, if a user selects a customer in the **Customer ID** box, the widget will show the data for the selected customer.

7. Click **OK** to save your changes and close the dialog box.

8. In the **Widget Properties** dialog box, to which you return, click **Finish**.

Step 4: Adding a Widget by Copying the Similar Widget

To add a widget, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, drag the right border of the *Orders to Ship* widget to the left until the system displays a widget placeholder next to it.

2. On the title bar of the *Orders to Ship* widget, click the Copy button. Notice that **Paste from clipboard** becomes available in the widget placeholders.

3. In the widget placeholder next to the *Orders to Ship* widget, click **Paste from clipboard**.

4. On the title bar of the pasted widget, click Edit.

5. In the **Widget Properties** dialog box, which opens, click **Filter Settings**.

6. In the **Filter Settings** dialog box, which opens, add a row with the following settings:

   - **Data Field**: *Requested On*
   - **Condition**: *Is Less Than*
   - **Value 1**: *@Today*

7. Click **OK** to save your changes and close the dialog box.

8. In the **Widget Properties** dialog box, to which you return, type `Late orders` in the **Caption** box.

9. Click **Finish** to save your changes and close the **Widget Properties** dialog box.

Step 5: Applying the Shared Filter to the Widget Data

To apply the shared filter you created for the source inquiry to the widget data, do the following:

1. While you are still in design mode of the *Sales Mgr Dashboard* dashboard, on the title bar of the *Top 5 Customers* widget, click Edit.

2. In the **Widget Properties** dialog box, which opens, in the **Shared Filter to Apply** box, select *Local Customers*.

3. Click **Finish** to close the dialog box.

4. Apply the shared filter to the *Other Customers' Share* widget data.

5. On the dashboard title bar, click the **Design** button.

You have added the requested dashboard parameter, configured filter settings for the widgets and added one more scorecard widget. Now you can select a customer account in the **Customer ID** box and notice that the system changes the numbers on the *Orders to Ship* and *Late Orders* scorecards. (See the following screenshot.)
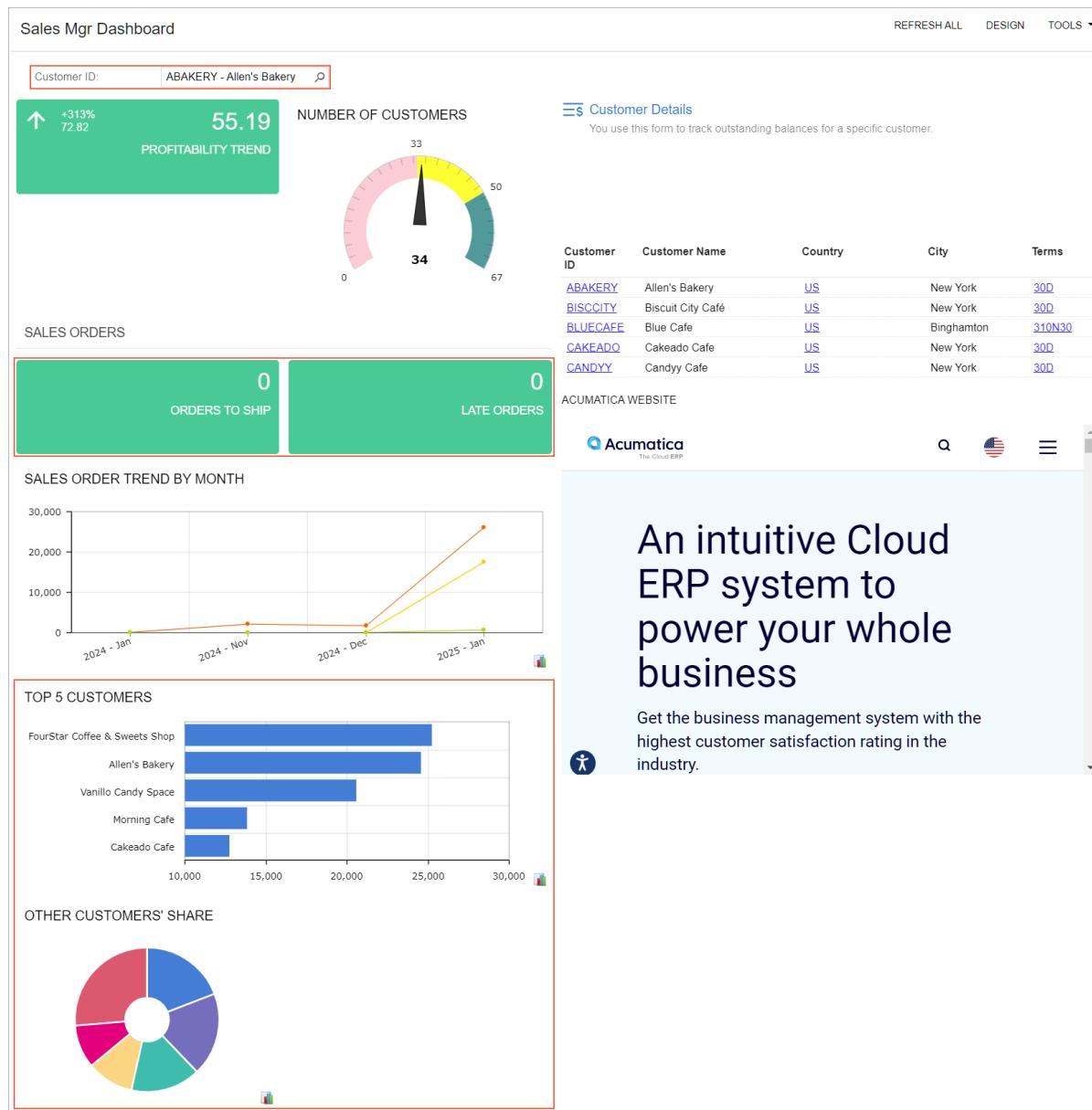
Figure: The Sales Mgr Dashboard with the widget data filtered