Oracle® Fusion Middleware

User's Guide for Oracle Business Intelligence Mobile App Designer

11*g* Release 1 (11.1.1)

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Explains how to use the Oracle Business Intelligence Mobile App Designer to create purposeful mobile apps to run on mobile phones and tablets.

ORACLE

Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Mobile App Designer, 11*g* Release 1 (11.1.1)

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Preface

Oracle Business Intelligence Mobile App Designer is a tool for creating platform-independent mobile apps that can draw on data from a variety of data sources. BI Mobile App Designer empowers business users to create stunning and interactive analytical apps for any mobile device. Users can create purpose-built apps for any line of business that help effectively showcase insights and provide summary information at a glance, with detailed information only a touch or swipe away.

Audience

This document is intended for anyone who plans to create mobile apps using Oracle Business Intelligence Mobile App Designer.

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Related Documents

See the Oracle Business Intelligence documentation library for a list of related Oracle Business Intelligence documents.

In addition:

- Go to the Oracle Learning Library for Oracle Business Intelligence-related online training resources.
- Go to the Product Information Center support note (Article ID 1267009.1) on My Oracle Support at https://support.oracle.com.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1 Introduction

Oracle Business Intelligence Mobile App Designer is a tool for designing purposeful apps for mobile phones and tablets. This chapter provides an overview of the BI Mobile App Designer. It includes the following sections:

- What Is Oracle BI Mobile App Designer?
- What Data Can I Use?
- How Do I Access the Oracle BI Mobile App Designer?
- What is the Apps Library?
- How Do I Access the Apps Library?

1.1 What Is Oracle BI Mobile App Designer?

Oracle BI Mobile App Designer is a powerful design-time studio and run-time engine for creating purposeful apps for any line of business that help effectively showcase insights and provide summary information at a glance with detailed information only a touch or swipe away.

The apps you create with BI Mobile App Designer are platform and device independent. The generated apps are based on the modern HTML5 standard, which means they can run on any modern browser on your mobile device. No client install is required.

The responsive Web engine of the BI Mobile App Designer detects your device screen size and automatically adjusts the app display, which means you can open the same app on any size device, including your PC.

The intuitive design studio user interface empowers business users to create stunning and interactive analytical apps.

1.2 What Data Can I Use?

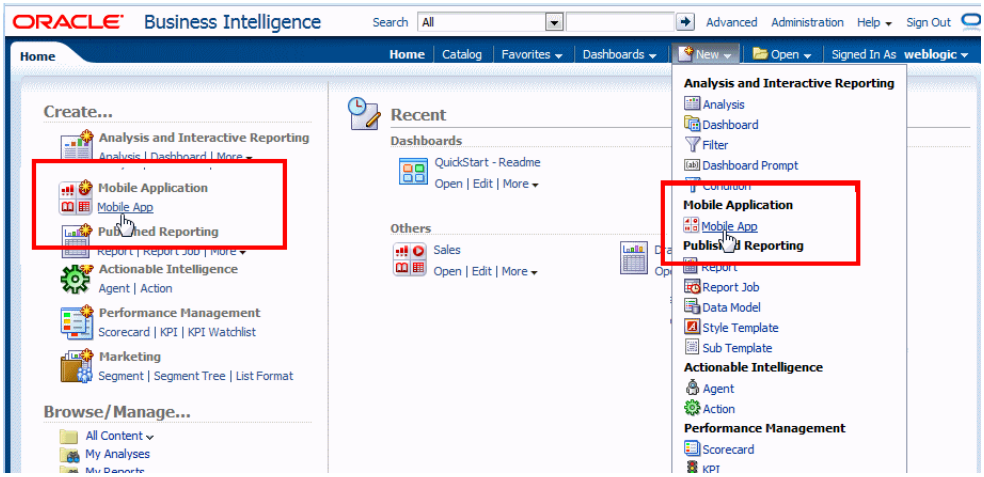
Because BI Mobile App Designer is integrated with Oracle Business Intelligence Enterprise Edition you can leverage the data models you have already created for your organization's data. When you create a BI mobile app, you can use data from the following data sources:

- BI Subject Area
- BI Publisher Data Model
- Excel spreadsheet

1.3 How Do I Access the Oracle BI Mobile App Designer?

After installation, the Oracle BI Mobile App Designer is available to users with the BI Author role. Begin designing your first app by selecting **Mobile App** from the Home page **Create** menu or from the **New** menu on the global header, as shown in Figure 1–1.

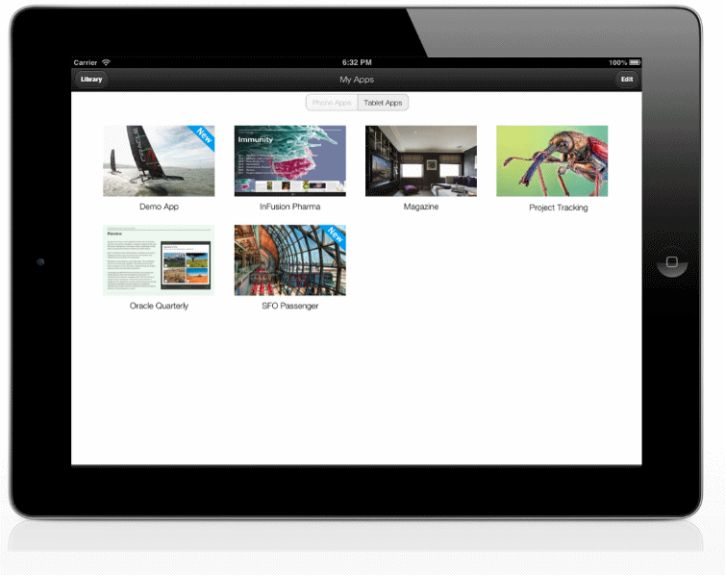
Figure 1–1 Accessing the Oracle BI Mobile App Designer



1.4 What is the Apps Library?

The Apps Library is where you manage your apps and subscribe to new apps. When you open the Apps Library from your mobile device you can choose to subscribe to the apps you have permission to access.

Figure 1–2 My Apps Library



When you subscribe to an app, it becomes available in your My Apps Library viewer. You can switch between your My Apps Library and the shared Apps Library to subscribe to more apps.

When you create a new app you have the option of publishing it to the library. Once published it is immediately available to other users with access to the library and permissions to view the app. Users subscribe to an app to add it to their personal My Apps library. When you update the app, users are notified that a new version is available.

The Apps Library must be set up by an administrator. See Section A.2, "Setting Up the Apps Library Locations."

1.5 How Do I Access the Apps Library?

The Apps Library URL is available from the Oracle Business Intelligence home page under the **Browse/Manage** region.

Figure 1–3 Apps Library Link on Oracle BI Home Page

Add this URL to your mobile device home screen for easy access to all your BI mobile apps.

2

Getting Started

To help you get started with the Oracle BI Mobile App Designer use this tutorial to guide you through the creation of your first app.

This chapter includes the following section:

- Creating Your First Tablet App

Prerequisite

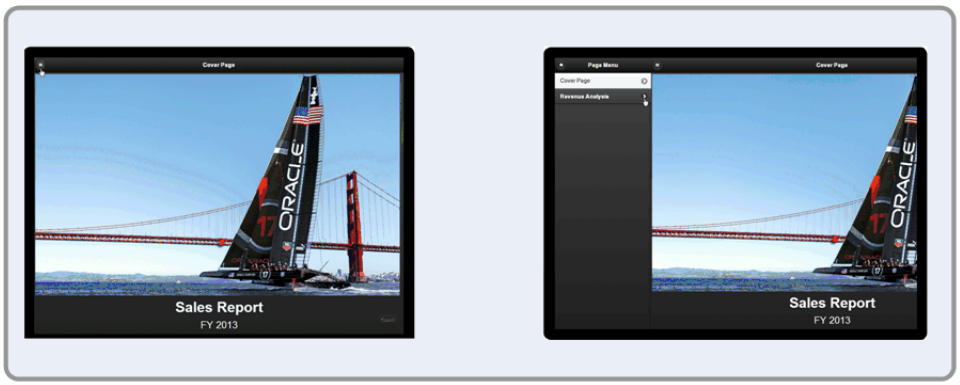
To complete this tutorial the following is required:

- Sample App Lite is available in your environment

2.1 Creating Your First Tablet App

This tutorial demonstrates how to build a simple tablet app. To complete the tutorial use the sample data source "Sample Sales Lite" that is provided with Oracle BI EE. The app you will build in this tutorial is shown in Figure 2–1.

Figure 2–1 Tablet App Created in this Tutorial



Your App will have a cover page with title and a table of contents that can be displayed or hidden

Your app will display a set of tiles showing revenue by quarter for a set of products.

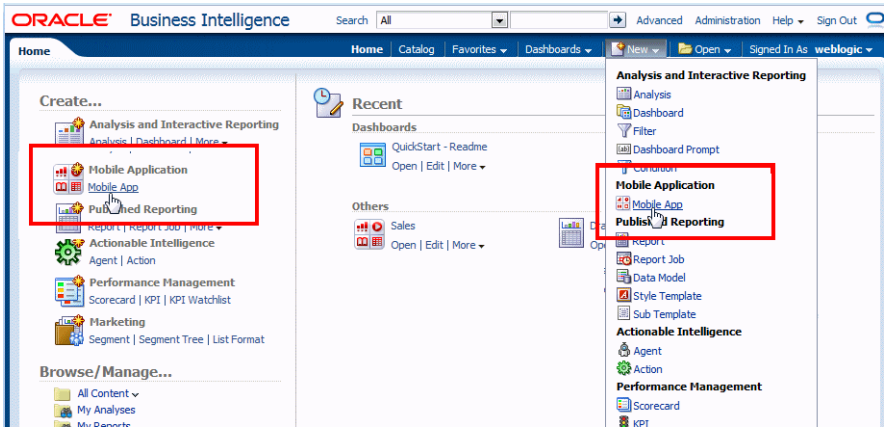
Tapping a specific tile displays a page of detail information filtered by the item tapped.

To build this app, follow these steps:

- Choose Your Data Source and Save the App
- Add a Title to the Cover Page
- Create the Tile Page
- Create the Subpage
- Preview Your App on a Mobile Device

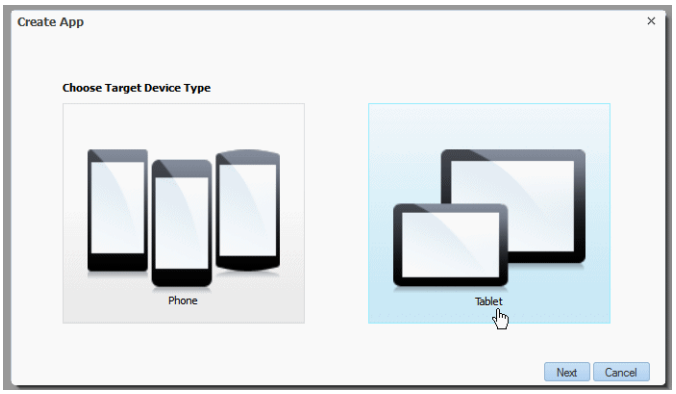
2.1.1 Choose Your Data Source and Save the App

1. From the Oracle Business Intelligence Home page, select **Create Mobile App**.



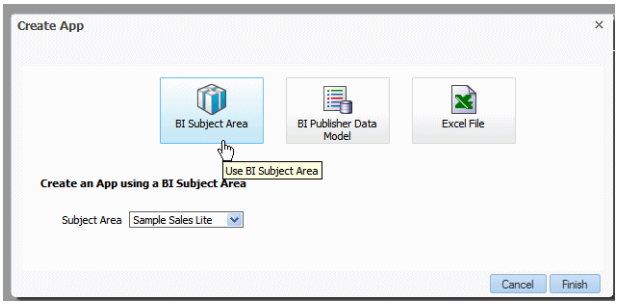
2. Click **Tablet**.

Figure 2–2 Choosing Device Type

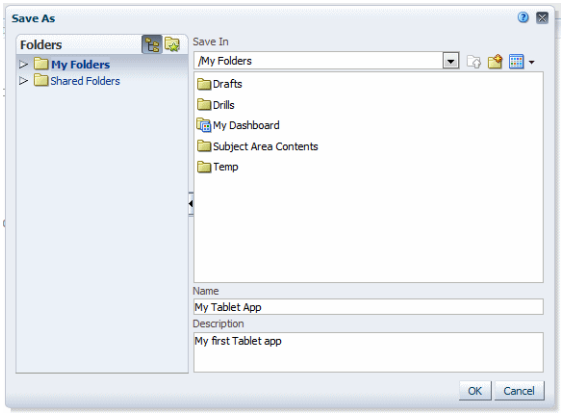


3. Select the source of data for your app. Click **BI Subject Area** and then select Sample Sales Lite from the list.

Figure 2–3 Choosing the Data Source

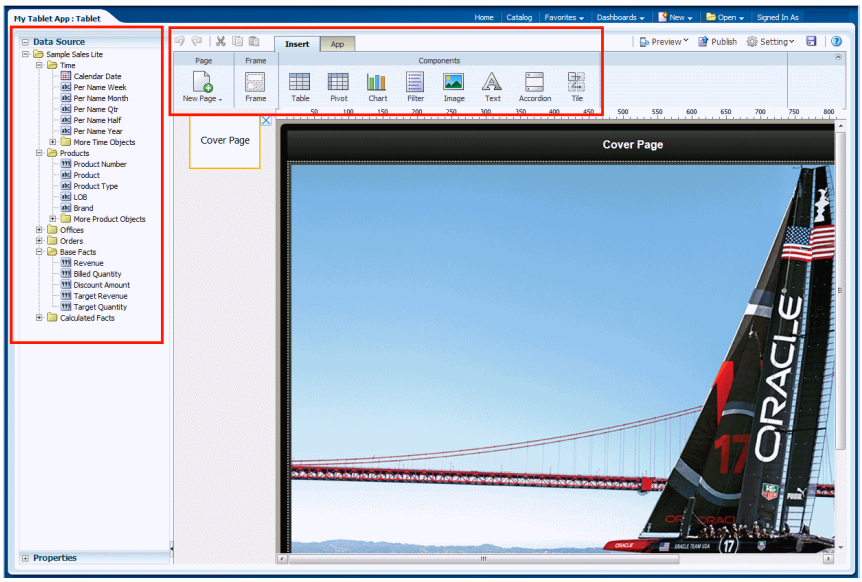


4. Click **Save** to save your app. Select a folder location, then enter a name and click **Save**.



The app designer opens to display the default cover page.

Figure 2–4 Mobile App Designer Default Display



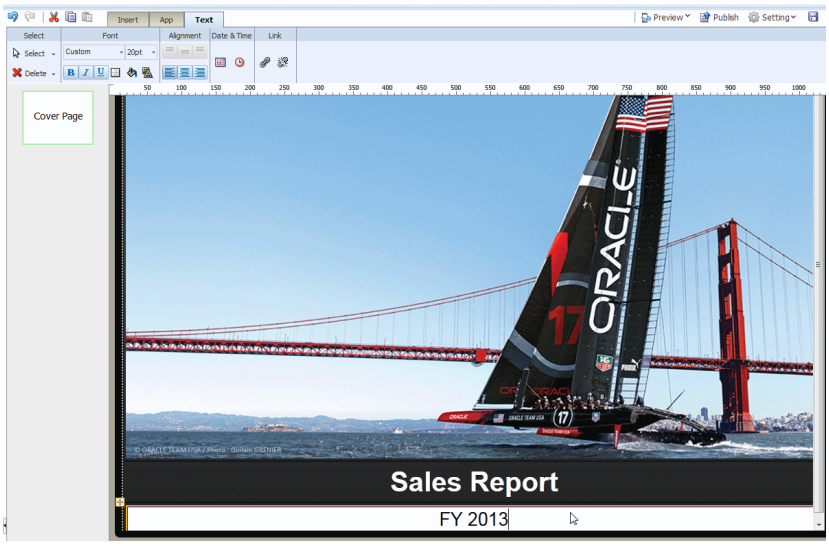
Notice the data fields displayed on the left. Fields can be dragged from the left column to the components in the design area. Notice the **Insert** toolbar that displays the components you can drag and drop to your app page.

2.1.2 Add a Title to the Cover Page

Update the title and subtitle of the cover page. Double-click the text to edit it. Enter the following:

- Title: Sales Report
- Subtitle: FY 2013

Figure 2–5 Updating the Cover Page Title and Subtitle



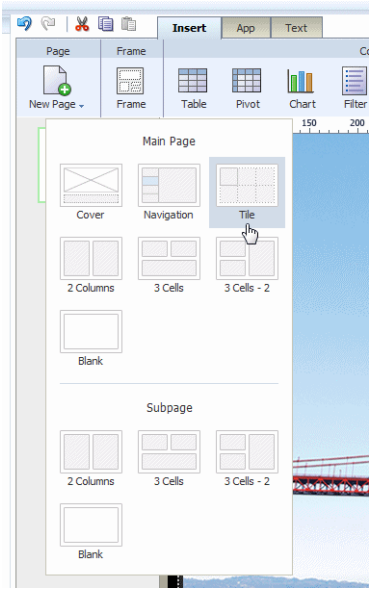
2.1.3 Create the Tile Page

The second page of the app displays tiles. To add the second page:

1. Click the **Insert** toolbar and then click **New Page**.

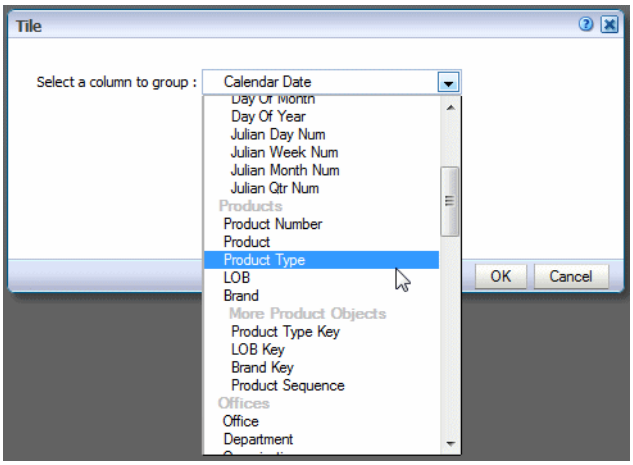
   From the new page menu select **Tile**.

Figure 2–6 Inserting the Tile Page



2. From the **Select a column to group** list, select **Product Type**.

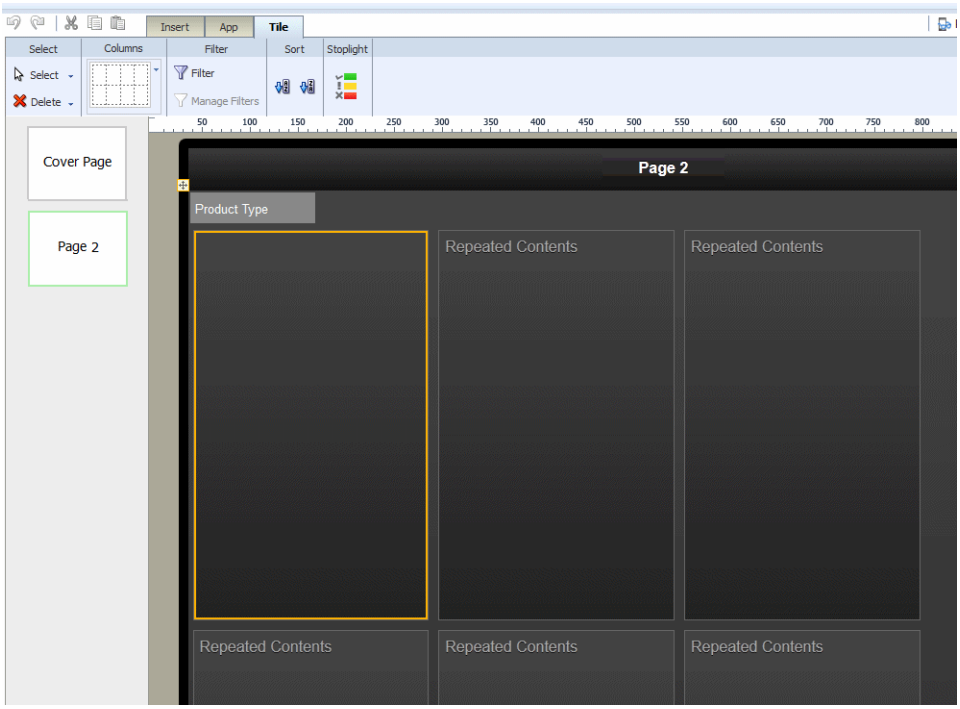
Figure 2–7 Selecting Product Type



By selecting Product Type as the **Column to group** value, for each Product Type that occurs in the data, the app generates a tile cell with the data specific to that product type.

Figure 2–8 displays the inserted tile page. During design time the "Repeated contents" tiles display as placeholders only and do not show the content you define for the first tile. Use **Preview** to view the repeated contents at anytime during the design phase.

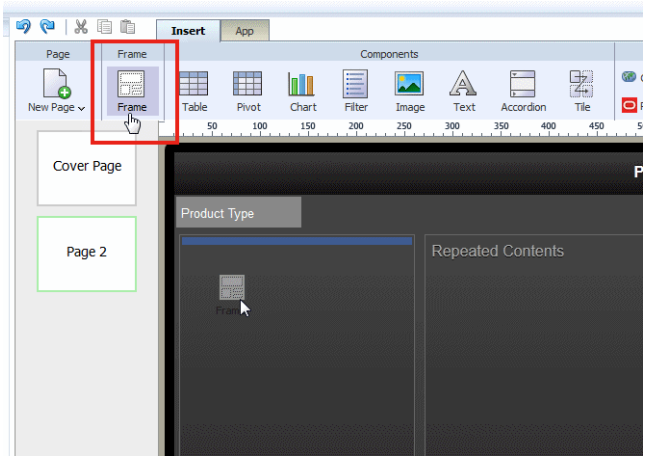
Figure 2–8 Inserted Tile Page



3. To position the fields that will display in your tiles, first insert a Frame:

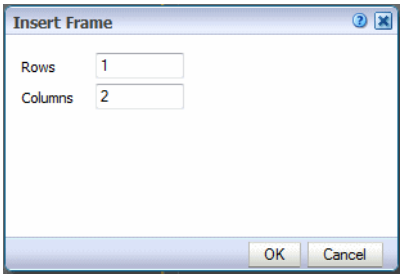
   With the first tile selected, click the **Insert** toolbar. Select and drag the **Frame** component to the first tile.

Figure 2–9 Dragging the Frame Component to the Tile



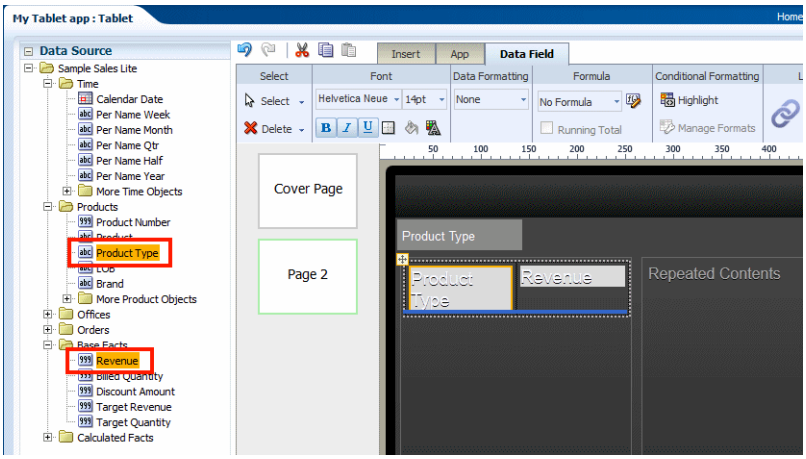
4. In the **Frame** dialog, enter 1 for the Rows value and 2 for Columns.

Figure 2–10 Entering Frame Dimensions



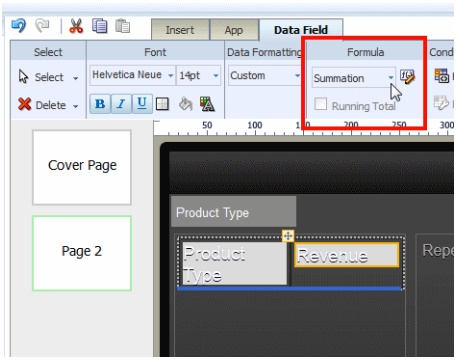
5. Drag and drop the **Product Type** field from the Data Source pane to the left frame cell. Drag and drop the **Revenue** field from the Data Source pane to the right frame cell.

Figure 2–11 Data Fields Inserted to the Tile Frame



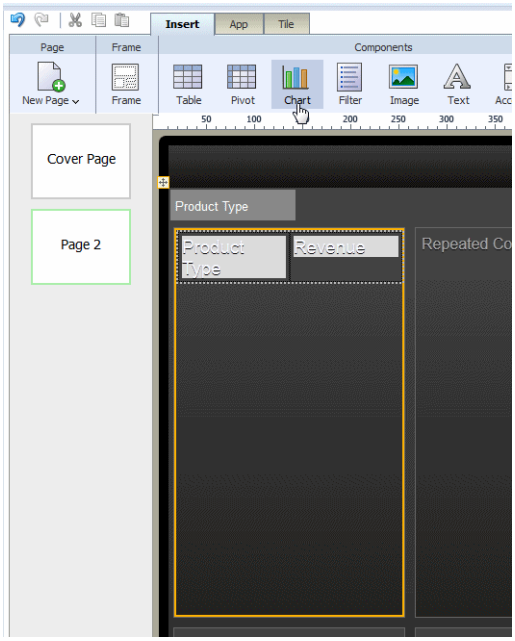
Notice that the Revenue field has the Summation formula applied to it. Revenue will be summed for the Product Type grouped in each tile.

Figure 2–12 Summation Formula Applied to Revenue



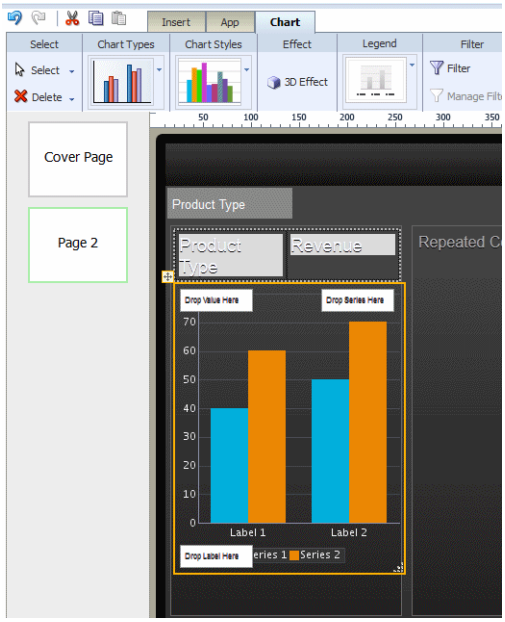
6. To insert the chart, ensure that the first tile is selected by clicking the outer border of the tile. From the **Insert** menu, click **Chart**.

Figure 2–13 Inserting Chart to Tile



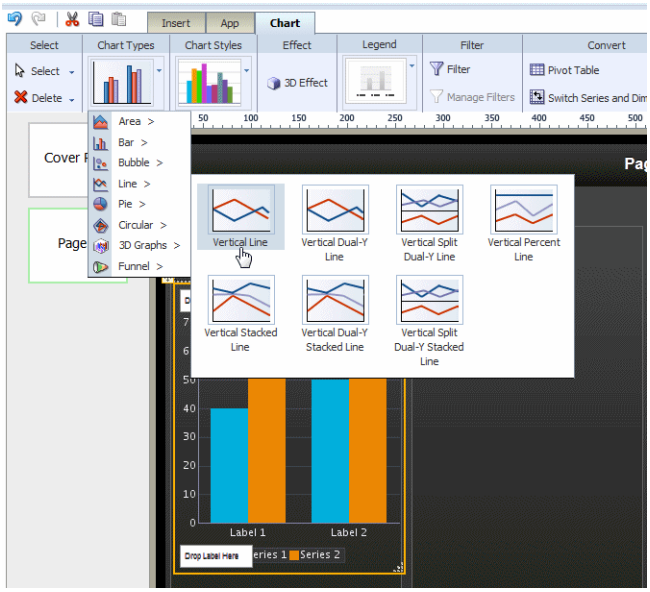
A default chart placeholder is inserted to the cell.

Figure 2–14 Default Chart Inserted to Tile



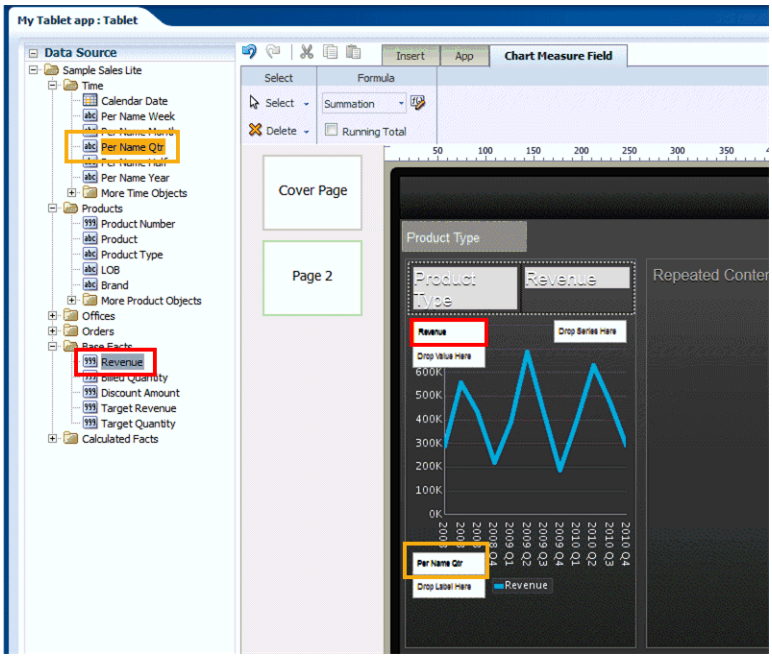
7. Change the **Chart Type** to a line chart: With the chart selected, click **Chart Type**, then select **Line**, then select **Vertical Line**.

Figure 2–15 Changing the Chart Type



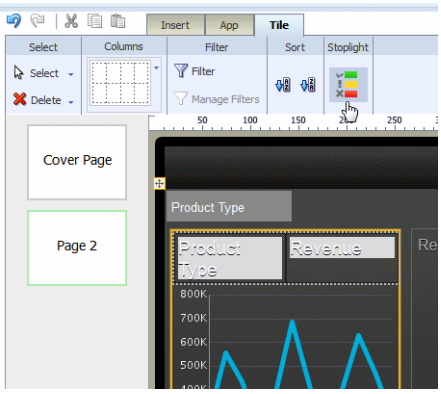
8. Add data to your chart by first dragging the **Revenue** field from the **Data** pane to the **Drop Value Here** position. Then drag the **Per Name Qtr** field from the **Data** pane to the **Drop Label Here** position.

Figure 2–16 Data Elements Inserted to the Chart



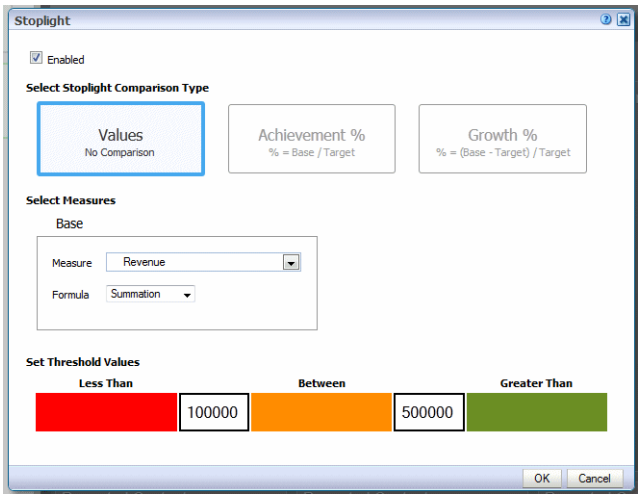
9. To add the stoplight formatting, select the first tile and then click **Stoplight**, as shown in Figure 2–17.

Figure 2–17 Selecting Stoplight Formatting



10. In the Stoplight dialog enter the following:
    - Select **Values.**
    - For the **Measure** field select Revenue.
    - For the **Formula** select Summation.
    - In the Less Than entry box enter 100000.
    - In the Greater Than entry box enter 500000.

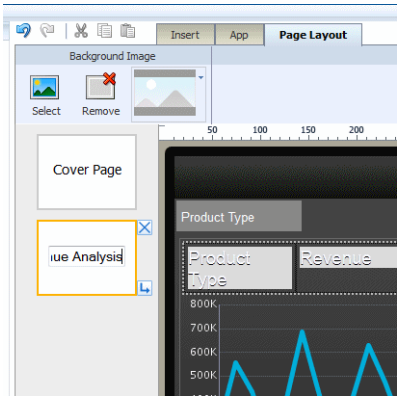
Figure 2–18 Editing the Stoplight Conditions



Click OK. The conditional formatting does not display during design time, but you can see the effects when you preview.

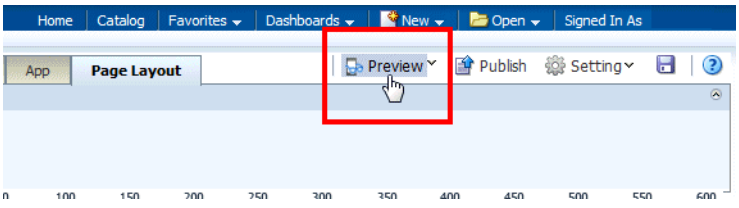
11. The final task on this page is to change the page title. Double-click the text "Page 2" on the page icon in the left column as shown in Figure 2–19. Update the text to "Revenue Analysis".

Figure 2–19 Updating the Page Title



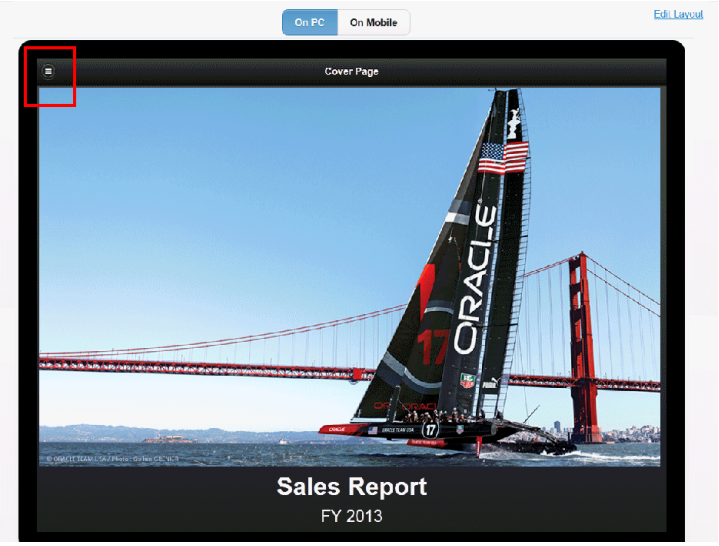
12. Click the **Preview** toolbar button and select **Preview**.

Figure 2–20 Selecting Preview Option



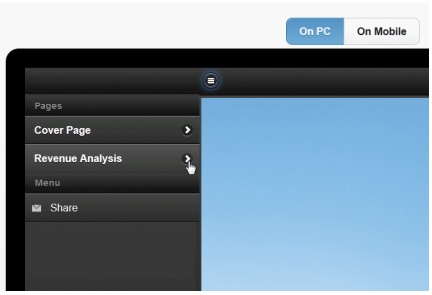
Your app is displayed in the tablet simulator.

Figure 2–21 Tablet Simulator in Preview Mode



To view the second page of your app, click the page menu icon in the upper left corner, then click the page title Revenue Analysis.

Figure 2–22 Using the Page Menu to Navigate the App

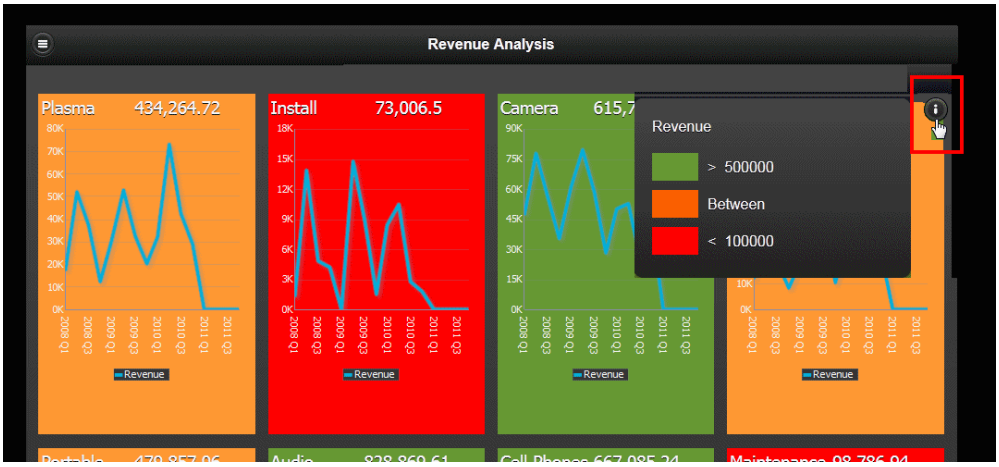


Your second page displays showing the tiles you created with the stoplight formatting applied.

Figure 2–23 Preview of Tiles

Notice the Information icon in the upper right corner. Click the icon to see the stoplight conditions you applied.

Figure 2–24 Click the Information Icon to View Stoplight Conditions



13. Click **Edit Layout** to return to the designer.

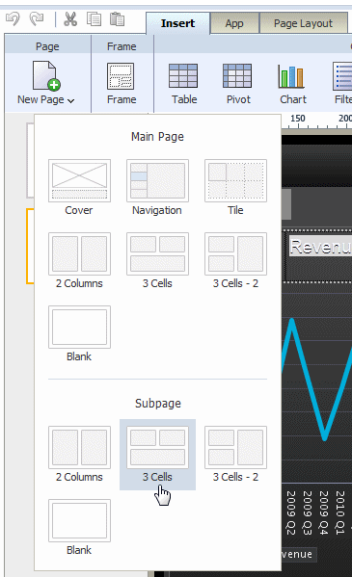
2.1.4 Create the Subpage

The next page of your app is a detail page of the Revenue Analysis page. When you tap one of the Product Type tiles on your first page, a detail page opens to show detail information filtered for the Product Type that was tapped. To create the master-detail relationship, simply add a subpage to the Revenue Analysis page.

To add the subpage:

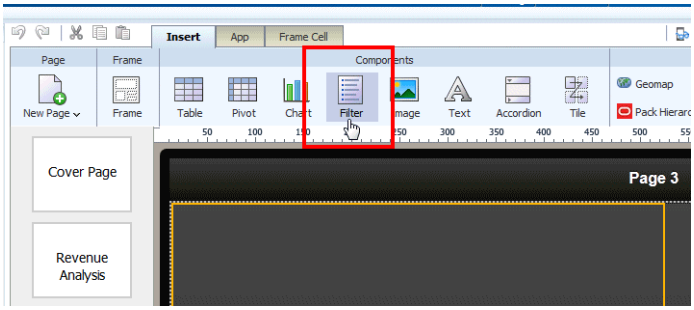
1. Click the **Insert** toolbar and then click **New Page**. To add a subpage, choose one of the Subpage options. For this tutorial, select the **3 Cells** page layout.

Figure 2–25 Creating the Subpage



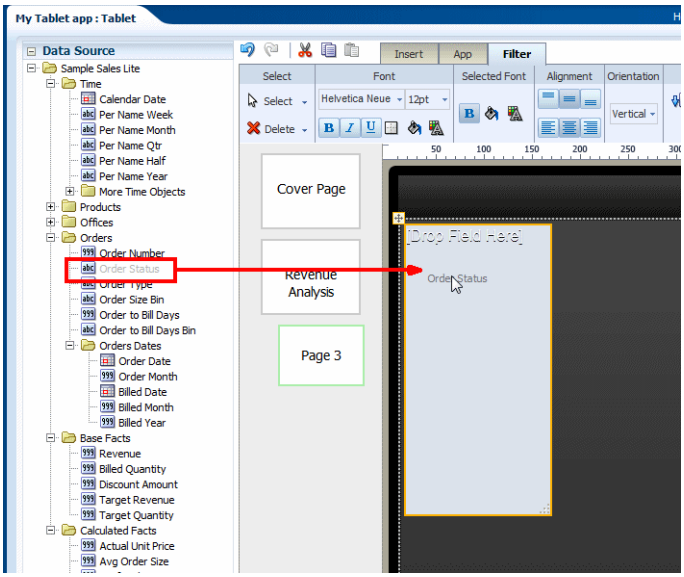
2. Insert the Filter component:

Select the upper-left cell and then click the **Insert** tab. Click **Filter**.



An empty filter is inserted. From the **Data Source** pane drag **Order Status** to the Filter component.

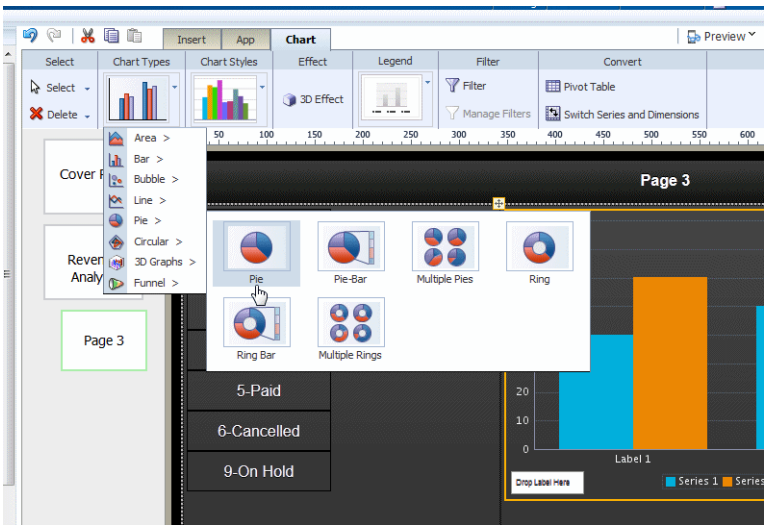
Figure 2–26 Dragging the Order Status Field to the List Component



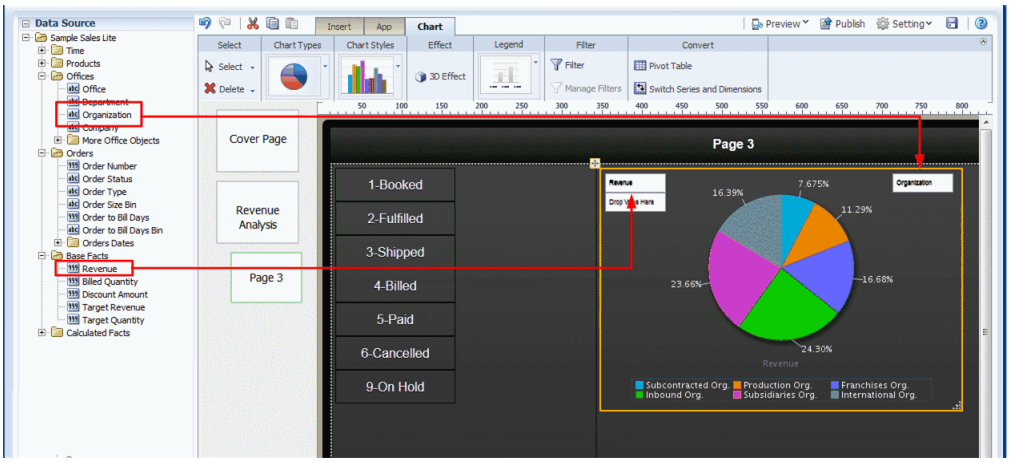
3. Insert the pie chart:

Select the upper-right cell and then click the **Insert** tab. Click **Chart**. A default chart placeholder is inserted to the cell.

Change the chart type to pie by clicking **Chart Type**, then **Pie >**, then **Pie** from the submenu.



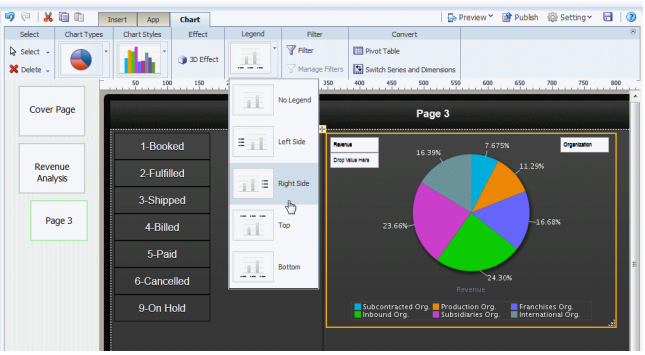
4. Add data to your chart by first dragging the **Revenue** field from the **Data Source** pane to the **Drop Value Here** position. Then drag the **Organization** field from the **Data Source** pane to the **Drop Series Here** position.



5. Change the position of the legend:

   With the chart selected, on the **Chart** tab, click **Legend** then select the **Right Side** option.

Figure 2–27 Changing the Position of the Pie Chart Legend

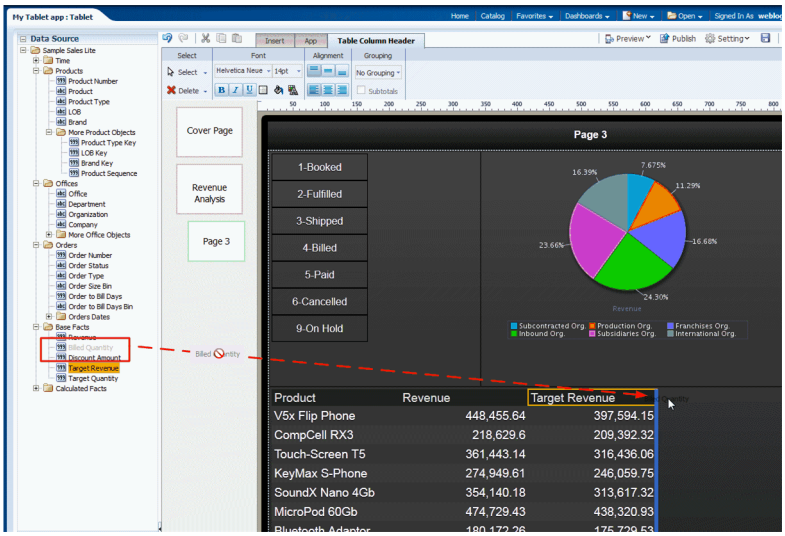


6. Insert the table:

   Select the bottom cell and then click the **Insert** tab. Click **Table**. Drag the following fields from the **Data Source** pane to the table:

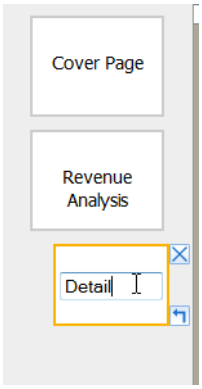
   - Product Name
   - Revenue
   - Target Revenue
   - Billed Quantity

Figure 2–28 Dragging the Data Items to the Table



7. Finally, change the title of the subpage to "Detail" by double-clicking the text in the subpage icon as shown in Figure 2–29.

Figure 2–29 Updating the Subpage Title

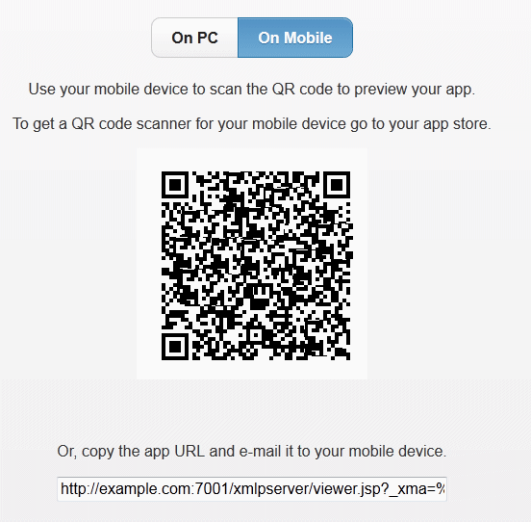


2.1.5 Preview Your App on a Mobile Device

Preview your app on your tablet:

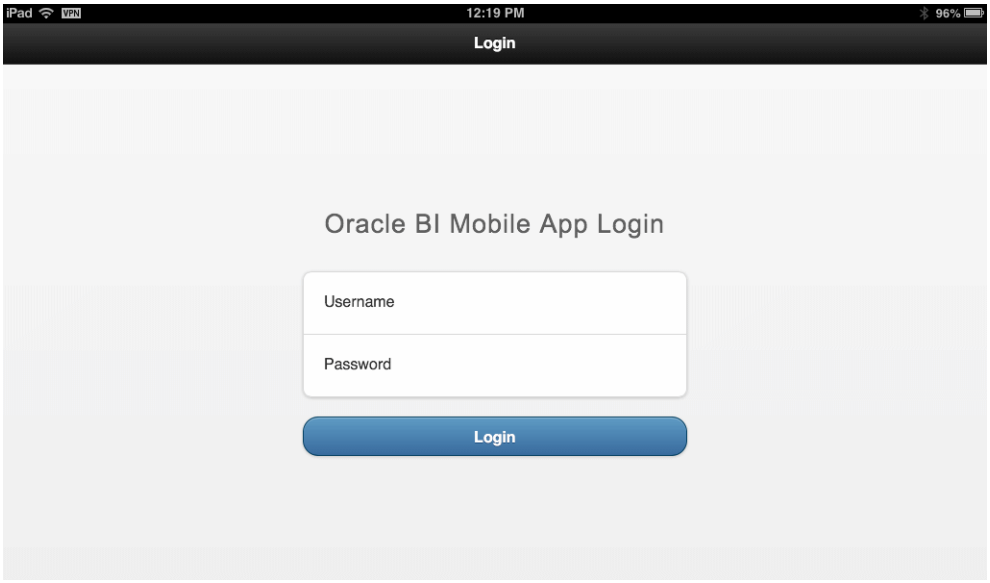
Click **Preview** and then click **On Mobile**. Use your tablet's QR code reader to obtain the URL to open your app in your tablet browser. Or, alternatively, copy the URL and e-mail it to your mobile device to open it.

Figure 2–30 Preview Page Showing the App QR Code



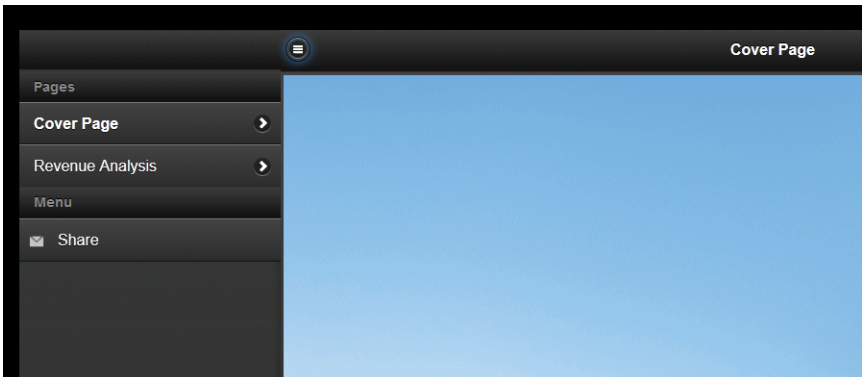
Enter your login credentials for Oracle BI Enterprise Edition to view your app on your mobile device.

Figure 2–31 Login screen on tablet



To share with your colleagues, tap the page menu, and then tap **Share** to send e-mail link to your app.

Figure 2–32 Tap Share to Send Link to Your App



3

Creating Apps

This chapter describes creating and saving a new app.

It includes the following sections:

- Launch the Create App Wizard
- Choose Your Device Type
- Choose Your Data Source
- Save Your App

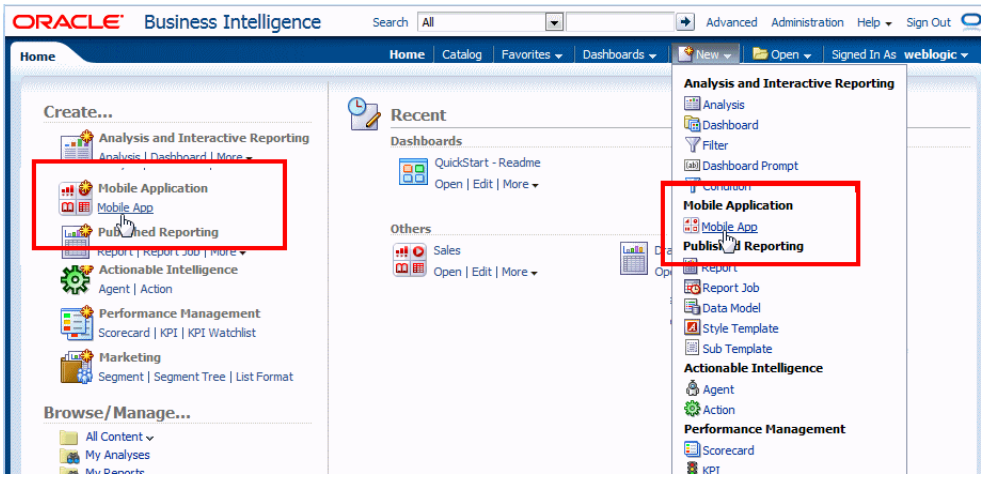
3.1 Launch the Create App Wizard

Launch the Create App Wizard in one of the following ways:

- From the **Home** page, under the **Create** region, select **Mobile App**.
- On the global header, click **New** and then select **Mobile App**.

Both methods are shown in Figure 3–1.

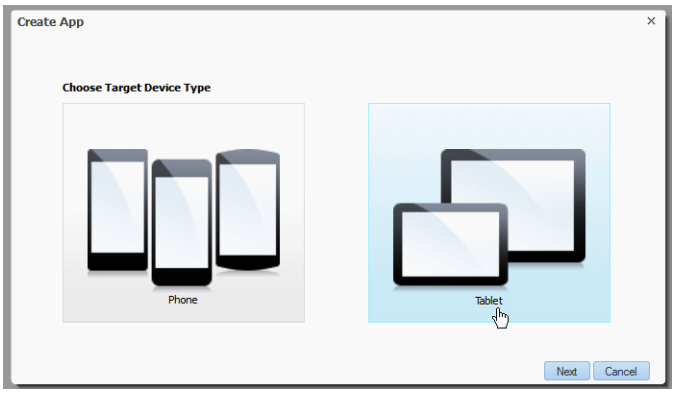
Figure 3–1 Launch the BI Mobile App Creation Wizard



3.2 Choose Your Device Type

In the App Creation wizard, choose Phone or Tablet as the target device type for your app.

Figure 3–2 Choosing a Device Type



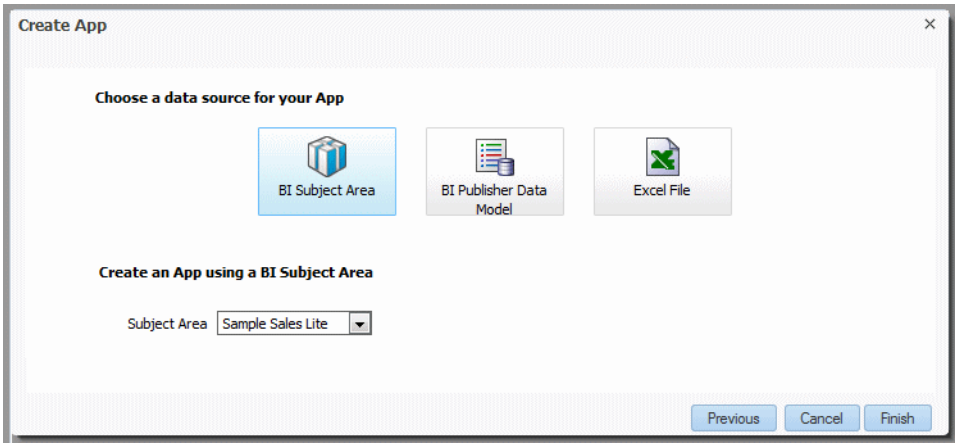
The Mobile App Designer presents a workspace optimized for the device type chosen here.

> **Tip:** Although both types can be opened on any device, Oracle recommends that you consider carefully the use case for your app and design for one target device. If your app is for your users to get specific information quickly, a phone app is appropriate. If you intend for your users to spend more time interacting with your app, choose tablet.

3.3 Choose Your Data Source

Select the data source type to use for your app.

Figure 3–3 Choosing a Data Source Type



The Mobile App Designer supports the following data sources:

- BI Subject Area

  Click **BI Subject Area** and select the Subject Area from the list.

  In this step you can select one BI Subject Area. To use multiple subject areas in your data source see Section 7.2, "Updating the Data Source."

- BI Publisher Data Model

Click **BI Publisher Data Model** and choose the data model from the Catalog.

BI Publisher data models must include sample data. For information about BI Publisher data models, see *Oracle Fusion Middleware Data Modeling Guide for Oracle Business Intelligence Publisher*.

- Excel spreadsheet

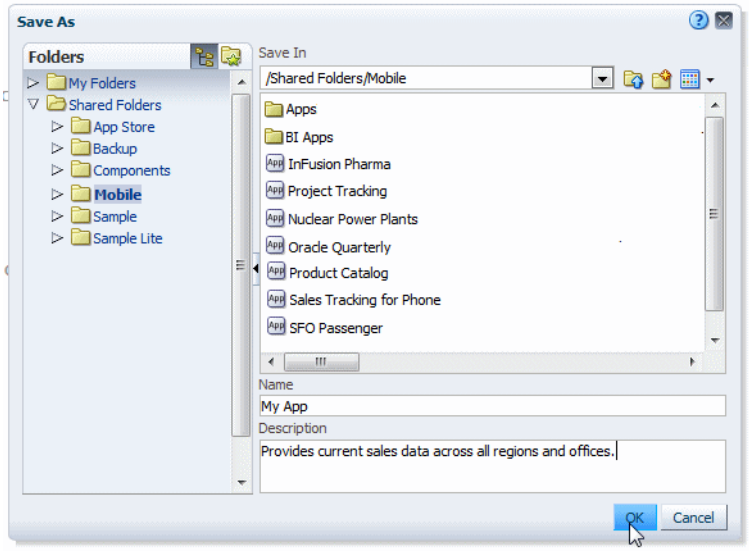
  Click **Excel File** and select the file from your file system to upload it. The Excel file must be saved as .xls.

  If the Excel Workbook includes multiple sheets, select the sheet to use. For information about Excel file support see "Creating a Data Set Using a Microsoft Excel File" in *Oracle Fusion Middleware Data Modeling Guide for Oracle Business Intelligence Publisher*.

3.4 Save Your App

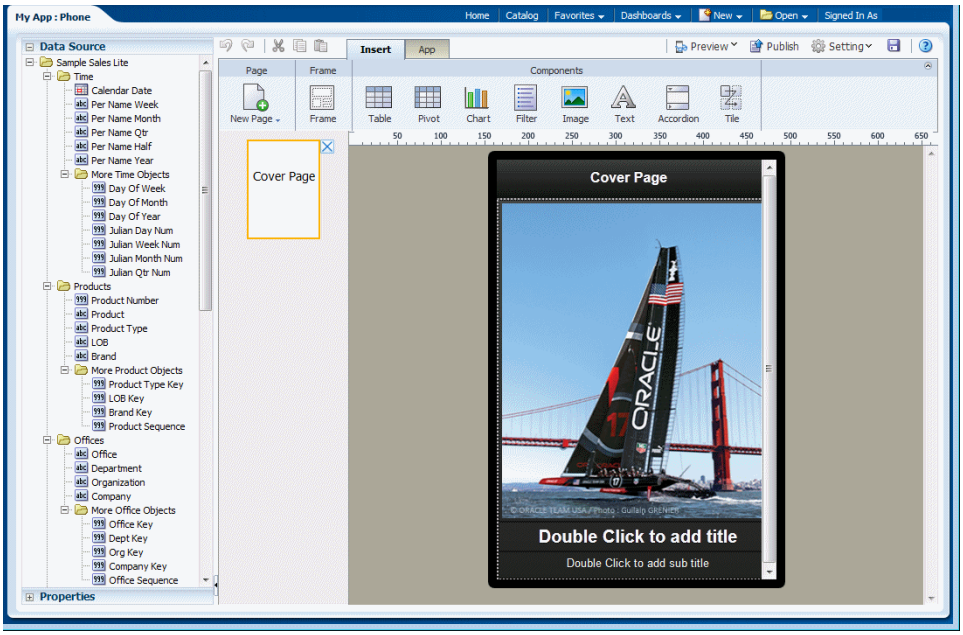
Click **Finish** to save your app. Select a folder location, then enter a name and click **OK**.

Figure 3–4 Saving the App



The app designer opens to display the default cover page. The design area displays as a tablet or phone as appropriate for your device type choice. See Chapter 4, "Designing Apps" to begin designing your app.

Figure 3–5 BI Mobile App Designer



4

Designing Apps

This chapter describes how to insert and customize the components available in the BI Mobile App Designer.

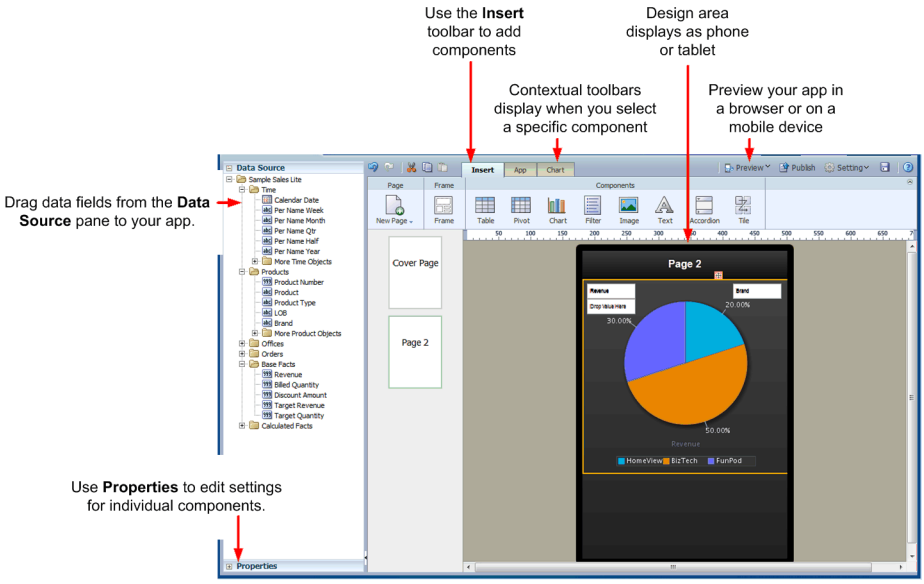
This chapter describes the following:

- The Oracle BI Mobile App Designer Workspace
- Adding and Editing Pages
- Editing the Cover Page
- Adding Tile Pages
- Inserting Images
- Inserting Frames
- Adding Navigation Pages
- Adding Accordion Pages
- Inserting Tables
- Inserting Pivot Tables
- Inserting Charts
- Inserting Filters
- Inserting Data Fields
- Inserting Text
- Customizing Background Images
- Setting the App Color Theme

4.1 The Oracle BI Mobile App Designer Workspace

Figure 4–1 shows the Oracle BI Mobile App Designer workspace.

Figure 4–1 Oracle BI Mobile App Designer



Note the following features of the app designer:

- The workspace displays the canvas area as a phone or a tablet-sized screen depending on the target device type you chose. The tablet area is 1024 x 768 pixels. The phone area is 480 x 320 pixels. This design area size does not constrain the run time display. Mobile App Designer's responsive display engine detects the device screen size and adjusts the viewing area appropriately for the device an app is being viewed on.
- Use the **Insert** toolbar to add the components to your app.
- Contextual, component-specific toolbars provide the most commonly used commands and properties for the component that is selected in the app page. For example, when you select a chart, the **Chart** toolbar displays; when you select a table, the **Table** toolbar displays.
- The left hand pane toggles between **Data Source** and **Properties**:
  - Use the **Data Source** pane to select and drag data fields to the visualizations you insert to your app.
  - Use the **Properties** pane to modify settings for components selected in the design area.
- **Preview** your app at anytime during the design phase in the mobile device simulator.

4.1.1 Setting Properties

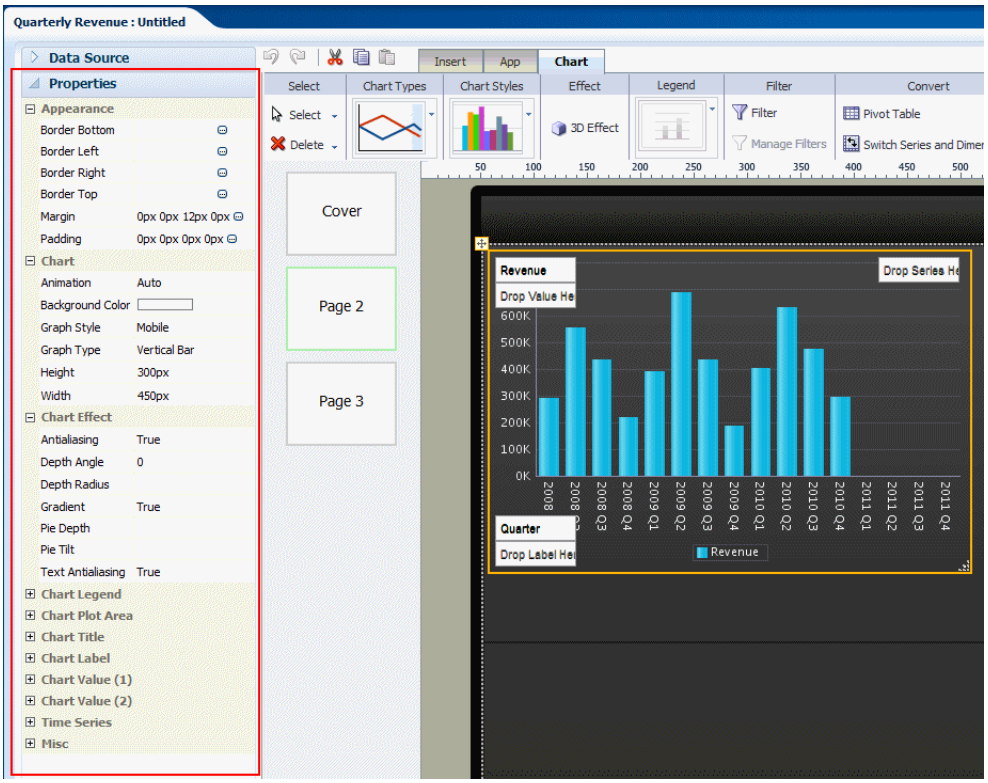
The **Properties** pane displays the properties for the selected component in the workspace. For example, when you select a table in the workspace, the Table properties display. Some of the properties available in the **Properties** pane are also editable in the component-specific toolbar.

Click the property value to edit it. The change is applied to the component when you move the cursor out of the field. Collapse or expand a property group by clicking the plus or minus sign beside the group name.

Some properties available from the **Properties** pane are described in Chapter 6, "Advanced Design Features."

Figure 4–2 shows properties available for a chart.

Figure 4–2 Sample Properties Pane for a Chart



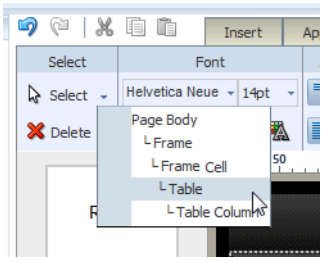
4.1.2 Selecting and Deleting Items

Each of the component-specific toolbars includes the **Select** region.

- The **Select** tool enables you to control precisely which component on the page has focus. This feature is particularly helpful when working with a complex design with overlapping components.

  Figure 4–3 shows the **Select** tool.

Figure 4–3 The Select Tool

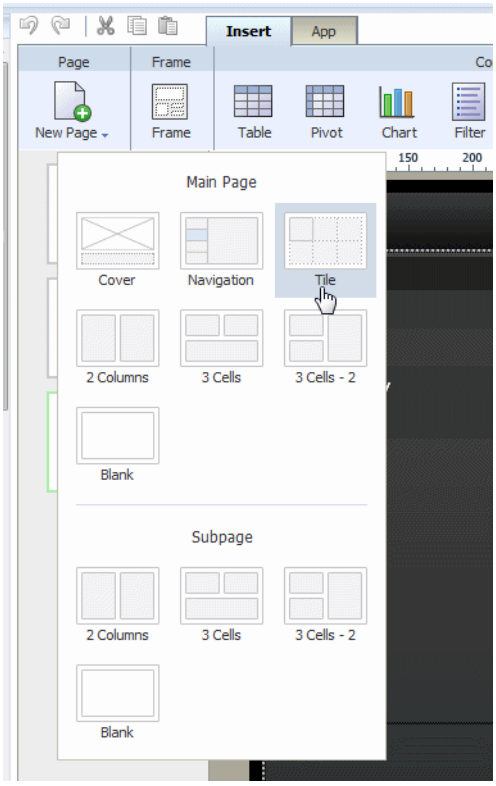


- The **Delete** tool also provides a drop-down selection list to enable you to precisely select the component to delete.

4.2 Adding and Editing Pages

The **New Page** menu provides several preformatted page templates. When you insert a page, first choose a **Main Page** or a **Subpage**.

Figure 4–4 Inserting a New Page for a Tablet App



Main Pages and Subpages

A main page is a page at the top level of your app. A main page displays in the app menu. You can navigate through the main pages of the app by swiping through the app sequentially, or you can navigate directly to a specific page using the page menu.

A subpage presents detail information of the main page to which it is associated. A subpage does not display in the app page menu. Typically you navigate to a subpage by tapping a data item on its main page (such as a tile or a chart value). The data presented on the subpage is automatically filtered based on the item you tapped on the main page. When you access a subpage by swiping the previous page, the subpage displays all data received from the previous page.

When you create a subpage beneath another subpage, each subpage can be filtered by tapping the page before it.

4.2.1 Selecting a Page Template

The Mobile App Designer provides several preformatted page templates to help you get started with your design:

- **Cover**

The default cover page includes an image and headings. Use a cover page to introduce your app. See Editing the Cover Page to customize your cover page.

- **Navigation**

  A navigation page provides a master-detail interaction between a set of hierarchical filters that users navigate to control the display of the detail region of the page. The detail region contains visualizations you define that automatically update based on the selection in the navigation region. See Adding Navigation Pages.

- **Tile**

  A tile page provides a set of dynamic, scrollable tiles containing visualizations that enable easy comparison of key measures across your data set. A tile is generated for each occurrence of a specific item in your data. See Adding Tile Pages.

- **Accordion** (page template available for phone apps only)

  The accordion page provides an expandable display of a specific data dimension and a key measure (such as Product and Revenue). Add visualizations to the expansion area that you can expand and collapse easily to accommodate the mobile device viewing area. See Adding Accordion Pages.

- Columns or cells

  Choose from several column-cell design patterns to arrange your app components.

- **Blank**

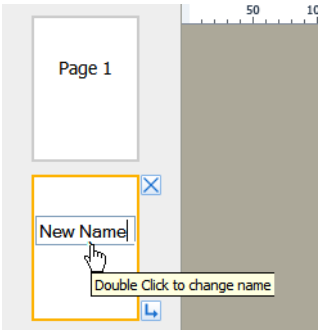
  To design a custom page layout, choose **Blank**. Insert **Frames** to create your own column and cell arrangement. See Inserting Frames.

4.2.2 Changing the Page Name

The page name displays at the top of the page and in the app menu. To edit the page name:

- Double-click the page name text on the page icon in the left column as shown in Figure 4–5 to open the text box for editing. Enter the new name.

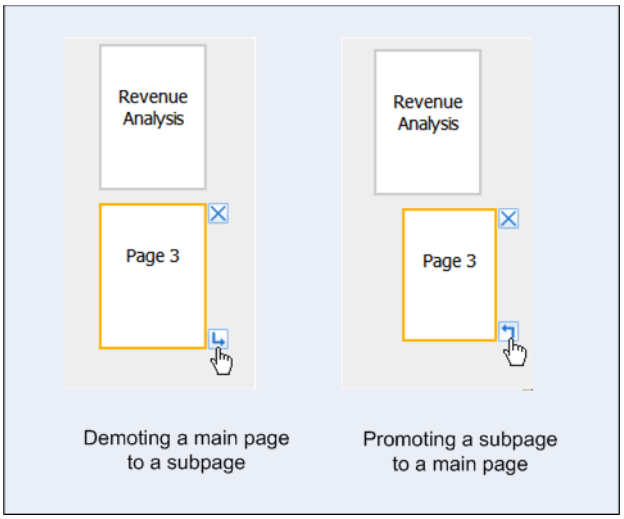
Figure 4–5 Updating the Page Name



4.2.3 Changing Between Main Page and Subpage

A main page can be demoted to a subpage by clicking the right-arrow icon. A subpage can be promoted to a main page by clicking the left-arrow icon.

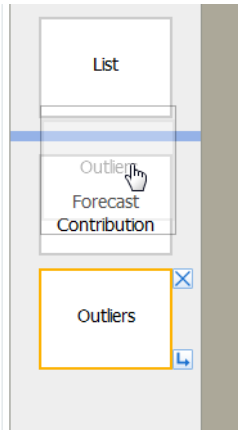
Figure 4–6 Changing the Page Hierarchy



4.2.4 Moving Pages

To move a page, select and drag the page to the new position.

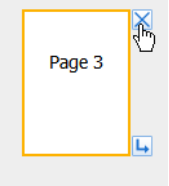
Figure 4–7 Moving a Page



4.2.5 Deleting Pages

To delete a page, select the page and then click the delete icon.

Figure 4–8 Deleting a Page



4.3 Editing the Cover Page

A cover page with a default image is included when you create an app. You can update the cover page image and title text; or, delete these default components and insert any other app component to the cover page.

4.3.1 Updating the Cover Image

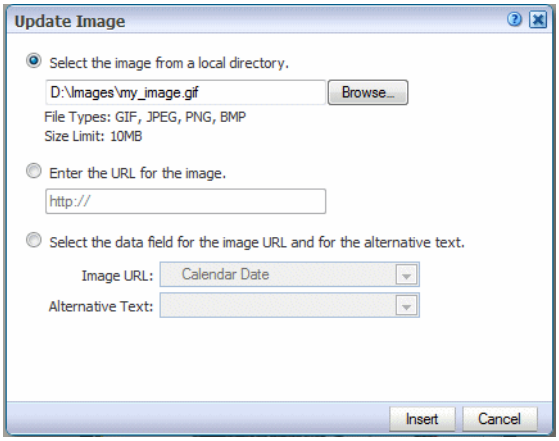
To update the cover page image:

1. Double-click the cover image.
2. In the **Update Image** dialog, specify one of the following sources for the image:
   - **Select the image from a local directory**: Click **Browse** to specify the file name and directory of the image on a local directory to upload the image.
   - **Enter the URL for the image**: Enter the URL where the image is stored.
   - **Select the data field for the image URL and for the alternative text**:

     Image URL: Select the field from the data that contains a URL to an image.

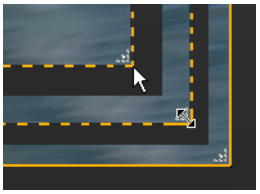
     Alternative Text: If your data includes a field that contains alternative text for the image, you can select that field to define the alternative text that is displayed for the image.

Figure 4–9 Update Image



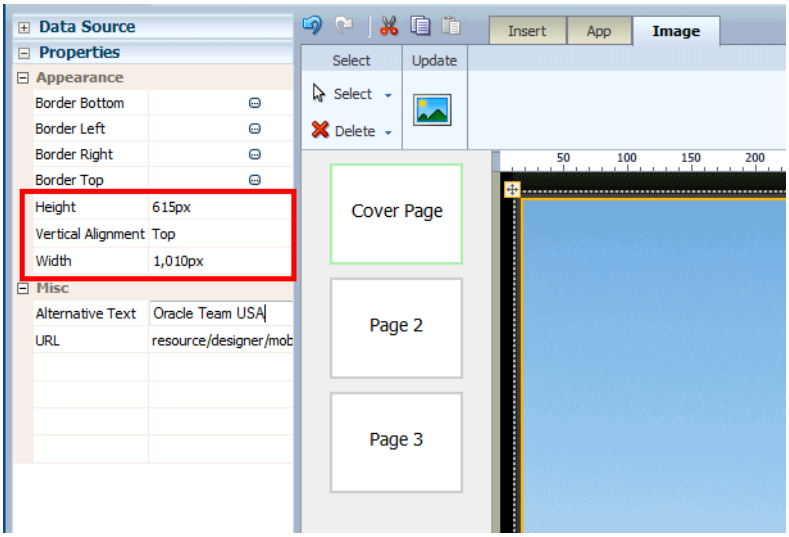
3. Optionally resize the image in one of these ways:
   - Drag the right bottom corner of the image. To preserve the aspect ratio when resizing an image, press and hold the Shift key before starting to drag the corner.

Figure 4–10 Resizing an Image



- Modify the width and height in the **Properties** pane. The Properties pane enables you to enter precise height and width values in pixels, centimeters, inches, or points.

Figure 4–11 Setting Image Dimensions from the Properties pane



4.4 Adding Tile Pages

Tile pages provide a scrollable set of tiles each containing the same components repeated for a specific field in your data. Use a tile page to provide an instant view of a key measure across a specific dimension. This view not only provides a complete picture within each tile, but also enables an at-a-glance comparison across your data set.

The example tiles shown in Figure 4–12 provide an overview of revenue for a set of products. Each tile displays the overall revenue and a chart showing revenue by quarter. When you design a tile page you can include any visualization in each tile.

Figure 4–12 Tiles Displayed on a Tablet

To enhance the visual impact of the values represented in each tile, you can add stoplight formatting to highlight tiles with results that fall outside the range of specific threshold values.

Figure 4–13 Tiles with Stoplight Formatting

When a tile page is paired with a subpage, each tile is a touch point to open the subpage filtered by the tile value. This combination enables your users to quickly assess areas that require attention and drill down for deeper analysis.

Figure 4–14 Tap Tile to Display Detail Subpage

Features of tile pages include:

- Each tile is a touch point. When you associate a subpage with a tile page, tapping a tile opens the detail subpage.

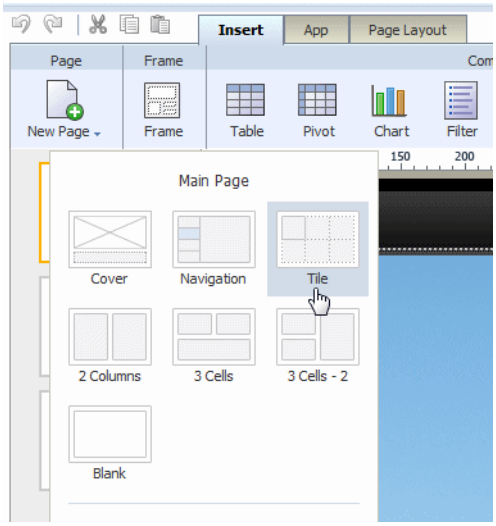
- Tiles load dynamically as you scroll down.
- Tile width is based on the number of columns specified and your device type display area. You can define the number of columns up to four across.
- You can customize the tiles to include any component.

4.4.1 Creating a Tile Page

When you insert a new page, **Tile** is available as a page template selection. You can also insert a tile into a specific page area using the option on the **Insert** toolbar.

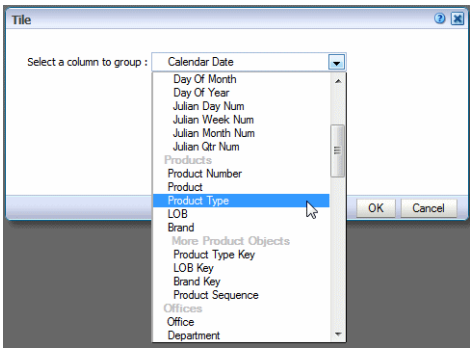
To insert a tile page:

1. On the **Insert** toolbar, click **New Page** and then click **Tile**.



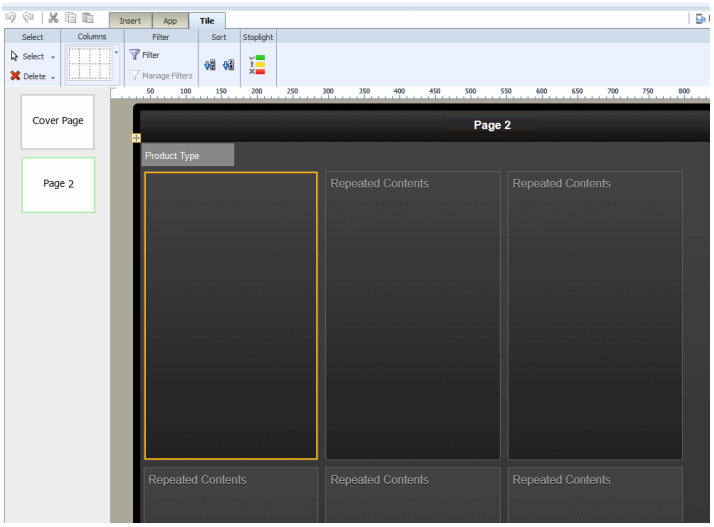
2. In the **Tile** dialog, choose the data field that you want grouped for each tile. The drop-down list includes all the fields from your data. The example tile page in Figure 4–15 will display one tile for each Product Type.

Figure 4–15 Selecting Data Field Column to Define Tiles



When inserted, the tiles display as shown in Figure 4–16. Note that in the app designer, only the first tile displays the contents. Use **Preview** when you want to see content across all tiles.

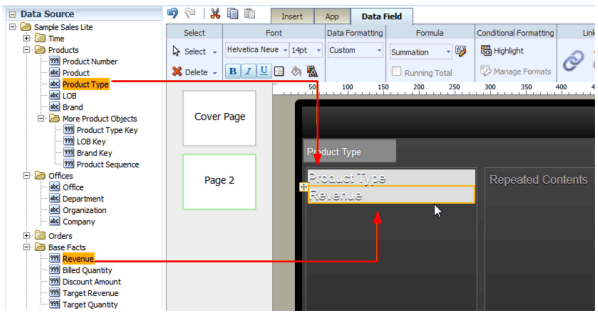
Figure 4–16 Inserted Tile Page



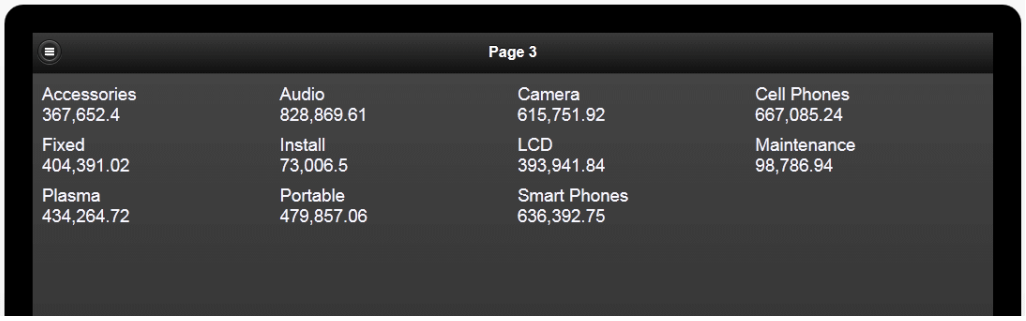
3. To add contents to the tiles, select the first tile, and drag the components from the **Insert** menu to the first tile.

   A common use case is to add the data field label to the tile with a measure. For example, drag **Product Type** from the **Data Source** pane to the first tile and then drag **Revenue** from the **Data Source** pane to the first tile.

Figure 4–17 Adding Field Label and Measure to Tile



4. Preview your tile page to view the contents so far. Click **Preview**.



To finish your tile page, add the components to the first tile. For example, to add a chart, simply drag the chart component from the **Insert** menu and customize the chart as desired. An example is shown in Figure 4–18. For information about more customizations you can apply to your tile page, see Customizing Tiles.

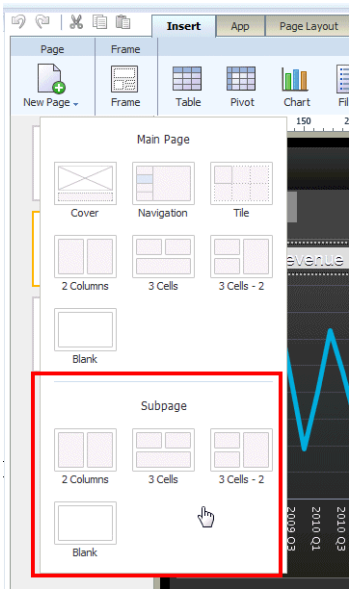
Figure 4–18 Sample Tile Page

4.4.2 Adding a Subpage to a Tile Page

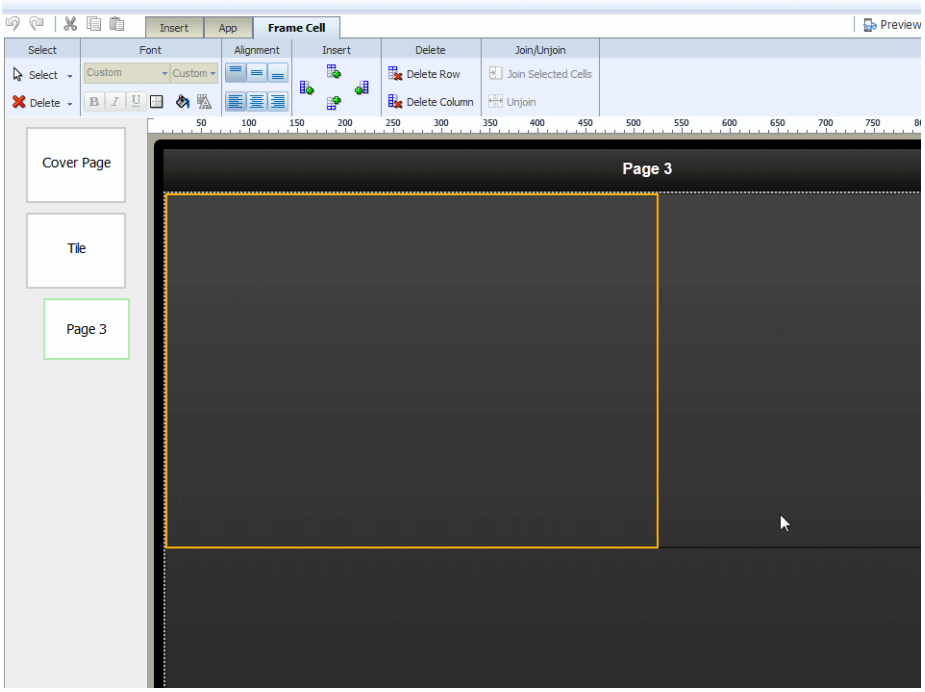
A common use case is to add a subpage to a tile page to provide more detailed information about the data provided in a specific tile. The detail subpage opens when you tap a specific tile.

To add a subpage:

1. Select the Tile page.
2. On the **Insert** menu, click **New Page** and then select one of the Subpage options from the menu.

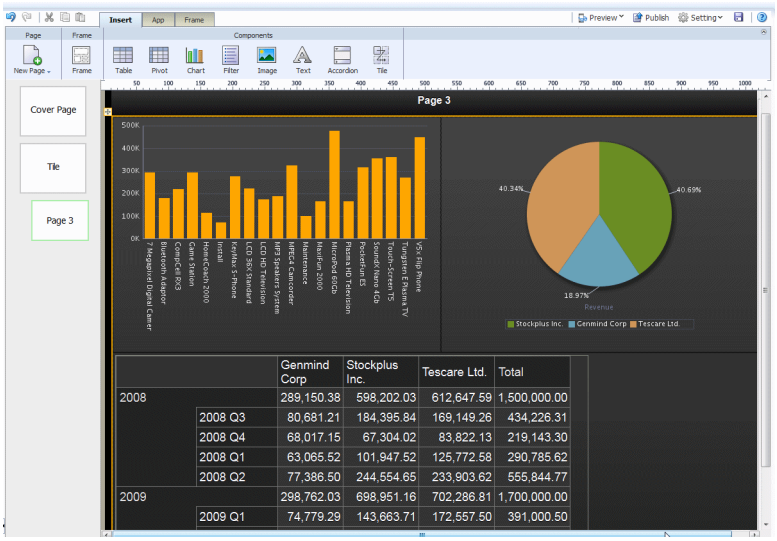


3. The empty subpage is inserted for you to add content.



4. Add components to your subpage. The example in Figure 4–19 shows a subpage with two charts and a pivot table. At run time, when you tap a tile on the tile page, the components on this page are filtered by the item tapped.

Figure 4–19 Example Subpage



4.4.3 Customizing Tiles

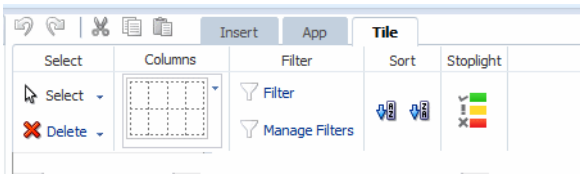
You can insert any combination of components to the tiles. To accommodate the components you choose you can apply the following customizations:

- Specify Columns
- Apply Filters

- Sort
- Add Stoplight Formatting
- Resize Tile Margins

Most of these options are available from the **Tile** toolbar. Select the first tile to display the toolbar.

Figure 4–20 Tile Toolbar

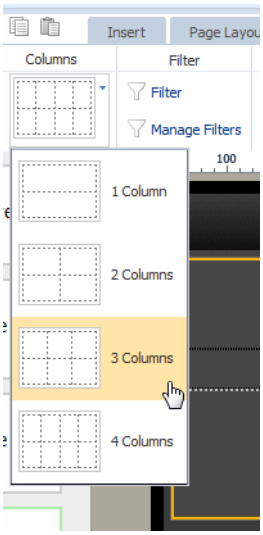


4.4.3.1 Specify Columns

To change the number of columns that display across the page, click the **Columns** option and select the number of columns. Supported values are one through four.

The column width automatically adjusts depending on the size and type of mobile device used to view the app.

Figure 4–21 Changing the Number of Columns Displayed



4.4.3.2 Apply Filters

Apply a filter to refine the items displayed in the tile page. For example, you can apply a filter to limit the display to only:

- The top 10 salaries
- The bottom 25 store sales
- Employees in the IT department
- Sales that are between $10,000 and $20,000 and in the Southern region

You can add multiple filters and manage the order in which they are applied to the tile page.

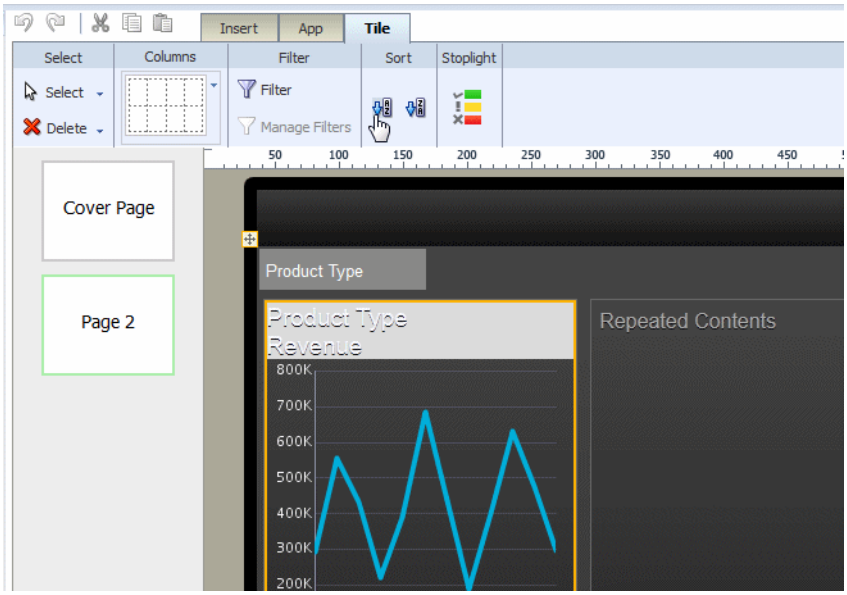
See Section 6.3, "Adding Filters to Tiles, Charts, Tables, and Pivot Tables" for information about adding filters to page components.

4.4.3.3 Sort

The **Sort** option sorts the tiles by the field you selected as the tile grouping field. For example, if you chose Product Type as the tile grouping field, and then select Sort ascending, the tiles will be sorted from A - Z by the Product Type name.

To sort the tiles:

1. Select the first tile to view the **Tile** toolbar.
2. In the **Sort** group click **Ascending Order** or **Descending Order**.



4.4.3.4 Add Stoplight Formatting

Stoplight formatting applies one of three distinct background colors to each tile depending on the value of a chosen aggregated field in your data. You can customize the colors or use the default colors red, amber, and green. Use stoplight formatting to quickly assess an indicator as unacceptable, acceptable, or desirable.

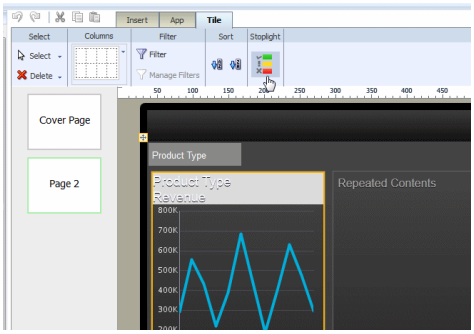
The Stoplight feature enables you to highlight values conditionally based on static threshold values, a comparison to a target value, or a comparison to another field.

- Apply Formatting Based on Static Values
- Apply Formatting Based on Percent Achievement
- Apply Formatting Based on Percent Growth

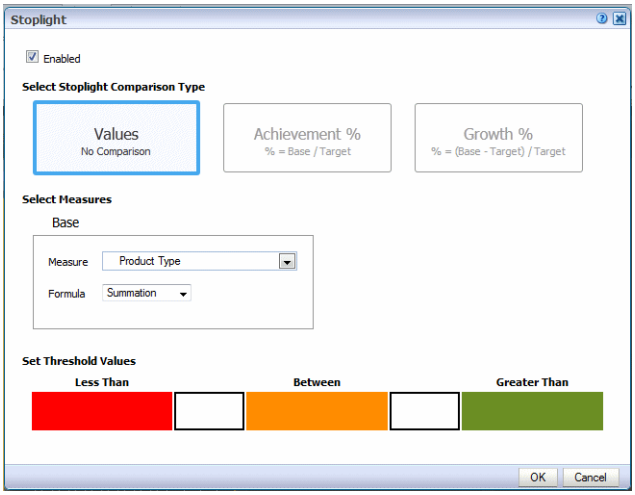
4.4.3.4.1 Apply Formatting Based on Static Values Use this option when the unacceptable, acceptable, and desired values are the same for the aggregated field for all items. You can customize the colors for each range.

To apply conditional formatting based on static values:

1. Select the first tile and click **Stoplight**.

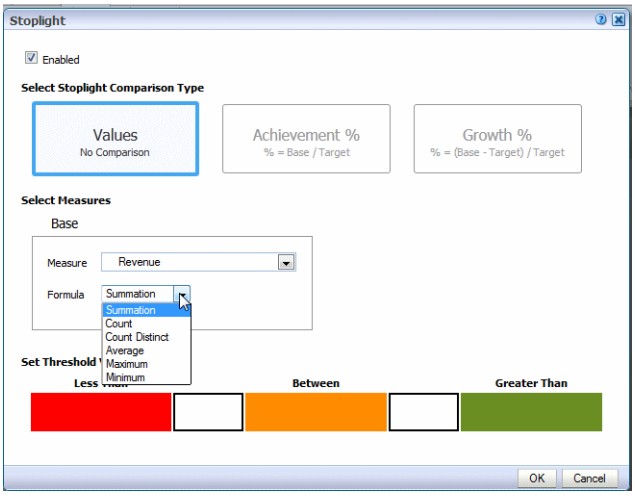


2. In the **Stoplight** dialog select **Values**.



3. Select the **Measure** field on which to base the formatting and then select the formula to apply to the Measure.

   For example, assume you have grouped tiles by Product Type. You want to apply formatting to each tile based on the value of Revenue for each product type. Select Revenue as the **Measure** and Summation as the **Formula**.



4. Enter the threshold values for the background colors. Values less than the left entry will display the **Less Than** background color. Values greater than the right

entry will display the **Greater Than** background color. Values between display the **Between** color.

To change the default colors, see Customizing the Colors.

5. Click OK.

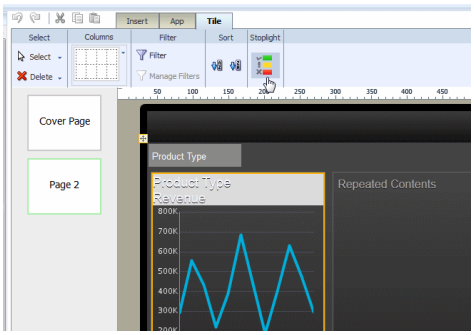
   Note that for Tile pages the stoplight formatting does not display in the design workspace.

6. Click **Preview** to view how the formatting will display at run time.

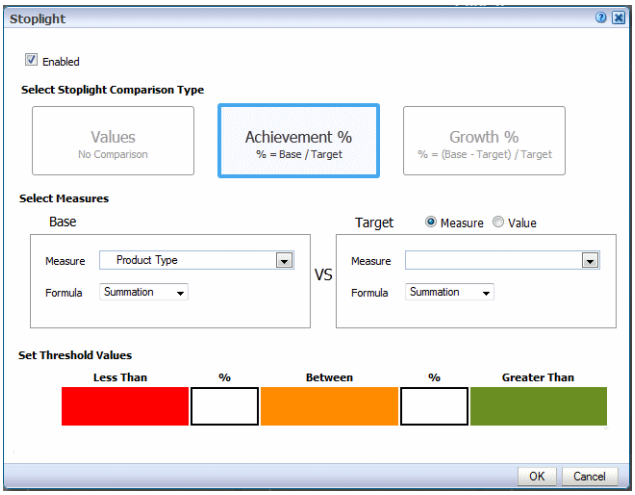
4.4.3.4.2 Apply Formatting Based on Percent Achievement This option enables you to conditionally highlight the aggregate value based on the percentage of a target value. For example, you want to highlight sales that are less than 50 percent of target to display as red, sales that are 50-75 percent of the target as amber and sales that are greater than 75 percent of the target to display as green.

To apply conditional formatting based on the percent achievement of a target:

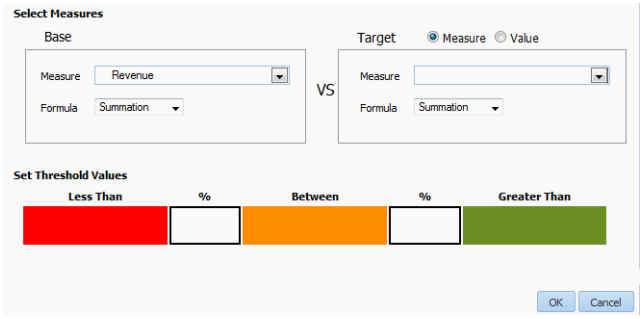
1. Select the first tile and click **Stoplight**.



2. In the Stoplight dialog select **Achievement %**.



3. Select the **Base Measure** from the data field list and the **Formula** to apply to the measure field. In this example, Revenue will be summed for each tile to establish the base measure.



4. Choose the **Target Measure** or enter a **Value**.

   - **Measure** - select a field from the data to supply the target value for comparison.
   - **Value** - enter a static value to supply the target value for comparison.

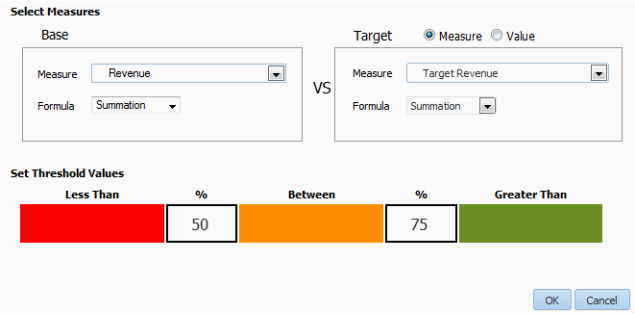
   The app calculates what percentage the calculated Base measure value is of the Target value. In the example below, the Revenue column (Base) is compared to the Target Revenue column (Target). The calculation performed is:

   Revenue/Target Revenue X 100%

   Therefore if your Revenue is $8,000 and your Target Revenue is $10,000, the percent achievement is:

   8,000/10,000 X 100% = 80%

5. Enter the **Less Than** and **Greater Than** percentage values for the background colors.



If the Base value percentage of the Target value is less than the percentage you enter on the left, the **Less Than** color displays. If the Base value percentage of the Target value is greater than the value you enter on the right, the **Greater Than** color displays.

6. To change the default colors, see Customizing the Colors

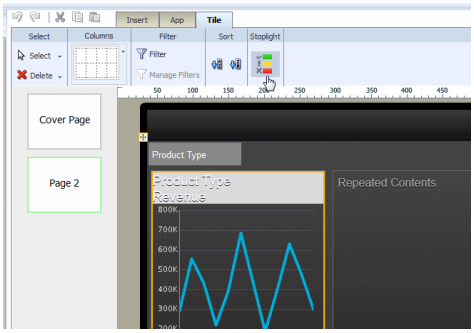
4.4.3.4.3 Apply Formatting Based on Percent Growth This option enables you to conditionally highlight the aggregate value based on the percent difference of the base value from the target value. The calculation applied is:

(Base - Target)/Target X 100%

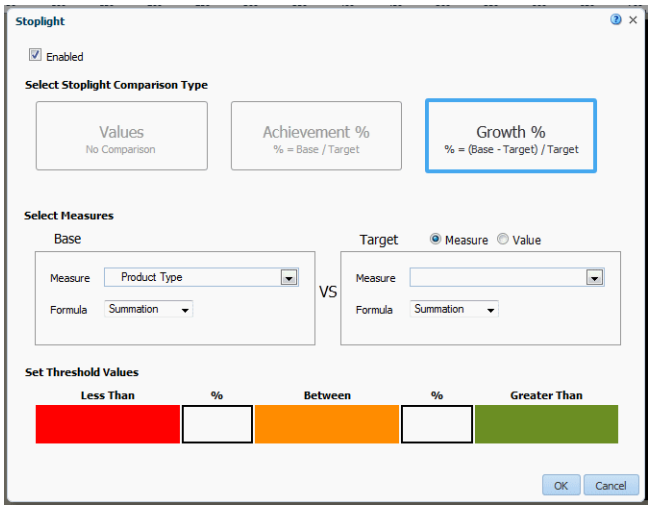
For example, you want to compare sales from the current and previous quarters and you want to see when sales in the current quarter showed less than 10% growth from the previous quarter. When sales showed 10% growth you want to display the value in green, when 0-10% growth display amber, and when less than 0% growth display red.

To apply conditional formatting based on percent growth:

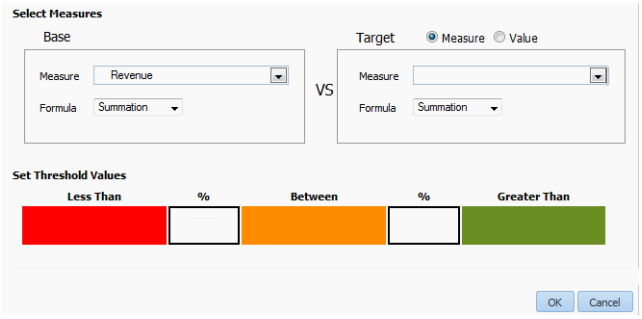
1. Select the first tile and click **Stoplight**.



2. In the **Stoplight** dialog select **Growth %**.



3. Select the **Base Measure** from the data field list and the **Formula** to apply to the measure field. In this example, Revenue will be summed for each tile to establish the base measure.



4. Choose **Target Measure** or **Value**.

   - **Measure** - select a field from the data to supply the target value for comparison.
   - **Value** - enter a static value to supply the target value for comparison.

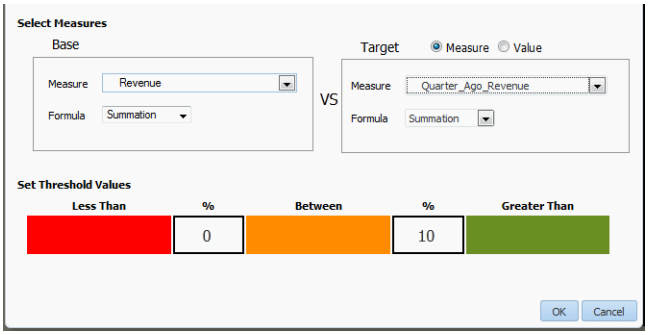
   The app calculates the percent difference that the **Base** column value is from the **Target** value. In the example below, the Revenue column (Base) is compared to the Quarter Ago Revenue column (Target). The calculation performed is:

   ((Revenue - Quarter Ago Revenue)/Quarter Ago Revenue) X 100%

   Therefore if your Revenue is $11,000 and your Quarter Ago Revenue is $10,000, the percent growth is:

   ((11,000 - 10,000)/10,000) X 100% = 10%

5. Enter the **Less Than** and **Greater Than** percentage values for the background colors.



If the Base value percentage difference from Target value is less than the percentage you enter on the left, the **Less Than** color displays. If the Base value percentage difference from the Target value is greater than the value you enter on the right, the **Greater Than** color displays.

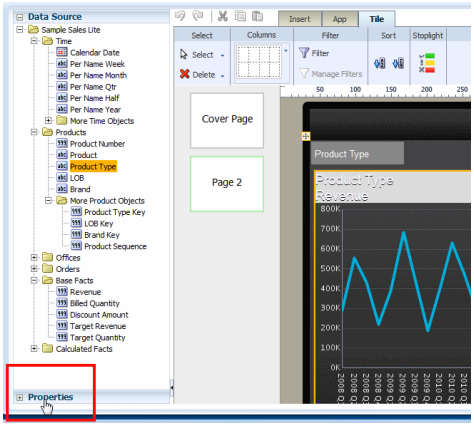
6. To change the default colors, see Customizing the Colors.

4.4.3.5 Resize Tile Margins

You can adjust the space around each tile.

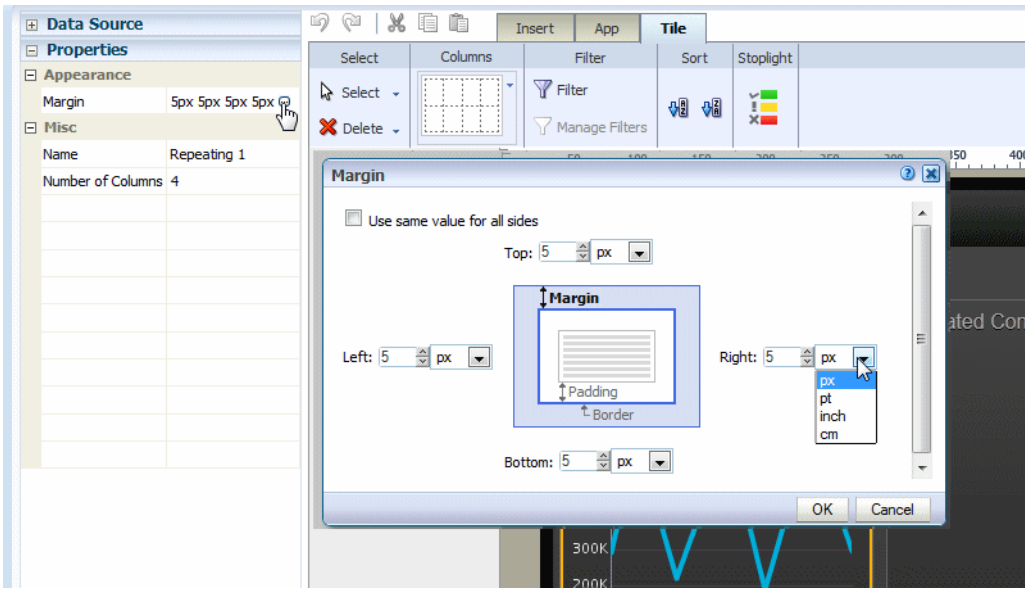
To customize the margin area between tiles:

1. Select the first tile.
2. Click **Properties** on the left pane.



3. Click the value column next to **Margin**.

Figure 4–22 Customizing Tile Margins



4. Enter the new margin values and select the unit of measurement.
5. Click OK.

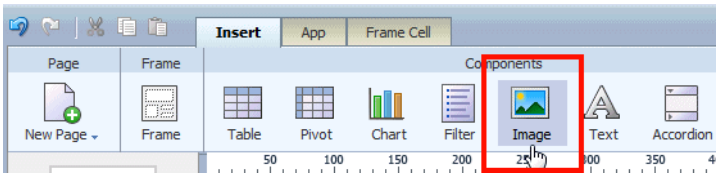
4.5 Inserting Images

The Mobile App Designer supports the following methods for including images in a page:

- Static image: Upload a static image that is saved in the app. An uploaded image file must be in one of the following graphic file formats: GIF, JPEG, PNG, or BMP. The image file cannot be larger than 10 MB.
- Static URL: Specify a static link to a URL where an image is stored. At run time the image is retrieved from the stored location.
- Dynamic URL: When the image URL is provided in a data field, specify the field that contains the URL. The value of the data field is evaluated at runtime enabling dynamic insertion of an image.

To insert an image:

1. From the **Insert** toolbar, drag the **Image** component to the page.



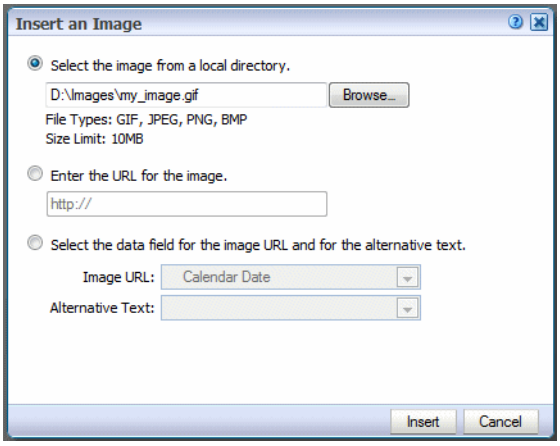
2. In the **Insert an Image** dialog, specify one of the following sources for the image:
   - **Select the image from a local directory**: Click **Browse** to specify the file name and directory of the image on a local or mapped drive to upload the image.
   - **Enter the URL for the image**: Enter the URL where the image is stored.

- **Select the data field for the image and for the alternative text**:

  Image URL: Select the field from the data that contains a URL of an image.

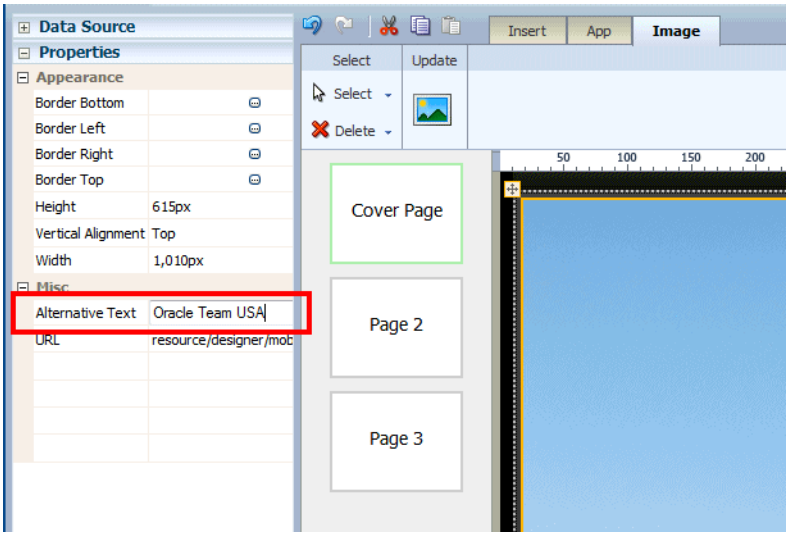
  Alternative Text: If the data includes a field that contains alternative text for the image, then select that field to display alternative text.

Figure 4–23 Insert Image Dialog



3. Add alternative text for the image. Click the **Properties** pane and enter text in the **Alternative Text** field as shown in Figure 4–75.

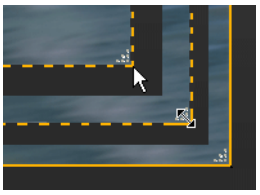
Figure 4–24 Entering Alternative Text for an Image in the Properties Pane



4. Optionally resize the image in one of these ways:

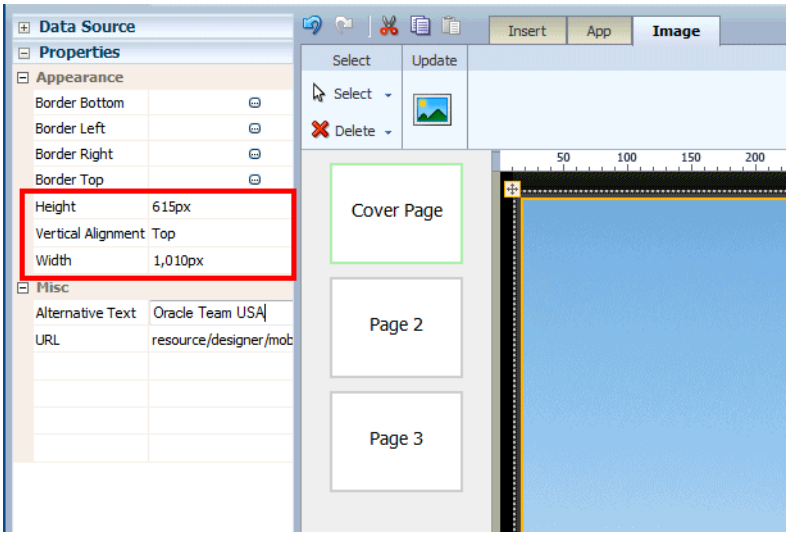
   - Drag the right bottom corner of the image. To preserve the aspect ratio when resizing an image, press and hold the Shift key before starting to drag the corner.

Figure 4–25 Resizing an Image



- Modify the width and height in the Properties pane. The Properties pane enables you to enter precise height and width values in pixels, centimeters, inches, or points.

Figure 4–26 Setting Image Dimensions from the Properties pane

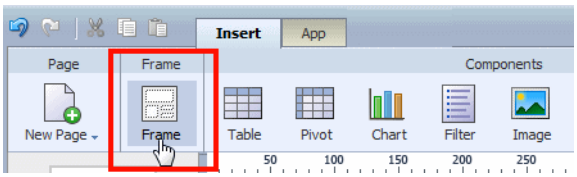


4.6 Inserting Frames

Use a frame to divide your app page into sections for the precise positioning of components. When you start from a Blank page, typically you insert a frame before you begin inserting components. When you choose a preformatted template you can edit a default frame by selecting the frame and using the **Frame** toolbar. You can insert a frame inside another frame.

To insert a frame:

1. Select the area of the page where you want to insert the frame and click **Frame** on the **Insert** toolbar.



2. Enter the number of rows and columns for the frame and click **OK**.

Figure 4–27 shows the **Insert Frame** dialog.

Figure 4–27 Insert Frame Dialog

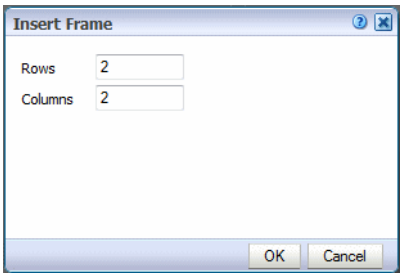
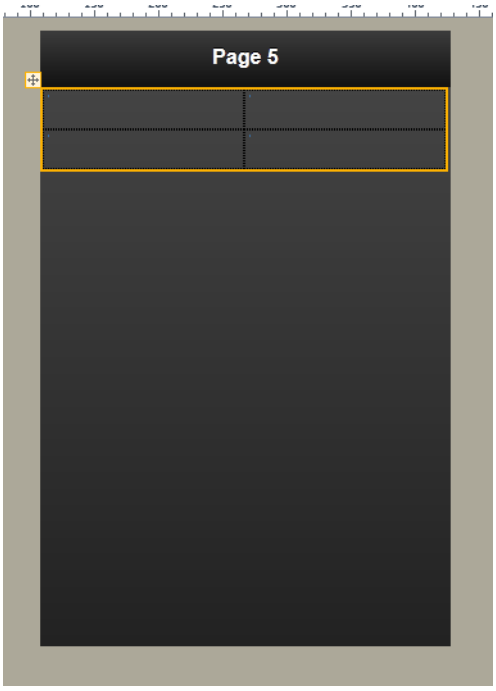


Figure 4–28 shows the inserted frame.

Figure 4–28 Example of a Frame Inserted in the Design Area



Features of frames include:

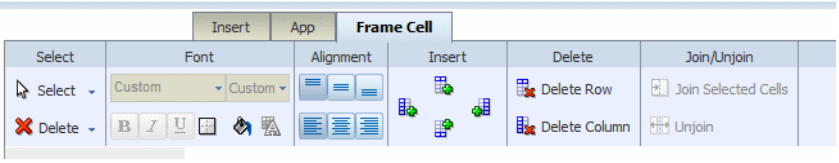
- By default, frame columns are sized equally across the insertion area and frame row height defaults to the height of one row of text.

  When you insert a component to a frame, the frame automatically resizes to accommodate the component.

- You can adjust the column width and height by either positioning the mouse pointer over the border and dragging the blue resize bar, or by changing the frame column properties in the **Properties** pane.
- You can insert a frame inside a frame.
- You can insert a background image to the entire frame area. See Customizing Background Images.

When you select a frame cell, the **Frame Cell** toolbar (Figure 4–29) displays to enable additional customization of fonts, alignment, borders, and background colors.

Figure 4–29 The Frame Cell Toolbar

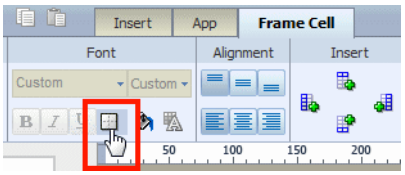


4.6.1 Adding a Border or Background Color

By default, the gridlines are displayed in the design area only and are not shown during run time.

To display the gridlines in your app:

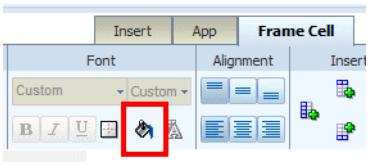
1. Select the frame cell and click the **Set Border** command button.



2. Choose the border style from the **Border** dialog. See Section 6.7, "Setting Borders" for more information about the **Border** dialog.

To add a background color to a frame cell:

1. Click the **Background Color** command button to launch the Color Picker.

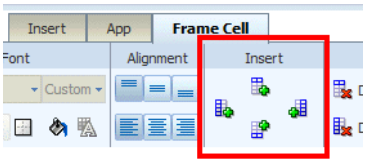


2. Select a color and click **OK**.

4.6.2 Inserting Additional Rows and Columns

To insert additional rows or columns to a frame:

1. Select the frame cell that is the focal point.
2. Click the appropriate command button under **Insert**:



- Add a Row above
- Add a Column to the right
- Add a Row below

- Add a Column to the left

4.6.3 Joining and Unjoining Cells

To join frame cells horizontally or vertically:

1. Select multiple adjacent cells by holding down the Ctrl key and clicking each frame cell.
2. Click the **Join** command button.

To unjoin cells that have been joined:

1. Select the joined cell and click the **Unjoin** button.

4.7 Adding Navigation Pages

The creation process for the navigation page is different for tablets and phones. See the appropriate section for your app:

- Navigation Page for Tablet
- Navigation Page for Phone

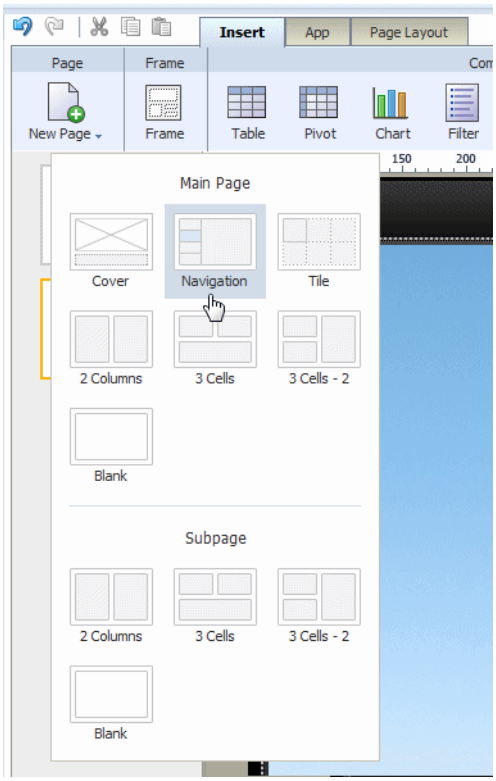
4.7.1 Navigation Page for Tablet

The Navigation page defines a master-detail relationship between a navigable set of filters and the visualizations displayed on the page. The navigation area of the page contains a hierarchy of filters that you tap through to drive the display on the detail side of the page. As you tap, you can see successively more refined sets of data, or you can stop within a level to see data just for its members, or a particular member. You can navigate up and down the hierarchical filters to see just the subset of data that interests you.

Figure 4–30 Navigation List Selection Drives the Detail Display

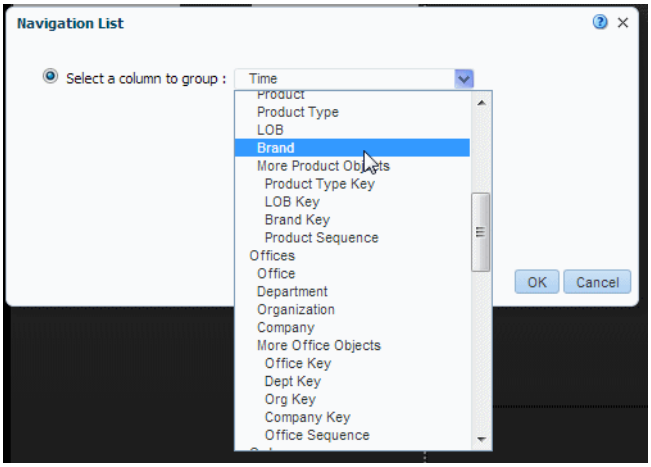
To insert a Navigation page:

1. On the **Insert** toolbar, click **New Page** and then select **Navigation**.



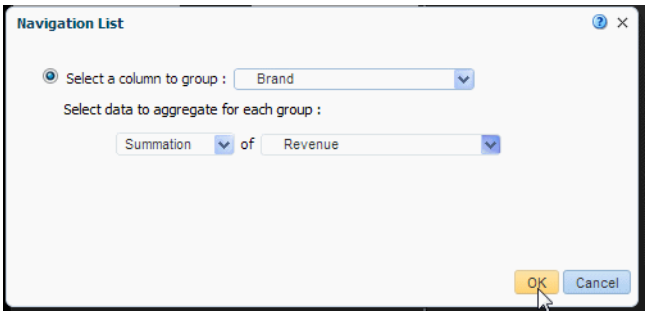
2. Select the data field from the list to define the top level of the navigation menu. In the example, the first level of the navigation list is grouped by Brand.

Figure 4–31 Selecting the First Level of the Navigation List

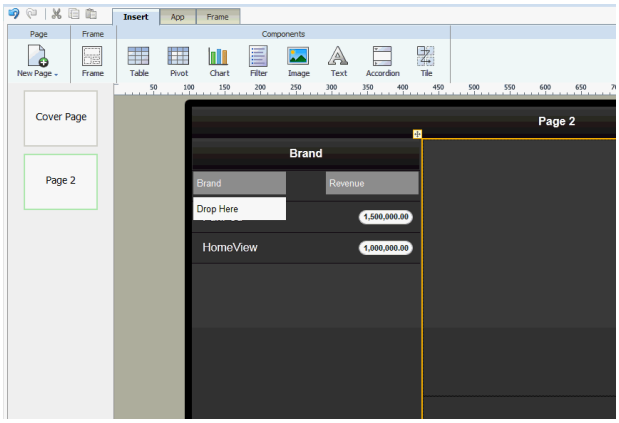


3. Next choose a data field to aggregate for the group element and then choose an aggregation function. In this example, the Revenue for each Brand will be summed.

Figure 4–32 Choosing the Aggregation Function and Element

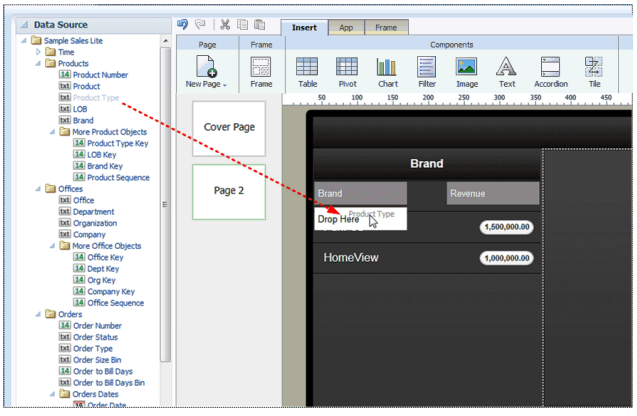


When you click **OK** the members of the group by column you selected display as the navigation list along with the aggregated value for each member of the list.



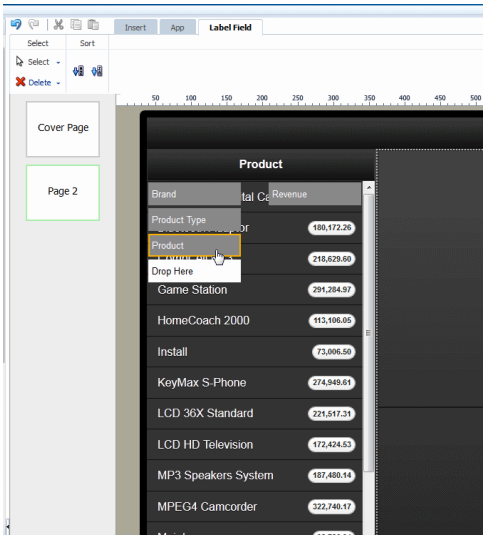
4. To add a second level to the navigation list, drag the element from the Data Source pane to the **Drop Here** box on the page.

Figure 4–33 Adding a Second Level to the Navigation Page



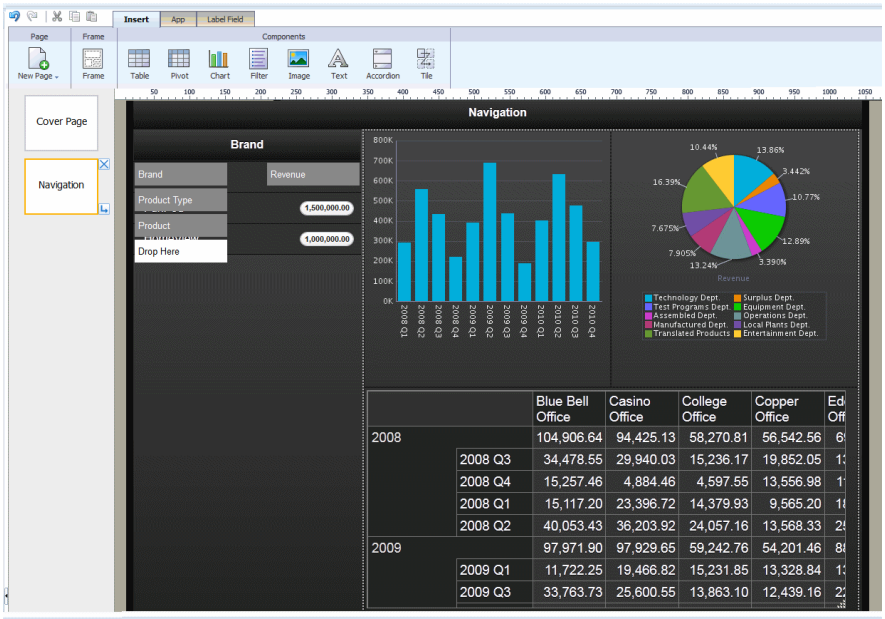
5. Continue adding levels as needed by dragging the fields from the Data Source pane to the **Drop Here** box. To see the members of a specific level, click that level.

Figure 4–34 Viewing the Members of the Product Level



6. To add stoplight formatting to your navigation list, see Stoplight Formatting for Navigation and Accordion Pages.

7. Add the components to the detail region of the page. At run time, these components refresh as items on the navigation list are tapped. The example shows two charts and a pivot table.



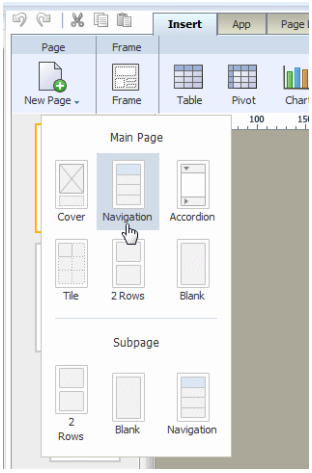
4.7.2 Navigation Page for Phone

The navigation page for phone enables you to create a hierarchical list of filters that you can navigate to see a detail display of the specific items that interest you.

Figure 4–35 Navigation List Series on Phone

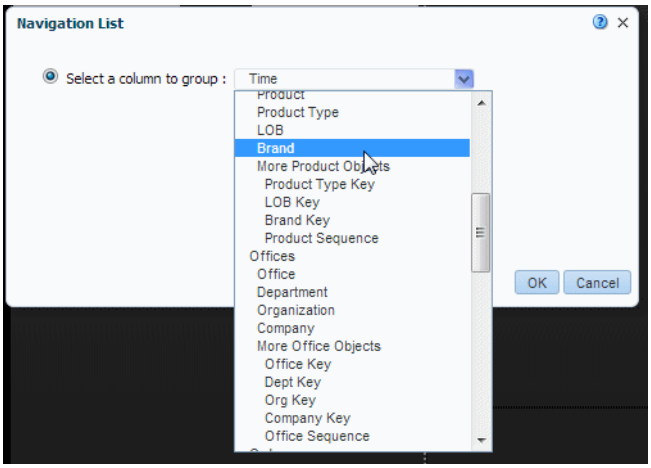
To create a navigation page:

1. On the **Insert** toolbar, click **New Page** and then select **Navigation**.



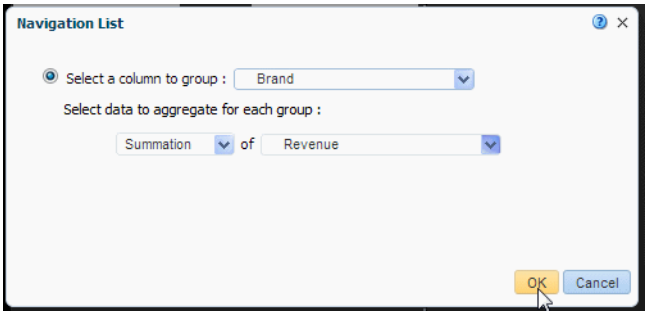
2. Select the data field from the list to define the top level of the navigation menu. In the example, the first level of the navigation list is grouped by Brand.

Figure 4–36 Selecting the First Level Hierarchy of the Navigation List



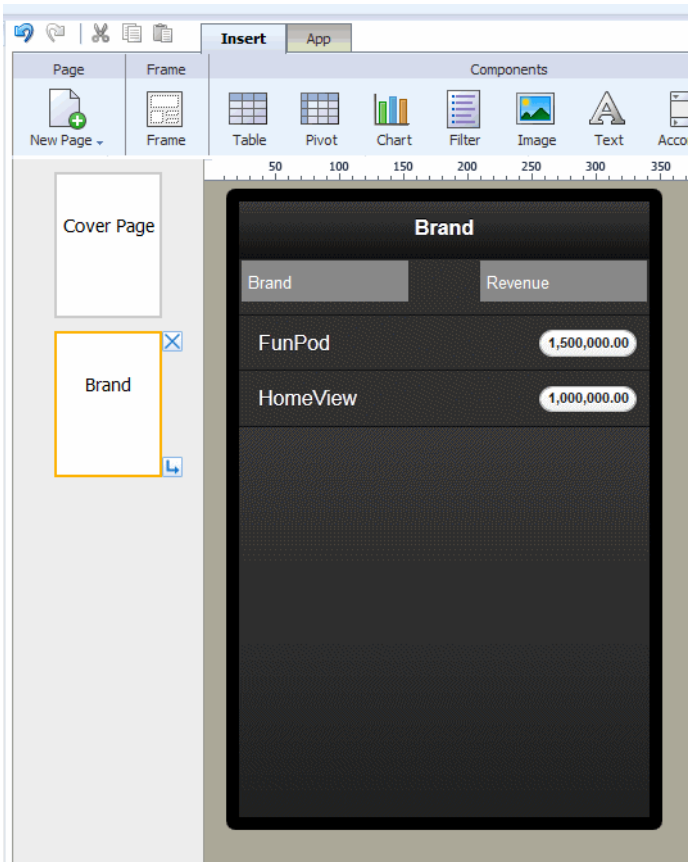
3. Next choose the measure field to aggregate for the group element. In this example, Revenue is summed for each Brand (shown in Figure 4–37).

Figure 4–37 Choosing the Measure Field and Aggregation Function



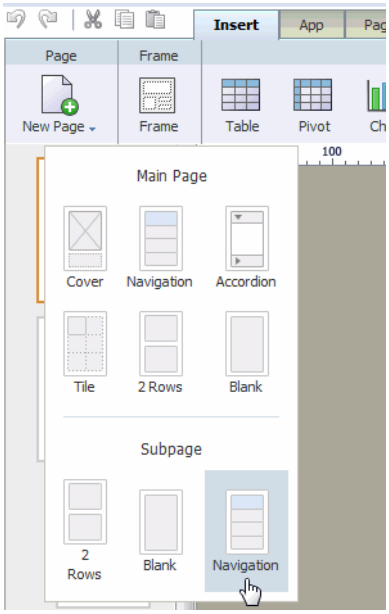
When you click **OK** the data element you selected displays as a list with the aggregated measure as shown in Figure 4–38.

Figure 4–38 First Level Navigation List



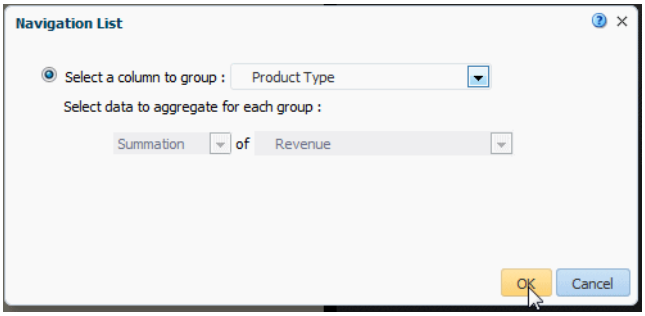
4. To add a second level to the navigation list, create a subpage under the first navigation list page as shown in Figure 4–39.

Figure 4–39 Inserting Navigation List Subpage



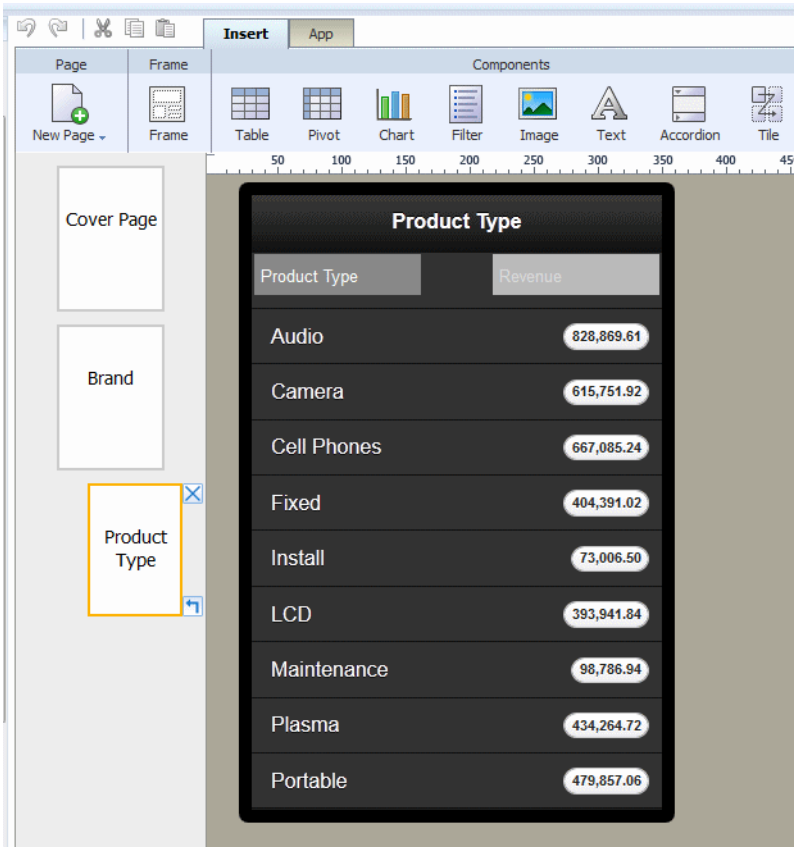
5. Select the data field to group for the second level of the navigation list. In this example (Figure 4–40), Product Type is the second level. Every child level uses the same aggregation selected for the first level. In the child levels the aggregation selection is for display only and cannot be updated.

Figure 4–40 Creating the Second-Level Navigation List



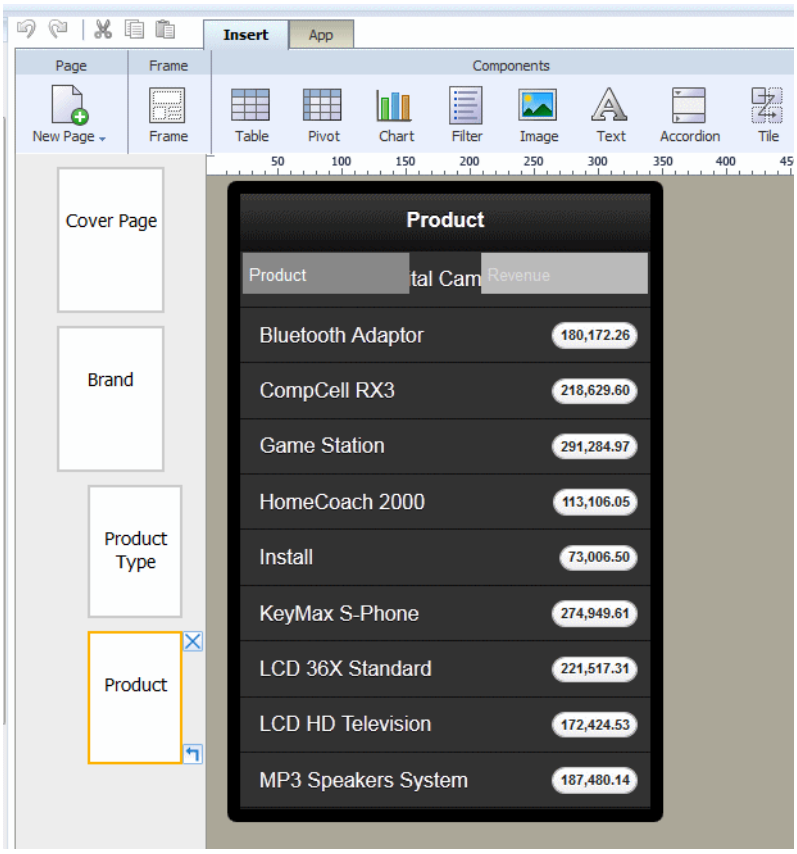
When you click OK, your subpage displays the members of the group you selected as shown in Figure 4–41.

Figure 4–41 Second Level of Navigation Page



6. To create another level, add a Navigation type subpage under the subpage you just created. Select the group element for this page as described in the previous step. Figure 4–42 shows the navigation page created for the Product field.

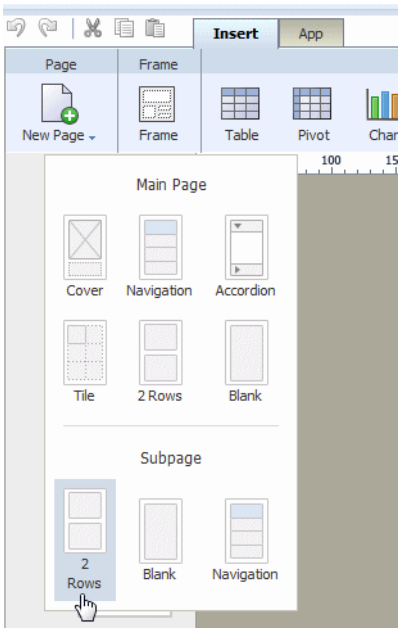
Figure 4–42 Third level navigation page



You can continue adding subpages to create as many levels as your app requires.

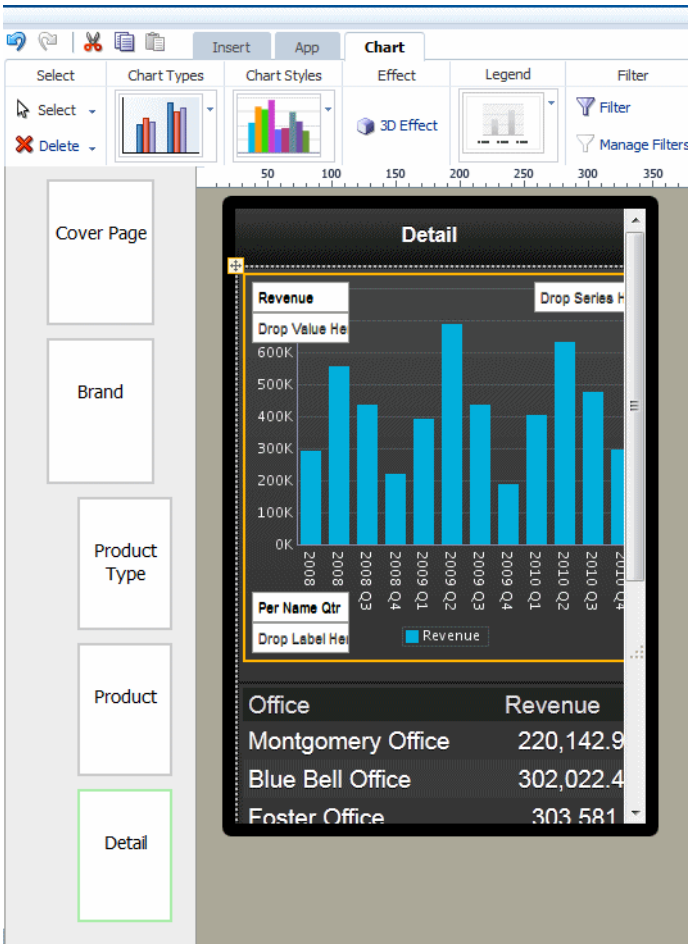
7. To add a detail page with results driven by the selections on the previous pages, add a new subpage beneath the final navigation page.

Figure 4–43 Adding a Detail Page to Navigation Series



8. Add components to the detail page. The following example shows a detail page with a chart and table.

Figure 4–44 Final Detail Page in Navigation Series



4.7.3 Stoplight Formatting for Navigation and Accordion Pages

The Stoplight feature enables you to highlight values conditionally based on static threshold values, a comparison to a target value, or a comparison to another field.

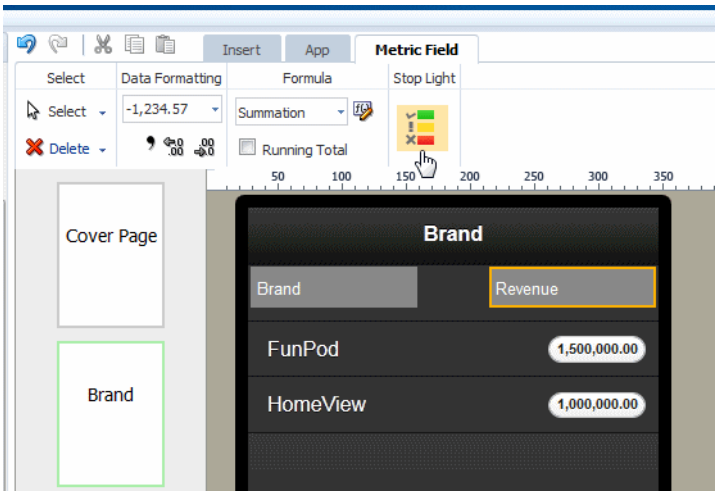
- Apply Formatting Based on Static Values
- Apply Formatting Based on Percent Achievement
- Apply Formatting Based on Percent Growth

4.7.3.1 Apply Formatting Based on Static Values

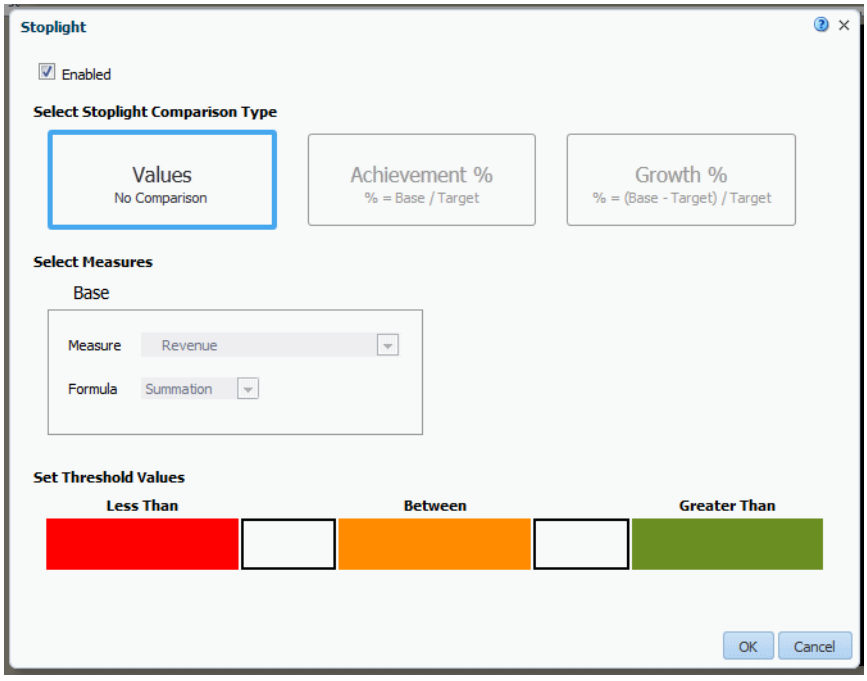
Use this option when the unacceptable, acceptable, and desired values are the same for the aggregated field at each level of the navigation. You can customize the colors for each range.

To apply conditional formatting based on static values:

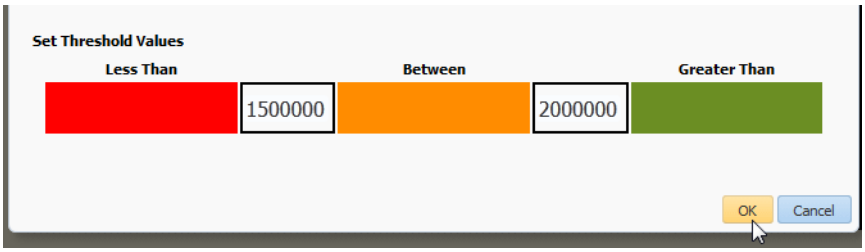
1. On the navigation or accordion page, select the measure field and click **Stoplight**. In this example the measure field is Revenue.



2. In the Stoplight dialog select **Values**. The Base Measure and Formula that you chose when you defined the navigation or accordion page are displayed, but are not editable.

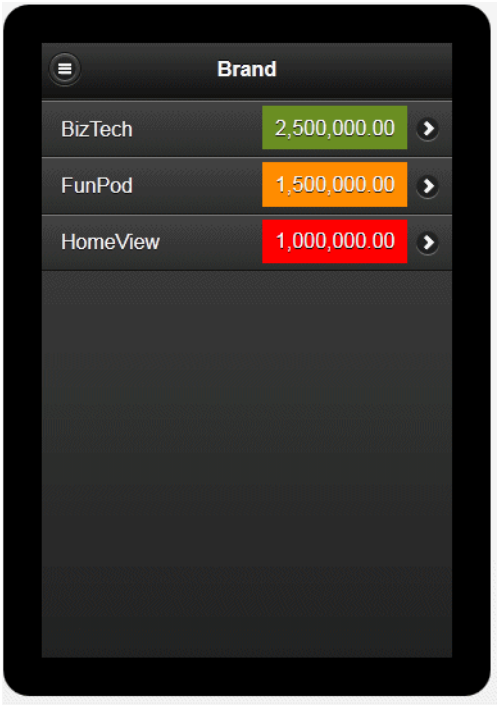


3. Enter the threshold values for the background colors. Values less than the left entry will display the **Less Than** background color. Values greater than the right entry will display the **Greater Than** background color. Values between display the **Between** color.



To change the default colors, see Customizing the Colors.

4. Preview your app.

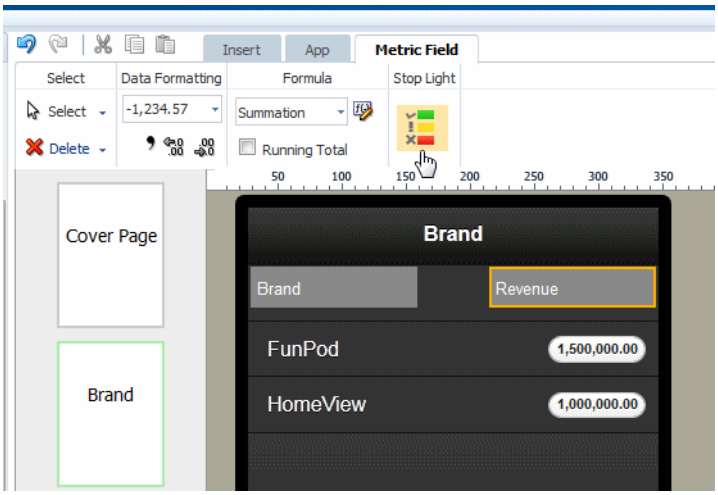


4.7.3.2 Apply Formatting Based on Percent Achievement

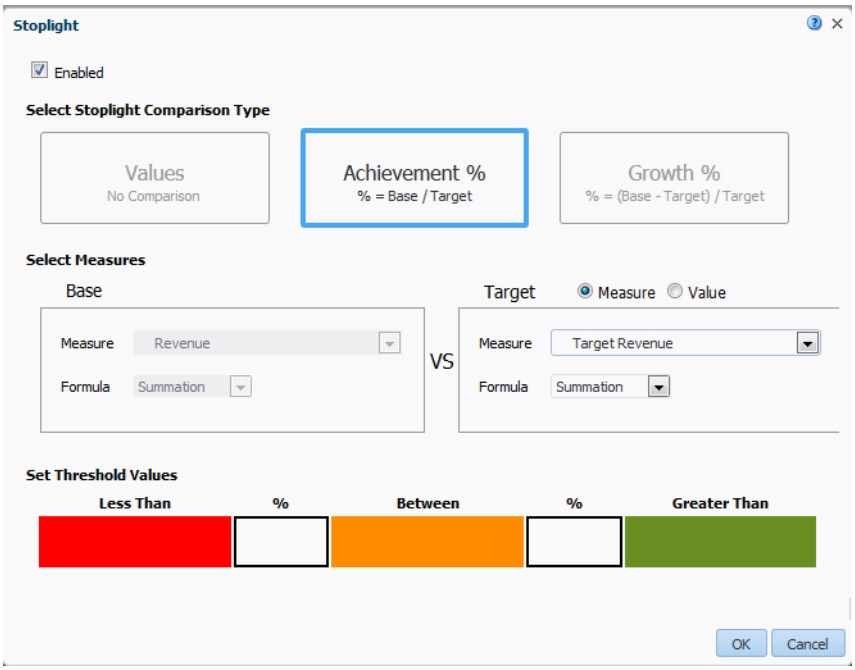
This option enables you to conditionally highlight the aggregate value based on the percentage of a target value. For example, you want to highlight sales that are less than 50 percent of target to display as red, sales that are 50-75 percent of the target as amber and sales that are greater than 75 percent of the target to display as green.

To apply conditional formatting based on the percent achievement of a target:

1. On the navigation or accordion page, select the aggregation field and click **Stoplight**. In this example the aggregation field is Revenue.



2. In the Stoplight dialog select **Achievement %**. The Base Measure and Formula that you chose when you defined the navigation or accordion page are displayed, but are not editable.



3. Choose **Target Measure** or **Value**.

   - **Measure** - select a field from the data to supply the target value for comparison.
   - **Value** - enter a static value to supply the target value for comparison.

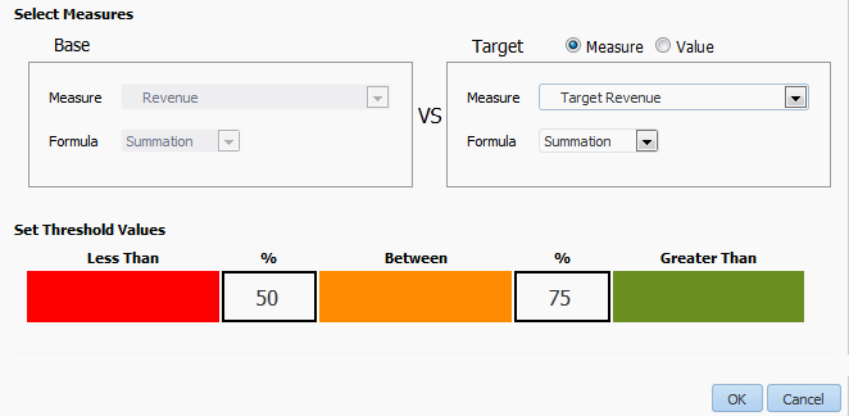
   The app calculates what percentage the Base column value is of the Target value. In the example above, the Revenue column (Base) is compared to the Target Revenue column (Target). The calculation performed is:

   Revenue/Target Revenue X 100%

Therefore if your Revenue is $8,000 and your Target Revenue is $10,000, the percent achievement is:

8,000/10,000 X 100% = 80%

4. Enter the **Less Than** and **Greater Than** values percentage values for the background colors.



If the Base value percentage of the Target value is less than the percentage you enter on the left, the **Less Than** color displays. If the Base value percentage of the Target value is greater than the value you enter on the right, the **Greater Than** color displays.

5. To change the default colors, see Customizing the Colors.

4.7.3.3 Apply Formatting Based on Percent Growth

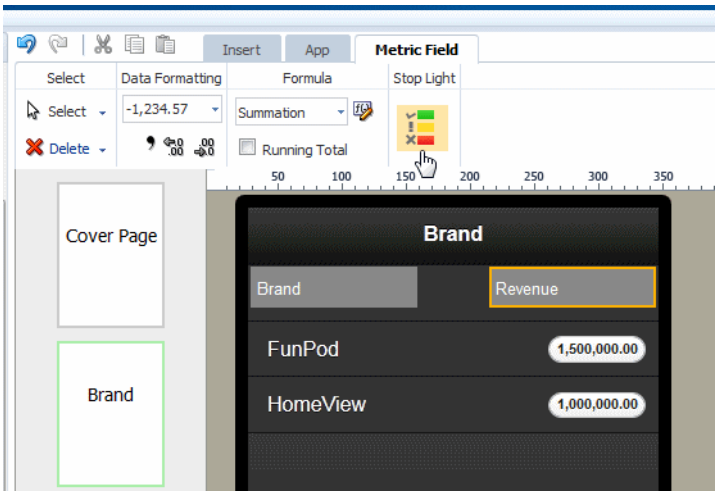
This option enables you to conditionally highlight the aggregate value based on the percent difference that the base value is from the target value. The calculation applied is:

(Base - Target)/Target X 100%

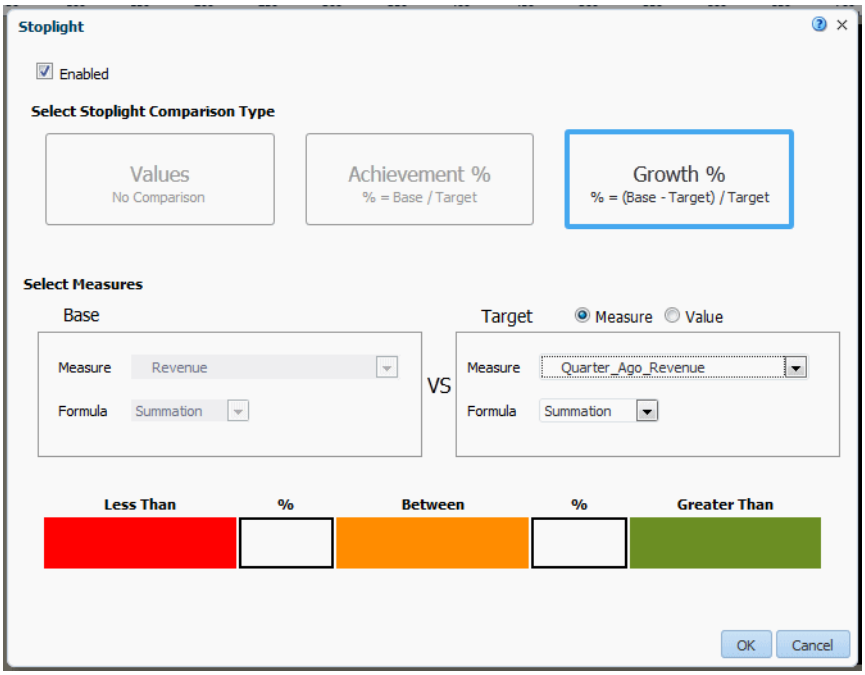
For example, you want to compare sales from the current and previous quarters and you want to see when sales in the current quarter showed less than 10% growth from the previous quarter. When sales showed greater than 10% growth you want to display the value in green, when 0-10% growth in amber, and when less than 0% growth in red.

To apply conditional formatting based on percent growth:

1. On the navigation or accordion page, select the measure field and click **Stoplight**. In this example the measure field is Revenue.



2. In the Stoplight dialog select **Growth %**. The Base Measure and Formula that you chose when you defined the navigation or accordion page are displayed, but are not editable.



3. Choose **Target Measure** or **Value**.

   - **Measure** - select a field from the data to supply the target value for comparison.
   - **Value** - enter a static value to supply the target value for comparison.

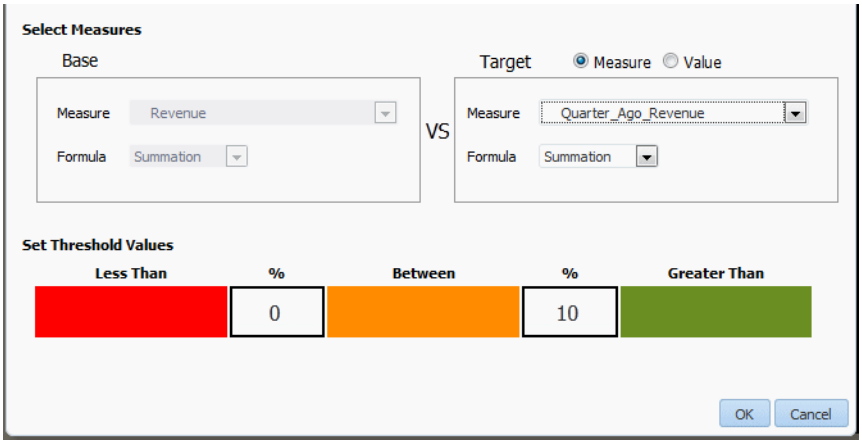
   The app calculates the percent difference that the Base column value is from the Target value. In the example above, the Revenue column (Base) is compared to the Quarter Ago Revenue column (Target). The calculation performed is:

   ((Revenue - Quarter Ago Revenue)/Quarter Ago Revenue) X 100%

Therefore if your Revenue is $11,000 and your Quarter Ago Revenue is $10,000, the percent growth is:

((11,000 - 10,000)/10,000) X 100% = 10%

4. Enter the Less Than and Greater Than values percentage values for the background colors.



If the Base value percentage difference from Target value is less than the percentage you enter on the left, the **Less Than** color displays. If the Base value percentage difference from the Target value is greater than the value you enter on the right, the **Greater Than** color displays.

5. To change the default colors, see Customizing the Colors.

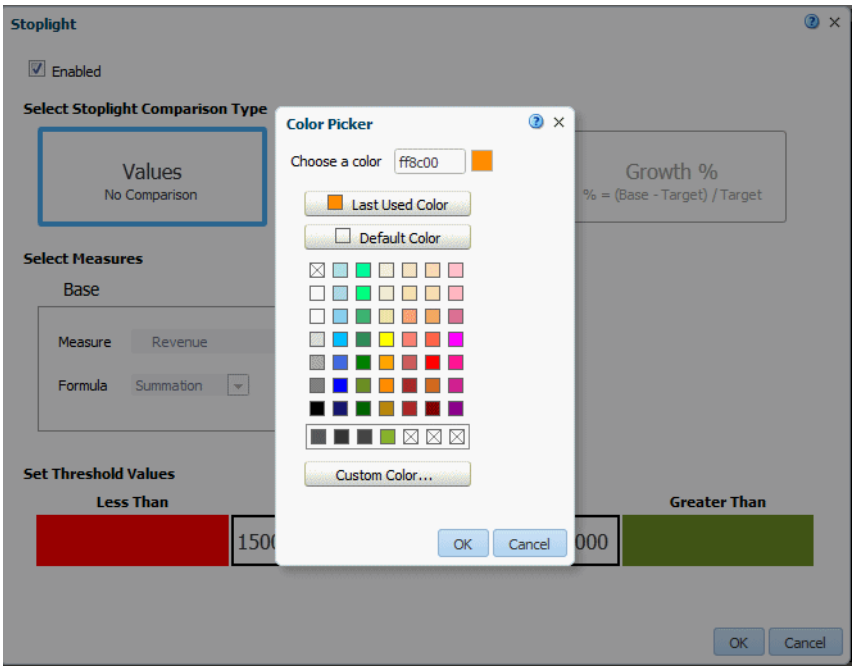
4.7.3.4 Customizing the Colors

When the default colors do not suit the needs of your app, you can customize them to any color you require. For example, in some apps, the Less Than values should display as green and the Greater Than values as red; or, you may choose to display a different color scheme altogether.

To customize a color:

- Click the color bar to open the color picker and choose the color desired.

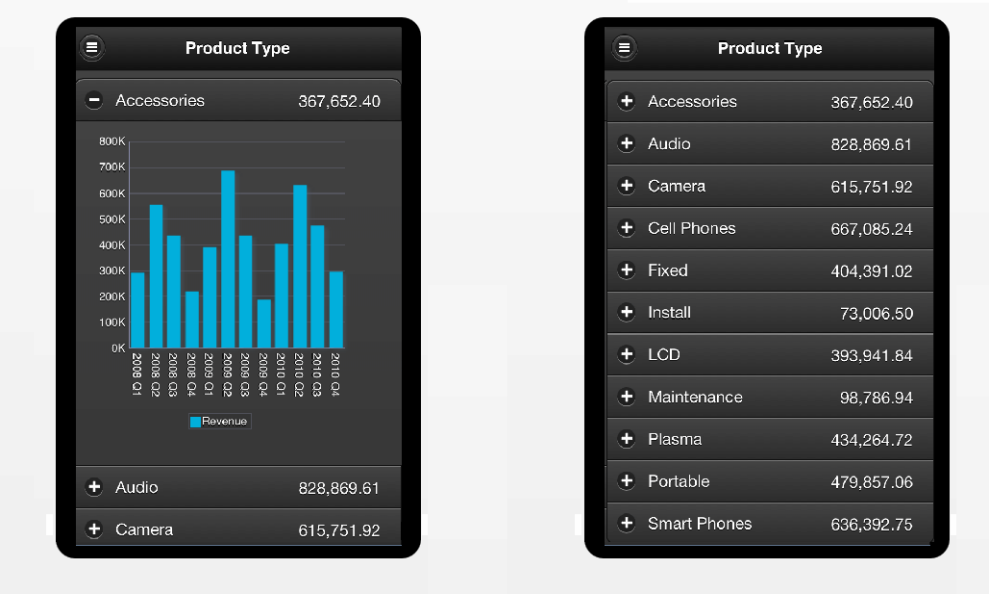
Figure 4–45 Changing the Default Color



4.8 Adding Accordion Pages

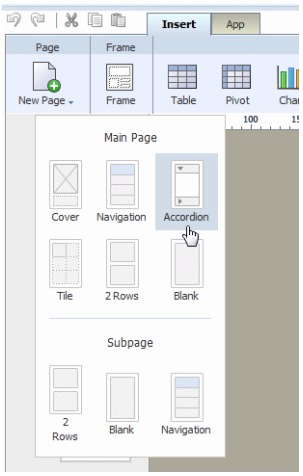
The accordion page provides an expandable display of a specific data dimension and a key measure (such as Product and Revenue). Add visualizations to the expansion area that you can view and close easily from a mobile phone. The Accordion page is available for phone apps. The accordion component is also available for insertion to a tablet page.

Figure 4–46 Sample Accordion Page: Expanded and Collapsed

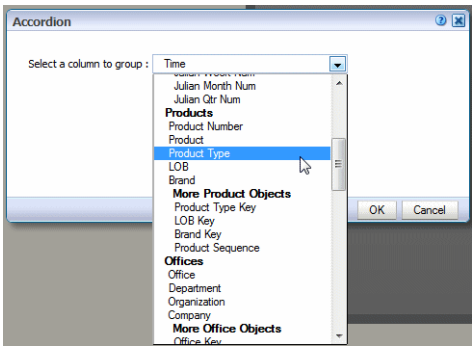


To create an accordion page:

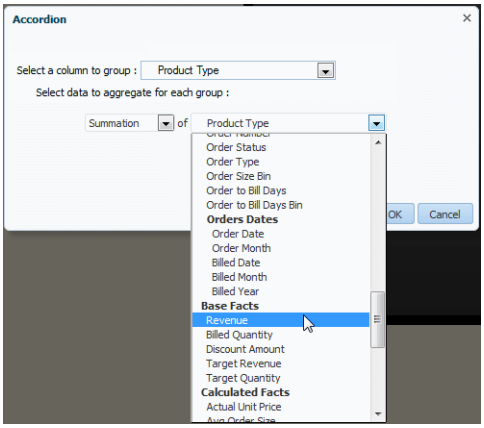
1. On the **Insert** toolbar, click **New Page** and then click **Accordion**.



2. Select the data column to define each section of the accordion. In this example, the an accordion section is created for each Product Type.

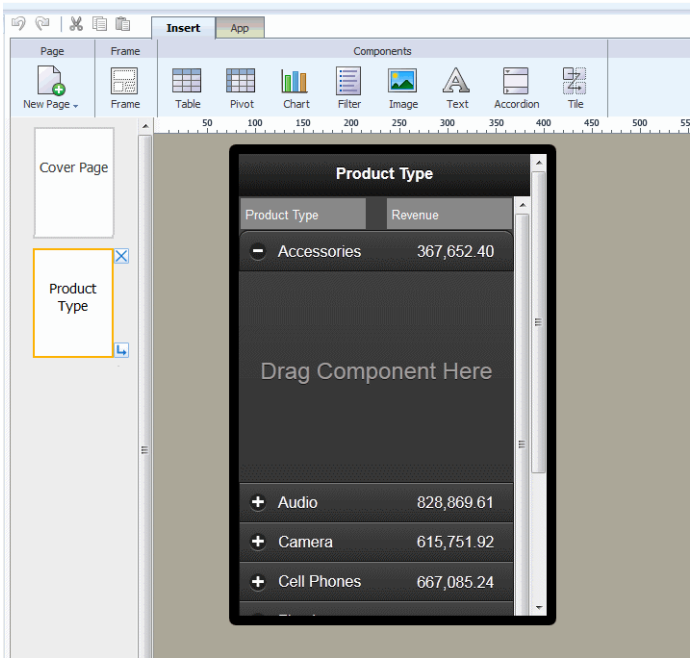


3. Next select the measure field to aggregate for each section and select the aggregation type: Summation, Count, or Count Distinct. In this example, Revenue is summed.

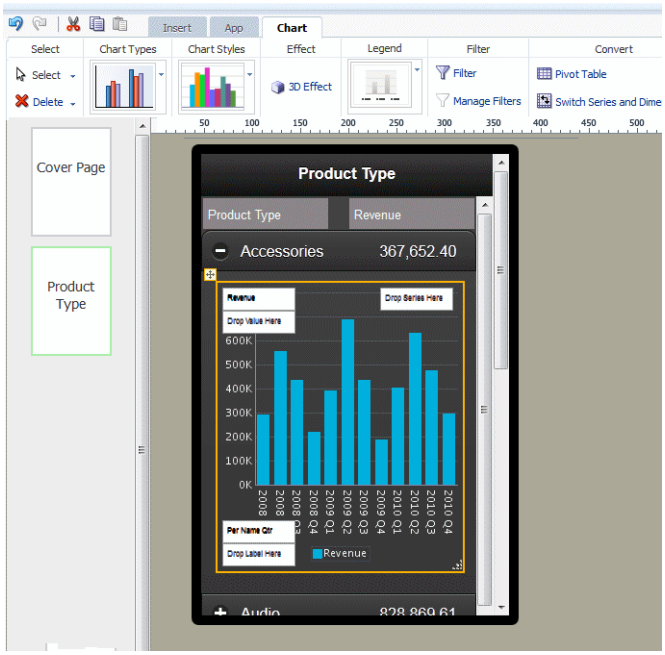


More formula types are supported for the measure field, see Section 6.6, "Features of Metric Fields."

4. Click OK to insert the accordion.



5. Now you can insert the components you want to display when each section is expanded. Simply drag the component to the **Drag Component Here** area of the first expanded accordion section and follow the procedures for inserting the specific component. To design your accordion page you only insert components in the first accordion section. In this example a chart showing revenue by quarter is inserted.



6. To preview your accordion page, click Preview. The example displays in the Preview page as shown in the figure. Expand and collapse the accordion sections to see the data for each section.

Figure 4–47 Accordion Preview

4.8.1 Adding Stoplight Formatting to the Accordion Page

See Stoplight Formatting for Navigation and Accordion Pages for steps on adding stoplight formatting to your accordion page.

4.9 Inserting Tables

A default table includes a header, data columns, and a total row. The table supports "group left" functionality (outlines) that merges fields with the same values as well as subtotals, grand totals, and custom calculations.

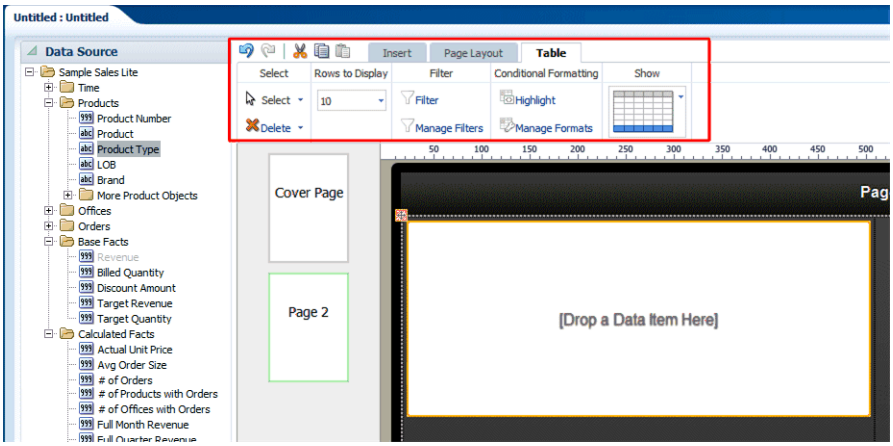
For detailed information about table options see Section 6.1, "Working with Tables."

To insert a table:

1. From the **Insert** tab, drag the **Data Table** component to the page.

   Figure 4–48 shows an inserted, empty data table. Notice that the **Table** toolbar commands now display.

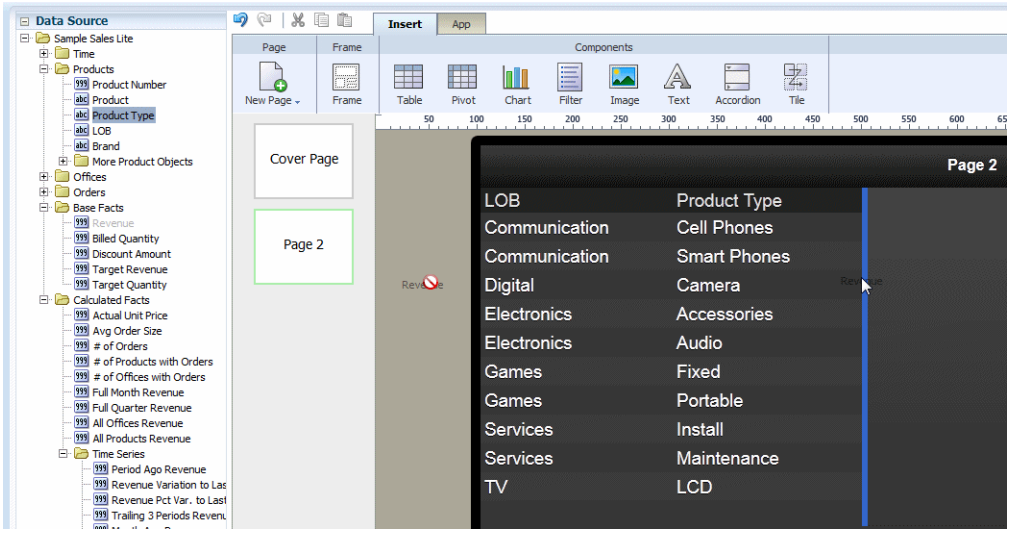
Figure 4–48 Example of an Inserted, Empty Data Table



2. To add data columns to the table, select a field from the **Data Source** pane and drag it to the table.

   Figure 4–49 shows adding columns to the table. Notice that when you drop a field on the table the sample data immediately displays.

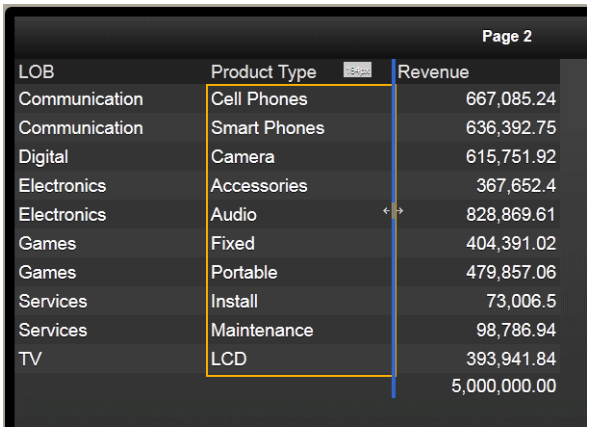
Figure 4–49 Example of Columns Added to a Table



3. Continue to drag the fields from the **Data Source** pane to form the columns of the table. If you must reposition a column that you have already added, select it and drag it to the correct position.

   To resize columns, position the cursor over the column border until the cursor switches to a handler, then drag the column border to the desired width. Notice that as you drag the column edge the width in pixels displays to enable precise sizing.

Figure 4–50 Resizing Table Columns



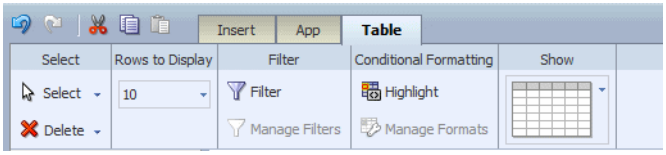
Some default formatting is applied to the table, specifically:

- By default the table includes a total row that displays the sum of the items in numeric columns. You can remove this row or edit the display and calculation applied. See Section 6.1.5, "Customizing Table Totals."
- Numbers and dates display default formatting and alignment. To change the default formatting, see Section 6.1.4.1, "Setting Table Data Formatting Options."

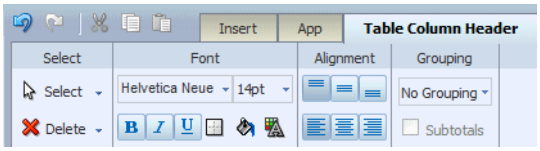
4.9.1 Customizing Tables

Edit the table properties using the table toolbar or the **Properties** pane. As you select different areas of the table, notice that the following dynamic toolbars are available to customize the display of your table. For details about these toolbars, see Section 6.1, "Working with Tables."

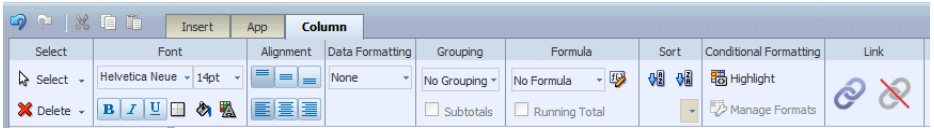
- Table



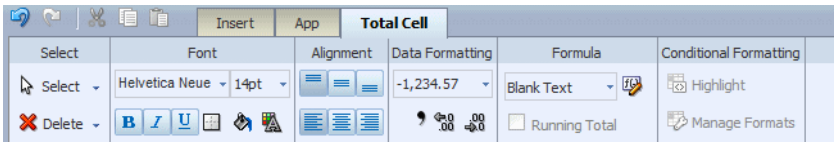
- Table Column Header



- Column



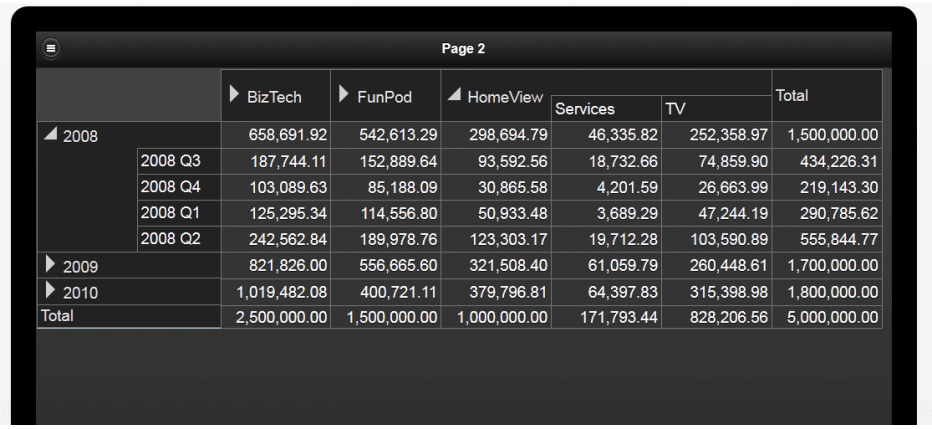
- Total Cell



4.10 Inserting Pivot Tables

A pivot table provides views of multidimensional data in tabular form. It supports multiple measures and dimensions and subtotals at all levels. Figure 4–51 shows a pivot table.

Figure 4–51 A Pivot Table



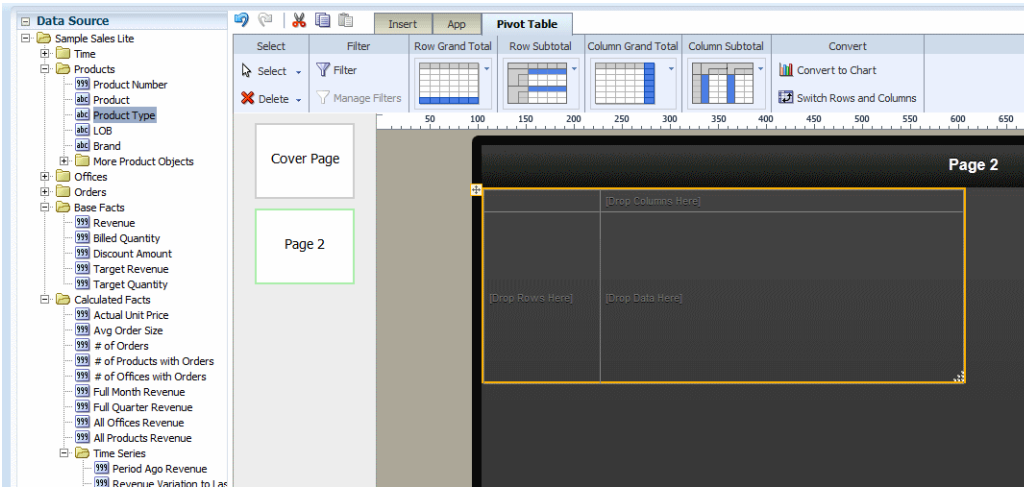
		BizTech	FunPod	HomeView			Total
					Services	TV	
2008		658,691.92	542,613.29	298,694.79	46,335.82	252,358.97	1,500,000.00
	2008 Q3	187,744.11	152,889.64	93,592.56	18,732.66	74,859.90	434,226.31
	2008 Q4	103,089.63	85,188.09	30,865.58	4,201.59	26,663.99	219,143.30
	2008 Q1	125,295.34	114,556.80	50,933.48	3,689.29	47,244.19	290,785.62
	2008 Q2	242,562.84	189,978.76	123,303.17	19,712.28	103,590.89	555,844.77
2009		821,826.00	556,665.60	321,508.40	61,059.79	260,448.61	1,700,000.00
2010		1,019,482.08	400,721.11	379,796.81	64,397.83	315,398.98	1,800,000.00
Total		2,500,000.00	1,500,000.00	1,000,000.00	171,793.44	828,206.56	5,000,000.00

4.10.1 Inserting a Pivot Table

To insert a pivot table:

1. On the **Insert** tab, drag the **Pivot** component to the page. Figure 4–52 shows the empty pivot table structure.

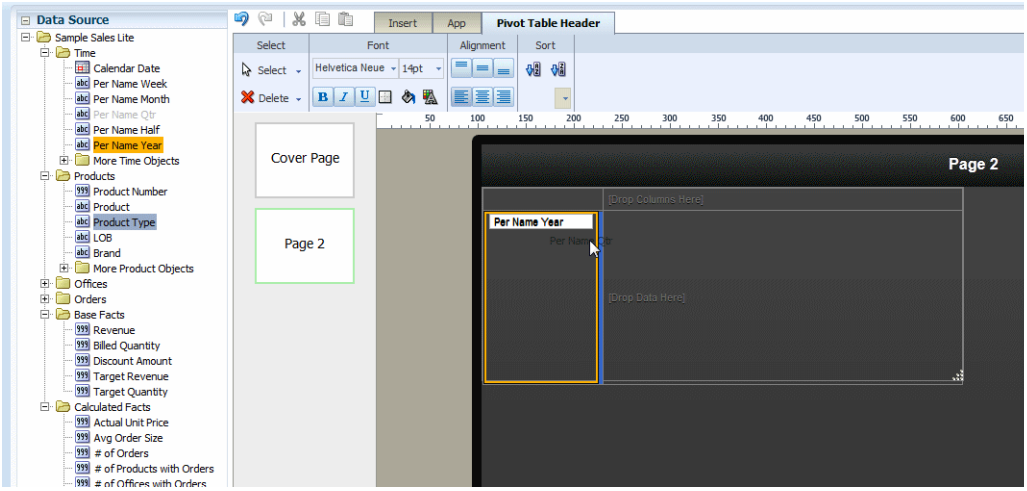
Figure 4–52 Inserted Pivot Table Structure



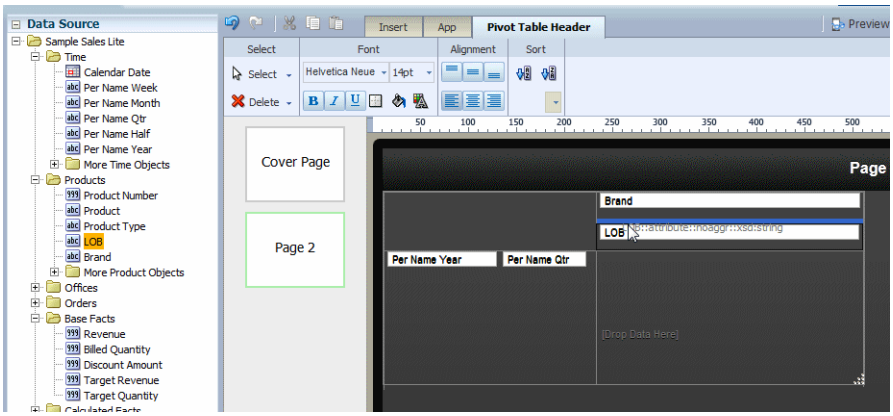
2. Drag and drop data fields from the Data Source pane to the row, column, and data positions.

   To create multiple dimensions, precisely drop each level to its position in the pivot table structure as shown in Figure 4–53.

Figure 4–53 Dragging Data Fields to the Pivot Table

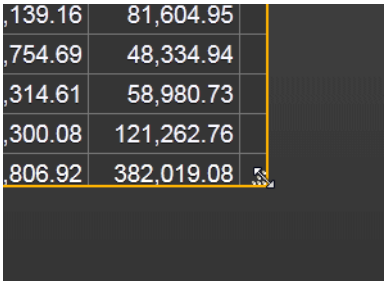


You can stack multiple dimensions in both rows and columns.



3. Optionally resize the pivot table by clicking and dragging the handler in the lower right corner of the pivot table, as shown in Figure 4–54.

Figure 4–54 Resizing Pivot Table



For more details about pivot table options, see Section 6.2, "Working with Pivot Tables."

4.11 Inserting Charts

The Mobile App Designer supports a variety of chart types and styles to present rich visualizations of your data.

After you insert a chart, you can edit the chart properties using the Chart toolbar or the Properties pane. The Properties pane extends the options available on the Chart toolbar and enables you to enter very specific custom settings for the following:

- Chart Effect
- Chart Legend
- Chart Plot Area
- Chart Title
- Chart Label
- Chart Values

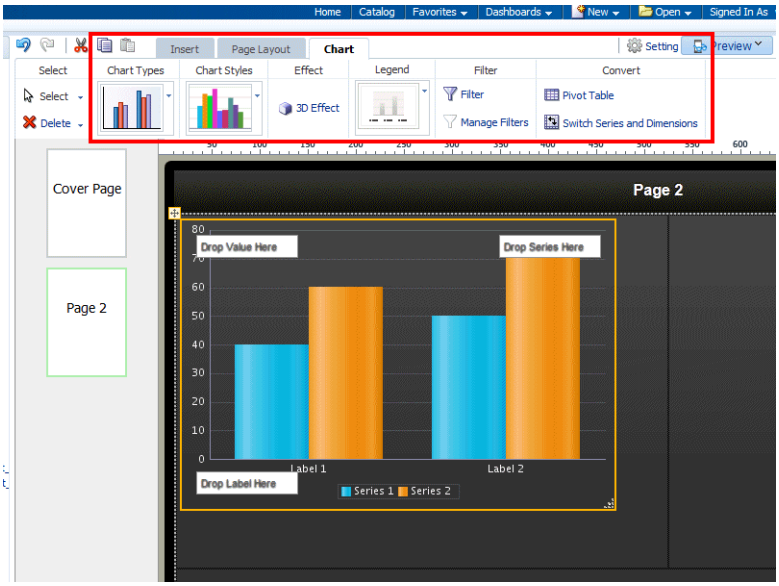
4.11.1 Inserting a Chart

To insert a chart:

1. From the **Insert** menu, drag the Chart component to the page.

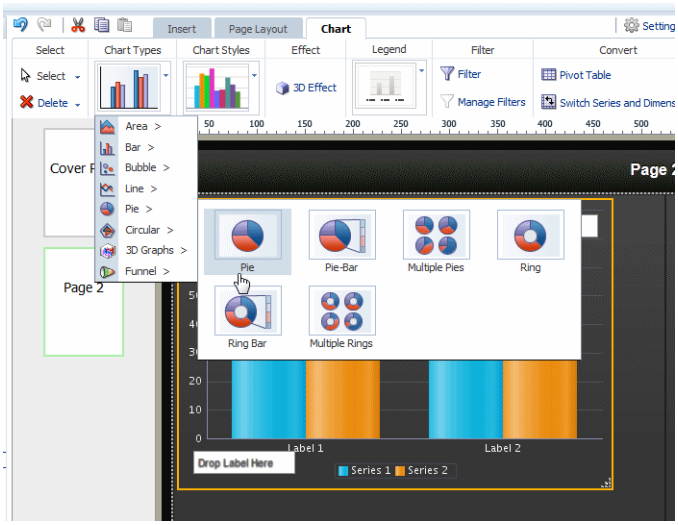
By default a vertical bar chart is inserted and the **Chart** toolbar is displayed, as shown in Figure 4–55.

Figure 4–55 Default Chart and Chart Toolbar



2. To change the chart type, click the **Chart Type** list to select the chart type required for your app. Figure 4–56 shows changing the chart type to Pie.

Figure 4–56 Changing the Chart Type



3. Drag the data fields from the Data Source to the appropriate areas in the chart. Where you drag a data element depends on the chart type and on the information you want to display.

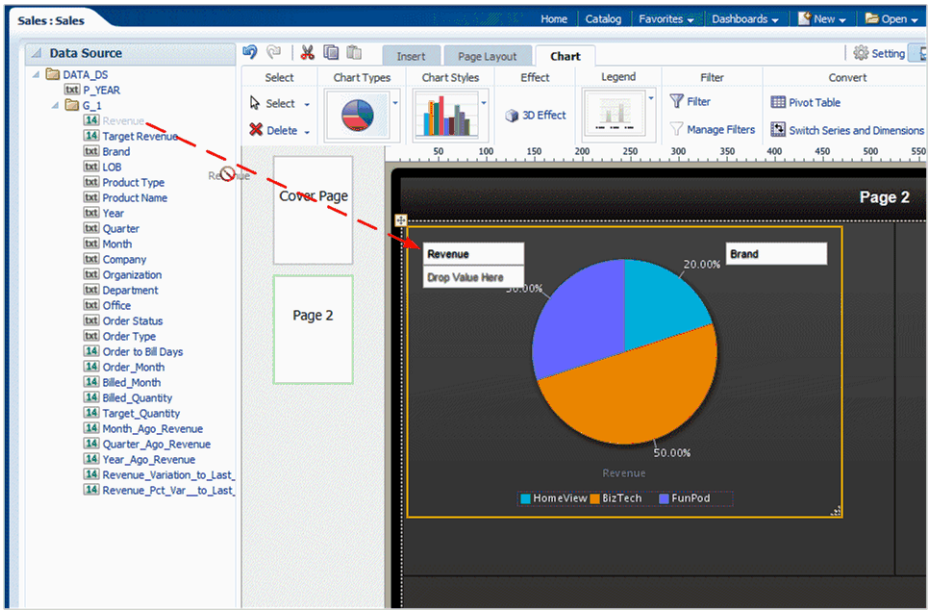
   For example, a vertical bar chart includes the following options:

   - Label
   - Value

- Series

The chart immediately updates with the preview data, as shown in Figure 4–57.

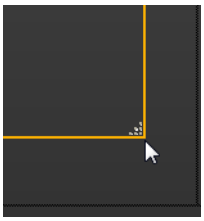
Figure 4–57 Dragging Data Fields to a Chart



4. To resize the chart, drag and drop the resize handler on the lower right corner of the chart, as shown in Figure 4–58.

   To preserve the aspect ratio when resizing a chart, press and hold the Shift key before dragging the handler.

Figure 4–58 Chart Resize Handler



4.11.1.1 About the Chart Toolbar

The Chart toolbar enables you to perform the following:

- Select a different Chart Type
- Apply a different Chart Style
- Enable 3-D effects
- Filter the data that is displayed in the chart
- Manage multiple filters
- Convert the chart to a pivot table or switch the series and dimensions values

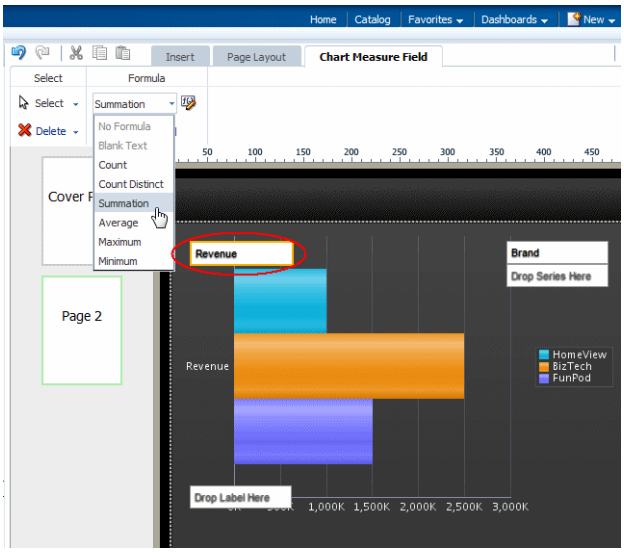
4.11.2 Changing the Formula Applied to a Chart Measure Field

By default, the chart displays a sum of the values of the chart measure. You can change the formula applied to a chart measure field using the **Chart Measure Field** toolbar.

To change the chart measure field formula:

1. Select the measure field in the chart. This displays the **Chart Measure Field** toolbar as shown in Figure 4–59.

Figure 4–59 Changing the Chart Measure Field Formula

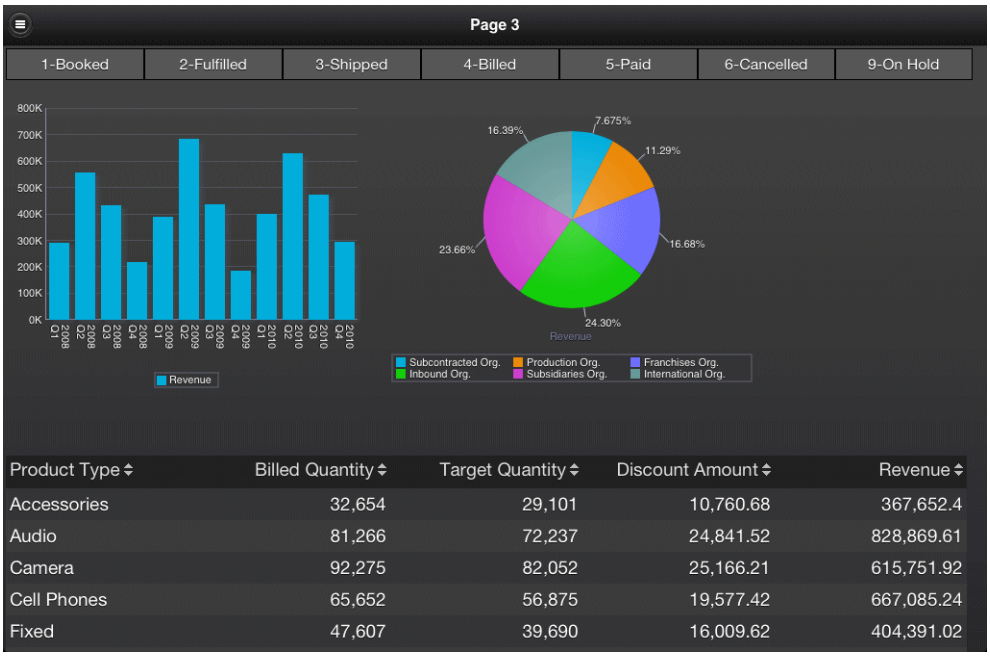


2. Select a formula from the **Formula** list.

4.12 Inserting Filters

The Filter component displays all values of a data field in a vertical or horizontal interactive list that behaves as a filter for the other components on the page. Tap a filter item to update the results in all other tables, charts, or other visualizations on the page. Figure 4–60 shows a page that displays two charts and a table. The filter component across the top of the page displays order status. Tapping an order status updates the other components to show only results for the item tapped.

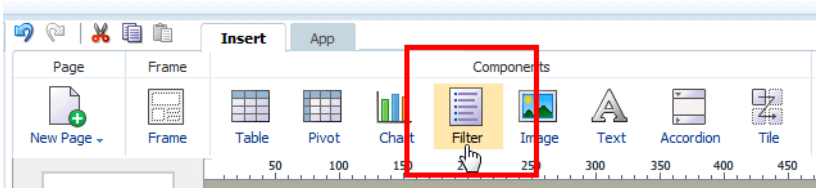
Figure 4–60 Example of Horizontal Filter



4.12.1 Inserting a Filter

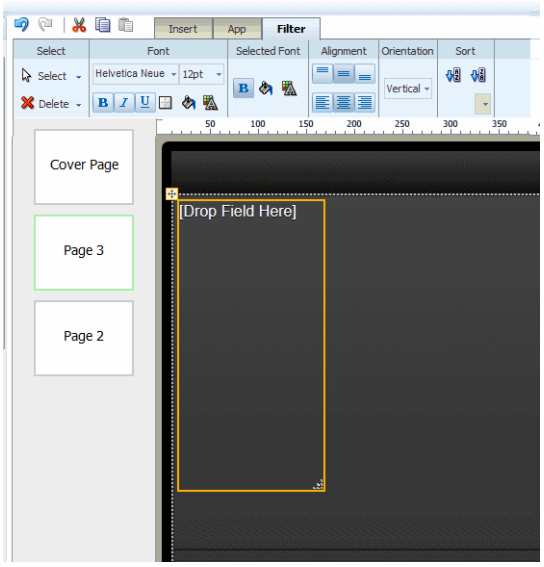
To insert a filter:

1. On the **Insert** tab, select the **Filter** component.



2. Drag the component to the design area.

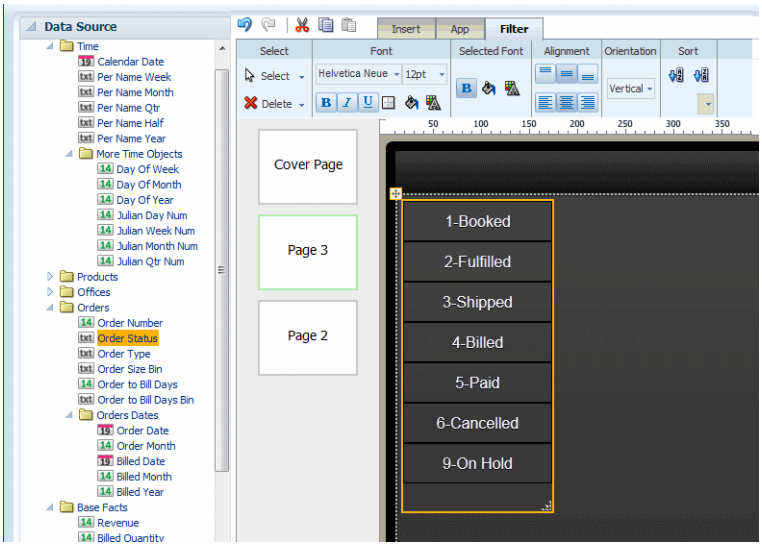
Figure 4–61 An Inserted Filter



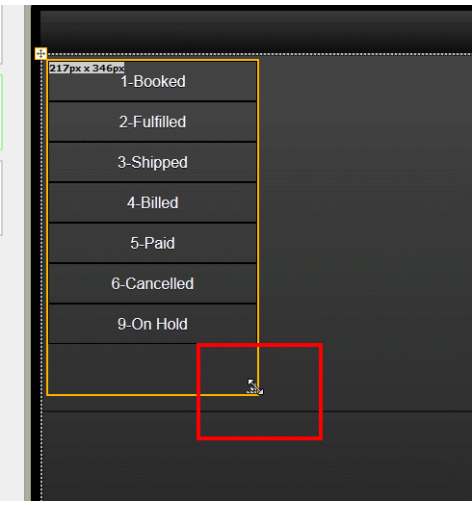
3. To populate the filter list, select an element from the **Data Source** pane and drag it to the empty filter in the layout.

Figure 4–62 shows a filter of Order Status values.

Figure 4–62 A Filter Component Showing Order Status



4. To change the size of the filter component in the page, click and drag the handler in the bottom right corner of the component



5. Customize the appearance of the filter. See Customizing Filters.

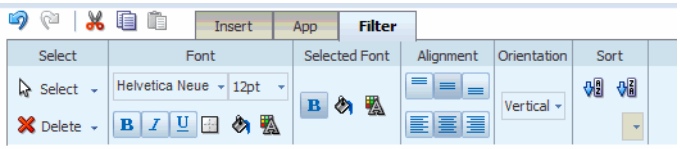
4.12.2 Customizing Filters

Use the **Filter** toolbar to:

- Change Filter Orientation
- Customize Font and Background Styles
- Customize Filter Selection Behavior
- Specify the sort order

Figure 4–63 shows the **List** toolbar

Figure 4–63 The Filter Toolbar



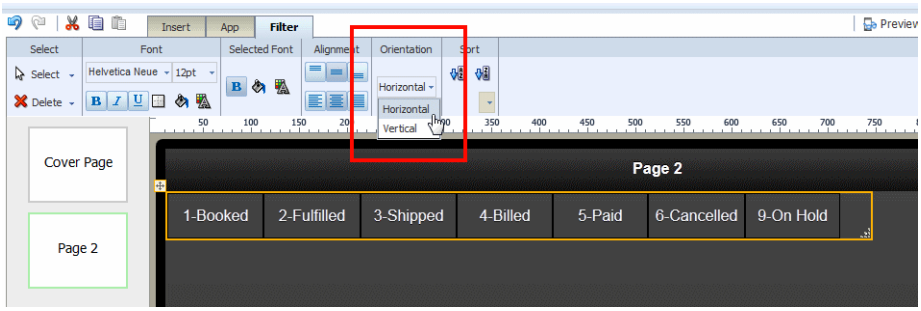
4.12.2.1 Change Filter Orientation

To change the orientation of the filter:

1. Select the Filter component on the page to activate the Filter toolbar.
2. On the Filter toolbar, select the **Orientation**: Horizontal or Vertical.

   Figure 4–64 shows the horizontal filter orientation.

Figure 4–64 Changing Filter Orientation to Horizontal



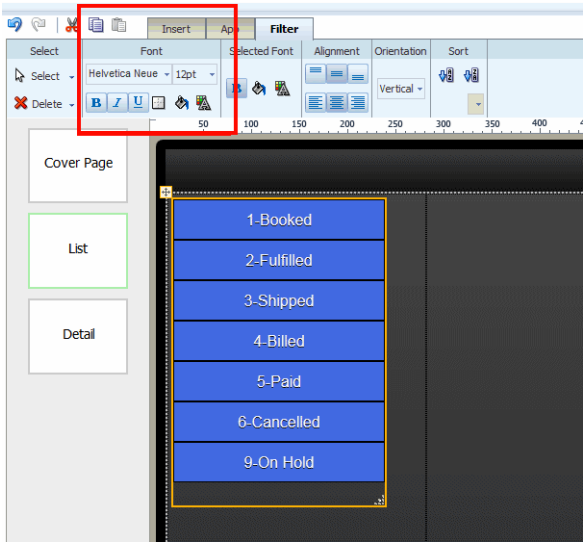
4.12.2.2 Customize Font and Background Styles

You can customize the filter font and background styles for selected and nonselected modes.

To customize the font and background style when no items are selected:

1. Select the filter component in the design area to activate the Filter toolbar.
2. Use the following commands in the Font region:
   - Font Style
   - Font Size
   - Border
   - Background Color
   - Font Color

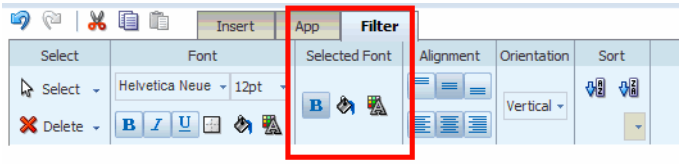
Figure 4–65 Customized Filter Background Color



The **Selected Font** commands control the appearance of the item in a filter when it is selected. By default, the selected item displays as amber.

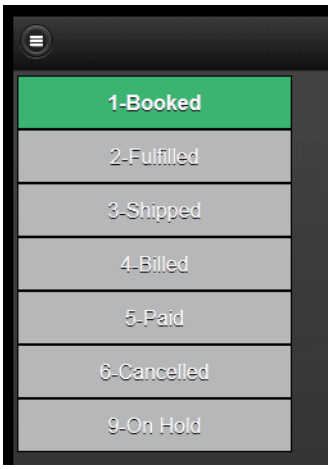
To customize the font and background style of the selected item:

1. Select the filter component in the design area to activate the Filter toolbar.



2. Use the following commands in the **Selected Font** region:
   - Bold
   - Background Color
   - Font Color

Figure 4–66 Customized Selected Font Background and Font Color

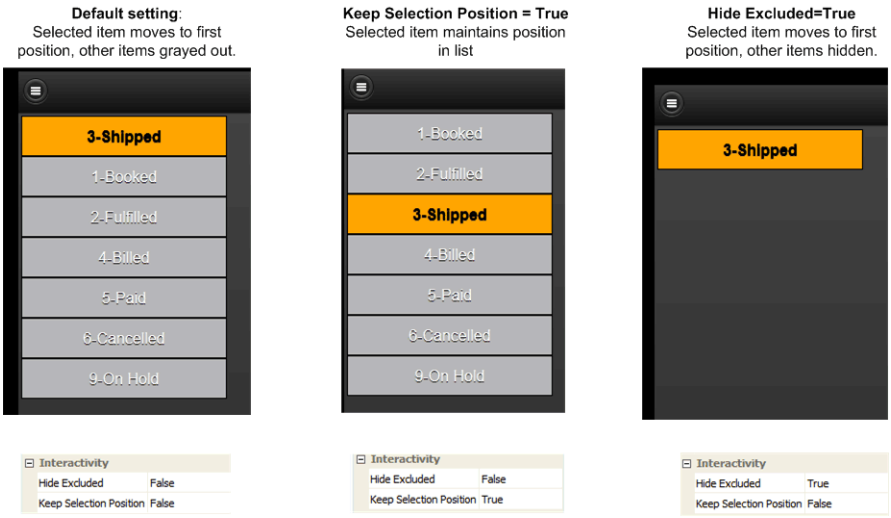


4.12.2.3 Customize Filter Selection Behavior

By default, the selected item moves to the first position of the filter list and the nonselected items are shaded. You can change this behavior by setting the properties **Hide Excluded** and **Keep Selection Position**.

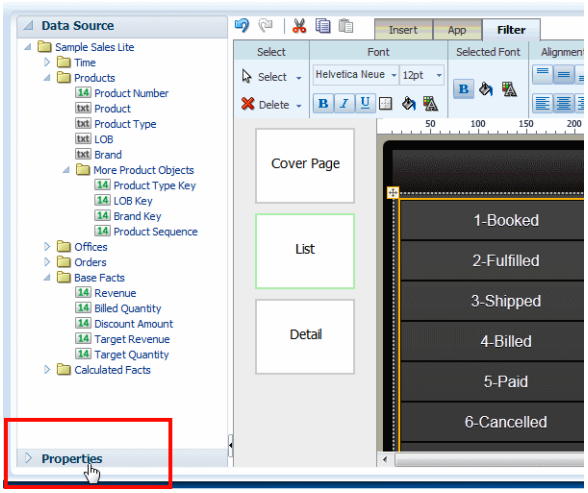
Figure 4–67 shows the difference in the display depending on the setting of the properties.

Figure 4–67 Filter Selection Behavior Based on Property Settings

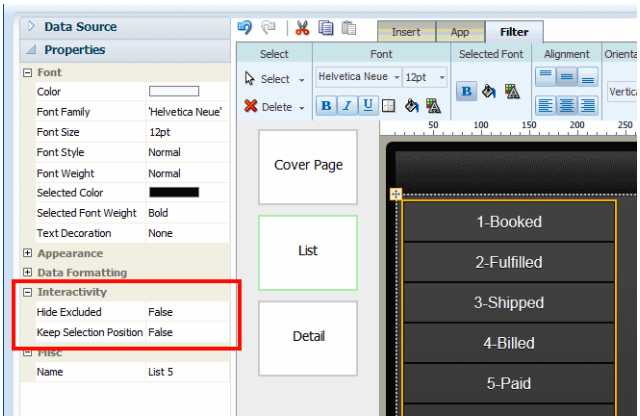


To customize the filter behavior properties:

1. Select the filter component in the design area.
2. Select the **Properties** pane on the left panel.



3. Under the Interactivity group of properties, set the following properties:



Hide Excluded

- True - hides the non-selected items
- False - (default) non-selected items display, but are shaded

Keep Selection Position

- True - selected item maintains position in list
- False - (default) selected item moves to the first position of the list

4.13 Inserting Data Fields

You can insert a data field to display in your app by simply dragging it from the Data Source pane to the app page where you want it to display. To position data fields more precisely, or to insert fields side-by side, insert a frame first.

4.13.1 Insert Data Fields

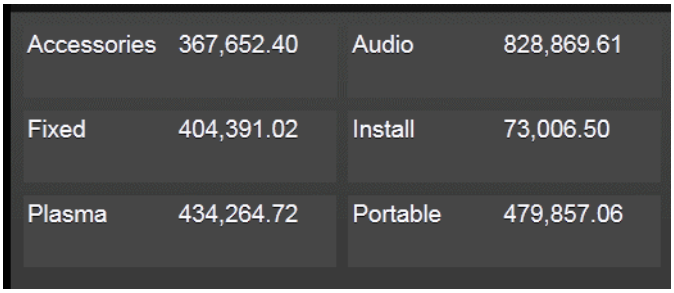
To insert a data field:

1. Select the area in the page where you want to insert the field.
2. Drag the field from the **Data Source** pane to the position in the app page.

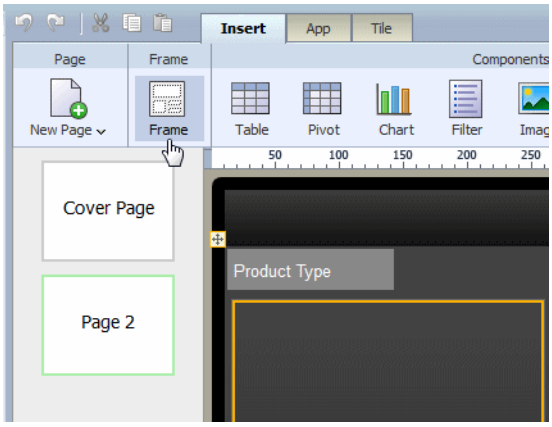
4.13.2 Display Data Fields Side-by-Side

To display data fields side-by-side as shown in Figure 4–68, insert a Frame first to position the data fields.

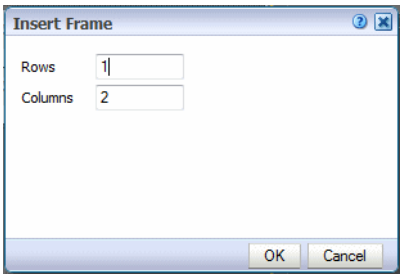
Figure 4–68 Data Fields Displayed Side-by-Side



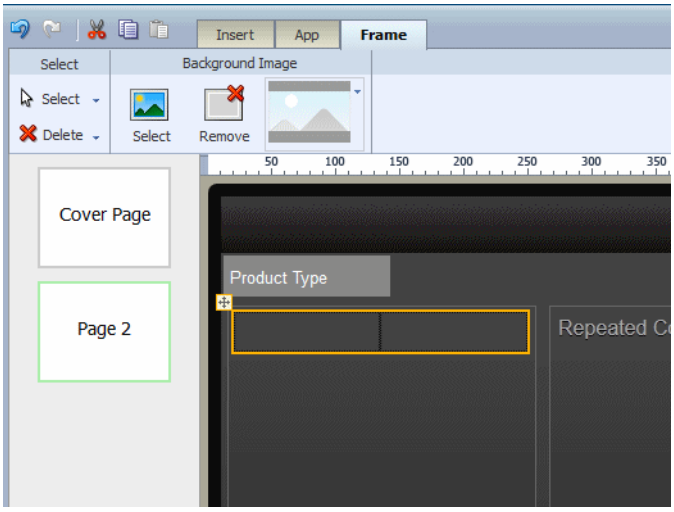
1. Select the area of the page to display the data fields. In this example, the area is a Tile.
2. On the **Insert** menu, drag the **Frame** component to the page.



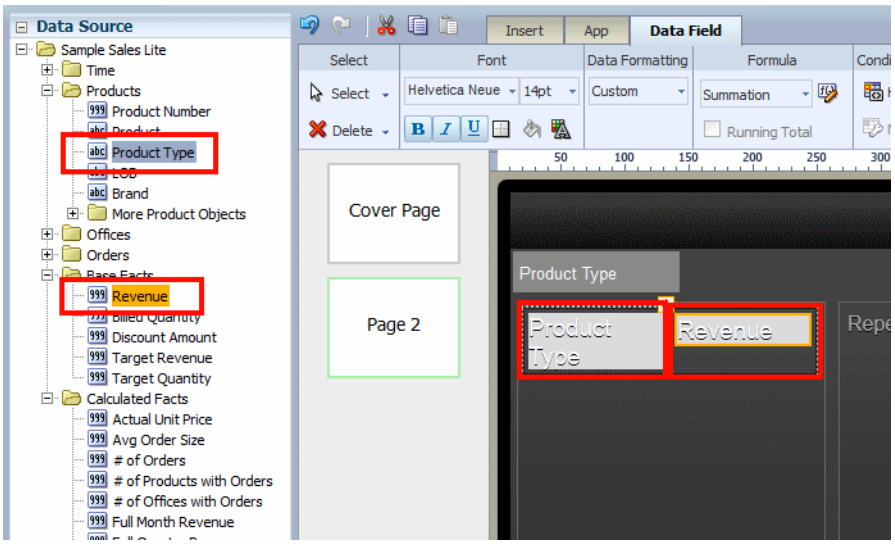
3. In the **Frame** dialog, enter 1 Row and 2 Columns.



The Frame displays in the page.



4. Drag the data fields from the Data Source pane to the frame cells where you want the data to display.



4.14 Inserting Text

Use the text component to enter free-form text in the layout.

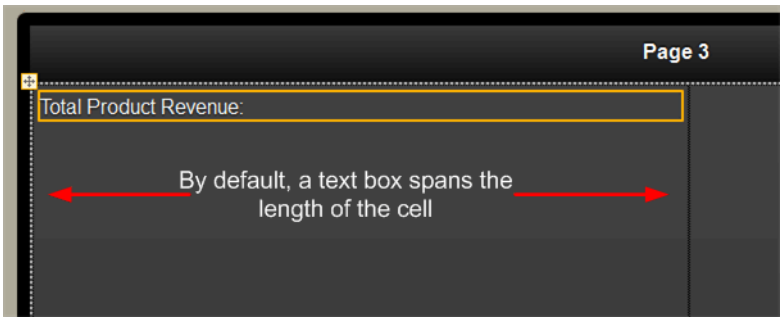
To insert text:

1. Drag and drop the Text component from the **Insert** toolbar to the layout.
2. Double-click the default inserted text to make the desired entries.

4.14.1 Displaying a Data Field in Line with a Text Item

By default, when you insert a text item to a grid cell, the text box spans the length of the grid cell.

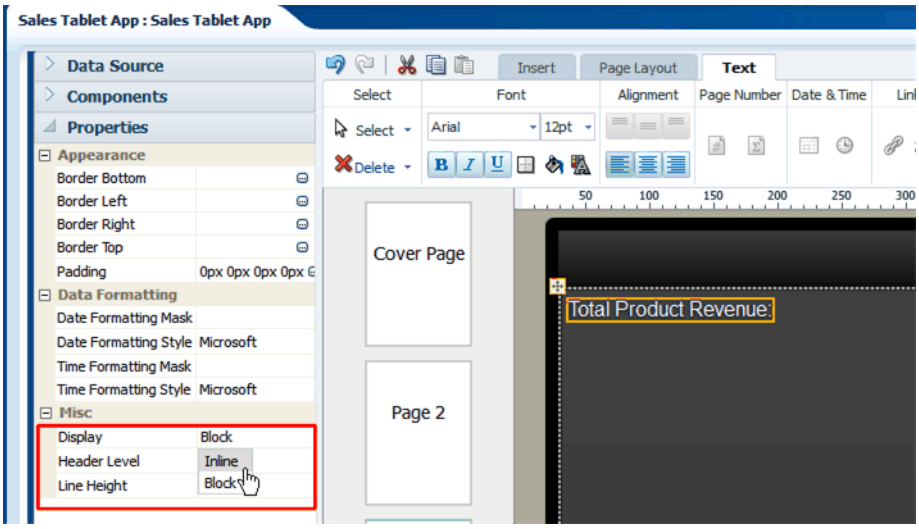
Figure 4–69 Default Text Field Span



To display a data field in line with the text item:

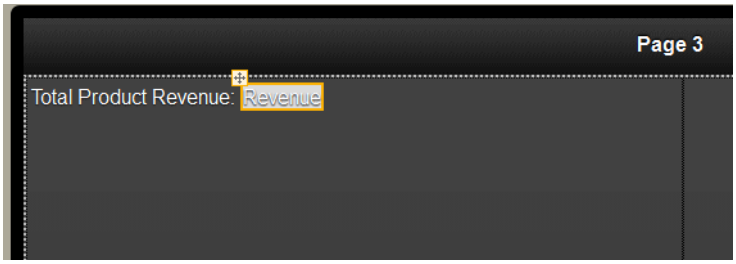
1. Select the text box.
2. On the **Properties** pane, set the **Display** property to **Inline**, as shown in Figure 4–70.

Figure 4–70 Setting the Display Property of the Text Box to Inline



You can now insert a data field inline with the text as shown in Figure 4–71.

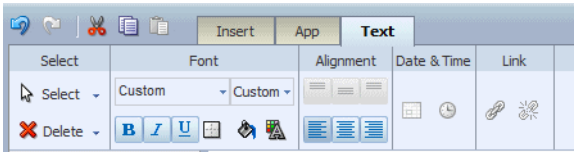
Figure 4–71 Data Item Inline with Text Item



4.14.2 Formatting Text

Use the Text toolbar to apply formatting to your text components. The Text toolbar is shown in Figure 4–72.

Figure 4–72 The Text toolbar



The Text toolbar enables you to perform the following:

- Set the font properties
- Set alignment of the text in the grid cell
- Insert predefined text items: page number, date, and time
- Insert a hyperlink

4.14.2.1 Editing Font Properties

Use the Font group of commands to set the following:

- Select a font style
- Select a font size
- Apply emphasis (bold, italic, or underline)
- Insert a border around the text item
- Apply a background color
- Apply a font color

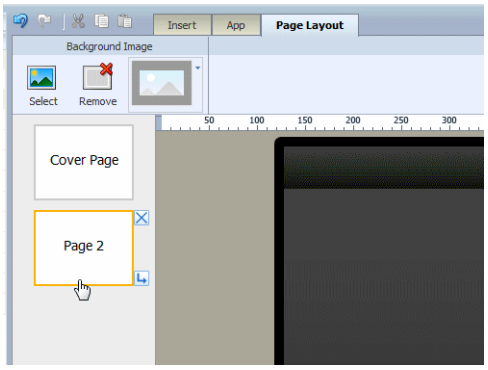
4.15 Customizing Background Images

You can add an image to an app page background or a Frame background and configure the display characteristics of the image. A background image enables you to add other app components on top of it.

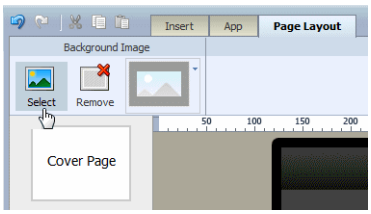
To add a background image to a frame or page:

1. Select the page or frame to enable the **Page Layout** toolbar or the **Frame** toolbar. The example in Figure 4–73 shows the Page Layout toolbar. To activate the toolbar for a Frame, click the outermost edge of the Frame in your app page.

Figure 4–73 The Page Layout Toolbar



2. Click **Select** to choose an image.

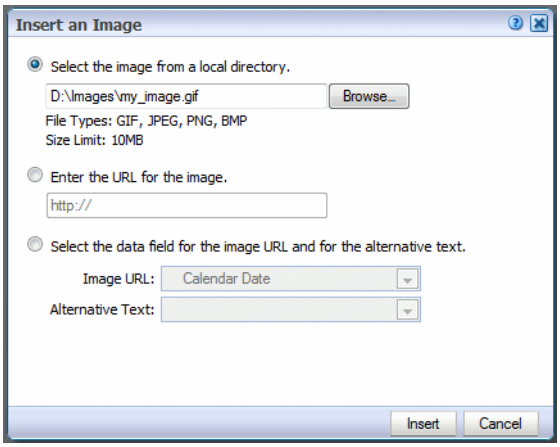


3. In the **Insert an Image** dialog, specify the source for the image:
   - **Select the image from a local directory**: Click **Browse** to specify the file name and directory of the image on a local or mapped drive to upload the image.
   - **Enter the URL for the image**: Enter the URL where the image is stored.
   - **Select the data field for the image URL and for the alternative text**:

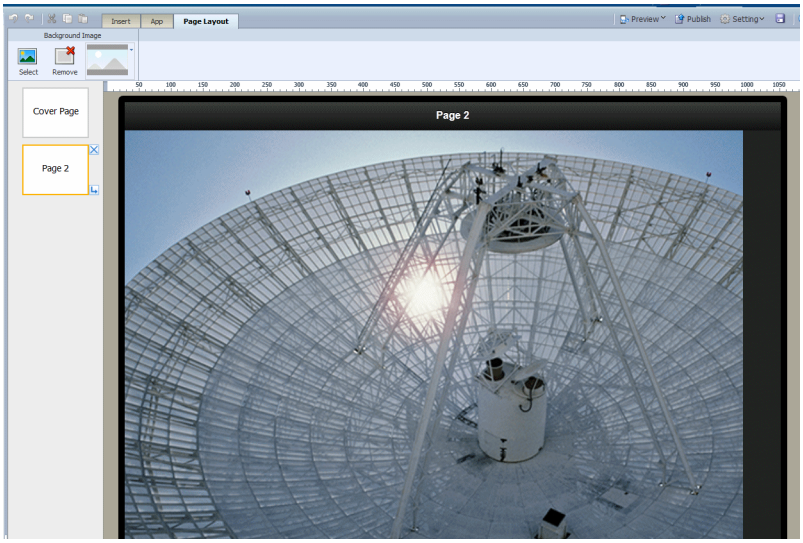
Image URL: Select the field from the data that contains a URL to an image.

Alternative Text: If the data includes a field that contains alternative text for the image, then select that field to display alternative text.

Figure 4–74 Insert an Image Dialog

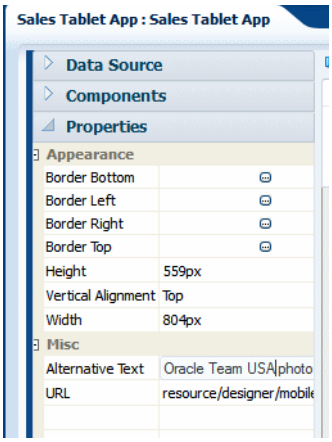


4. Click **Insert** to insert the image to the app page. By default, the image is scaled to fit the page.



5. (Optional) Add alternative text for the image. Click the Properties pane and enter text in the Alternative Text field as shown in Figure 4–75.

Figure 4–75 Entering Alternative Text for an Image in the Properties Pane

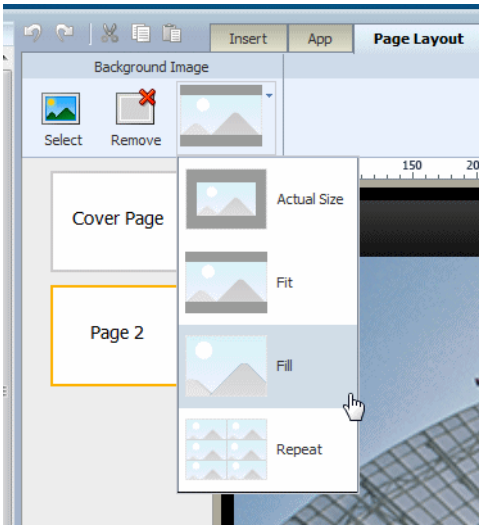


You can now add app components on top of the background.

4.15.1 Sizing the Background Image

To configure the size of the background image:

1. Select the page to enable the **Page Layout** toolbar.
2. Select a fit option from the menu.



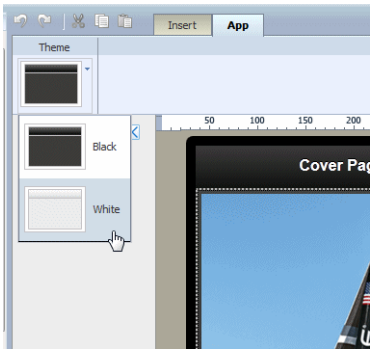
- **Actual Size** - displays the image according to the actual pixel dimensions.
- **Fit** - expands the image maintaining the scale until one dimension reaches the edge. If one dimension reaches the edge of the canvas and the other dimension has not, then that area of the canvas is not covered.
- **Fill** - expands the image maintaining the scale to cover the entire canvas. If one dimension extends past the canvas for the other dimension to reach the edge, the image dimension that extends past the canvas is cropped.
- **Repeat** - repeats the image at actual size to fill the canvas. Use this option to use a small image to create a pattern or texture in the background.

4.16 Setting the App Color Theme

By default apps display a black background. To display a white background for your app, edit the App theme.

To set the App theme:

1. Select the **App** toolbar.
2. From the **Theme** menu, select White.



5

Publishing to the Apps Library

With the Mobile Applications Designer you can publish your apps to the Apps Library. From the Apps Library users can easily subscribe to your app.

This chapter includes the following sections:

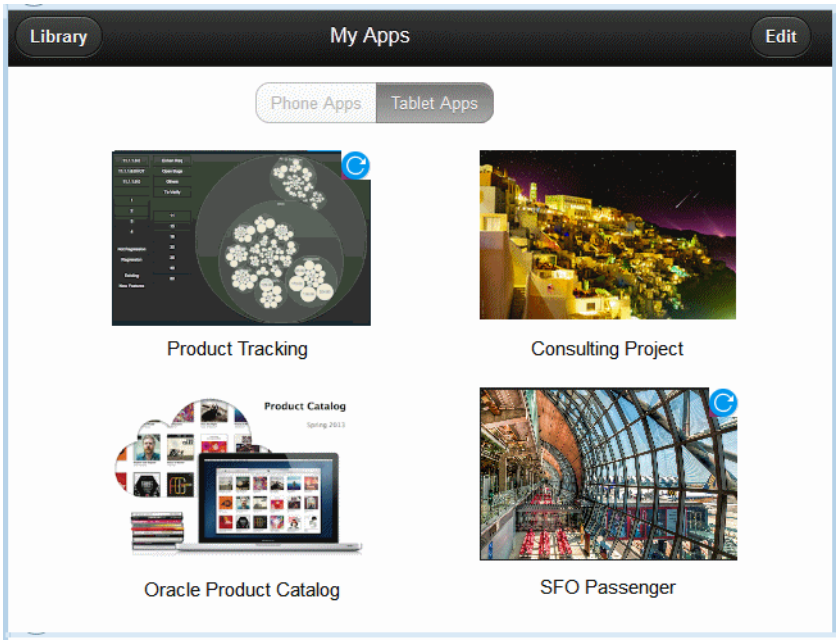
- Overview
- Publishing Apps

5.1 Overview

The Apps Library is where users access and subscribe to your apps from their mobile devices. When you publish your app it is copied to the Apps Library folder set up by your administrator and is immediately available to users with access to the library and permissions to run your app.

If you update an app that you have already published to the Apps Library, users that have subscribed to your app see a **Refresh** icon in their My Apps library notifying them that the newer version is available. Users must explicitly click the **Refresh** icon to get the new version.

Figure 5–1 My Apps Library Showing New Versions of Apps Available



Prerequisites

The Apps library must be configured by an administrator see Section A.2, "Setting Up the Apps Library Locations."

You must have write permission on the Apps Library folder in the catalog to which you are publishing.

Oracle recommends that you apply appropriate permissions to your app before you publish it.

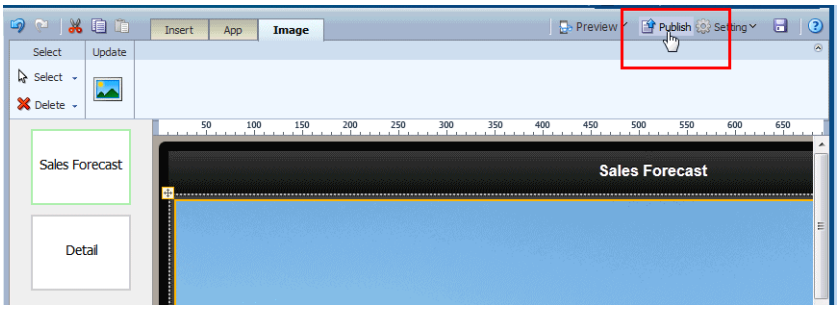
5.2 Publishing Apps

The Publish feature enables you to quickly expose your apps in the Apps Library configured for your environment.

To Publish an app:

1. From the Mobile App Designer, click **Publish**, as shown in Figure 5–2.

Figure 5–2 Choosing the Publish Command

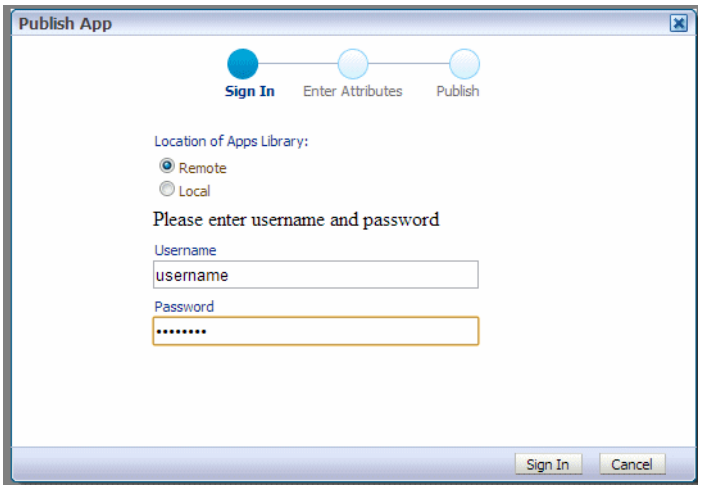


2. In the **Publish App** dialog, choose whether to publish your app to the Apps Library in the current (**Local**) environment or to a preconfigured **Remote** environment.

   If you choose **Local**, click **Next**.

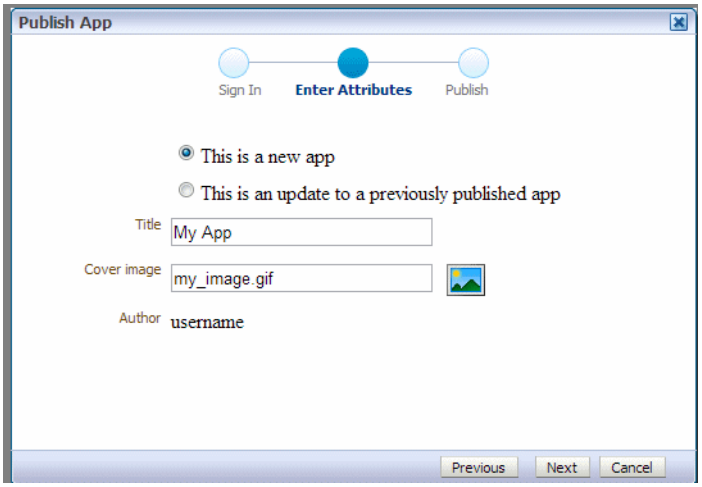
   If you choose **Remote**, enter the username and password for the target environment.

Figure 5–3 Publish Apps Sign In Step for Remote Apps Library



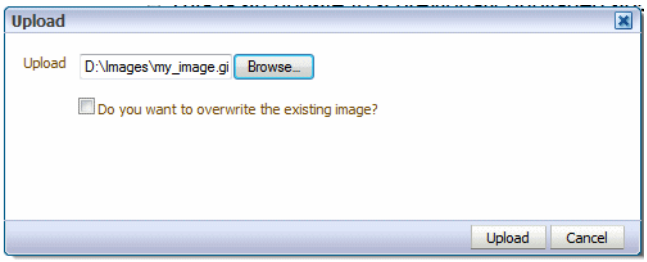
3. Enter the attributes for your app:

Figure 5–4 Publish App Enter Attributes Step



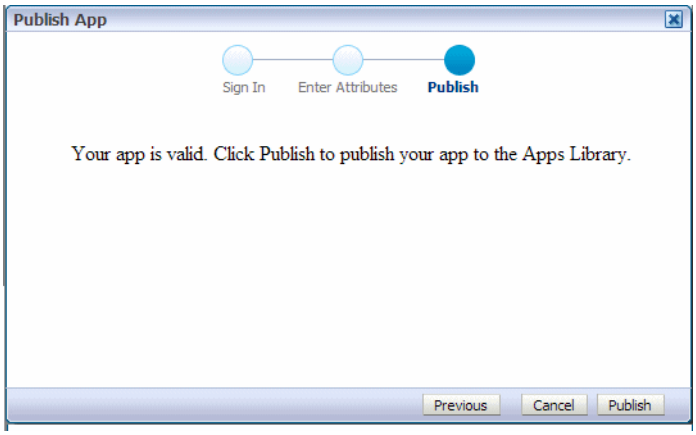
- **Title** - enter the title of the app to display in the Apps Library.
- **Cover Image** - upload a cover image for the App. The cover image is a thumbnail image that displays in the Apps Library for your app. A cover image is required.

  Click the image icon to open the **Upload** dialog.



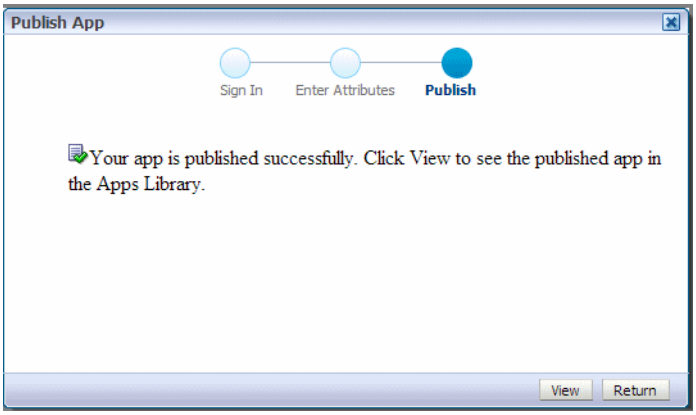
Click Browse to locate the image in the file system, then click **Upload**.

4. Click **Next** to validate your app. The validation process verifies that the data source (BI Publisher data model or BI subject area) exists in the target environment.



If validation fails, ensure that the data model or subject area exists in the target environment and is located in the same path as the source environment.

5. Click **Publish** to publish your app to the target Apps Library.



6. Click **View** to view your App in the Apps Library or click **Return** to return to the Mobile App Designer.

6

Advanced Design Features

This chapter describes advanced features and component properties of the BI Mobile App Designer.

This chapter includes the following sections:

- Working with Tables
- Working with Pivot Tables
- Adding Filters to Tiles, Charts, Tables, and Pivot Tables
- Adding a Search Filter to Navigation and Accordion Lists
- Adding Static or Dynamic Links
- Features of Metric Fields
- Setting Borders
- Setting Margins
- Using the Color Picker

6.1 Working with Tables

The following sections describe advanced features of tables in the Mobile App Designer:

- Customizing Alternating Row Colors
- Setting Table Options
- Customizing Column Headers
- Customizing Table Data Display
- Customizing Table Totals

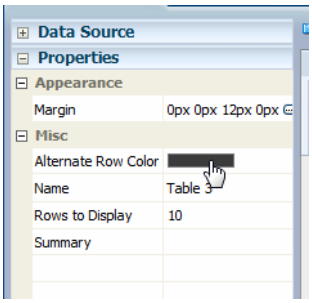
6.1.1 Customizing Alternating Row Colors

By default, alternating table rows in apps display a different gradient for easier viewing. You can customize the alternating row color.

To set an alternating row color:

1. Select the table.
2. Open the **Properties** pane.
3. Click the value shown for **Alternate Row Color** to launch the color picker. Figure 6–1 shows the **Alternate Row Color** option.

Figure 6–1 Alternating Row Color Property

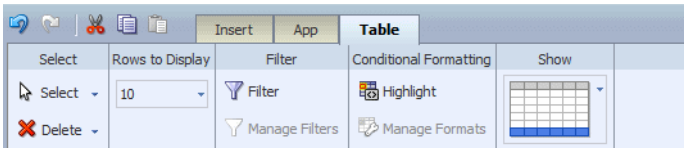


4. Choose a color and click **OK**.

6.1.2 Setting Table Options

Figure 6–2 shows the Table toolbar.

Figure 6–2 The Table Toolbar



Use the Table toolbar to perform the following:

- Set the Number of Rows to Display
- Define Filters for Data Displayed in the Table
- Apply Conditional Formats to a Table or Table Column
- Show or Hide the Total Row

6.1.2.1 Set the Number of Rows to Display

The **Rows to Display** property controls the number of rows of data displayed as follows:

- When designing an app, this property sets the number of rows that are displayed for the table within the app designer.
- When viewing the app, this property sets the size of the scrollable region for the table.

The default is 10 rows of data. You can select 10, 20, 30, 40, or All rows of data to be displayed. To set a custom value, open the **Properties** pane and enter the custom value for the **Rows to Display** property.

Note: Displaying more rows of data can impact the performance of the app designer.

6.1.2.2 Define Filters for Data Displayed in the Table

See Section 6.3, "Adding Filters to Tiles, Charts, Tables, and Pivot Tables."

6.1.2.3 Apply Conditional Formats to a Table or Table Column

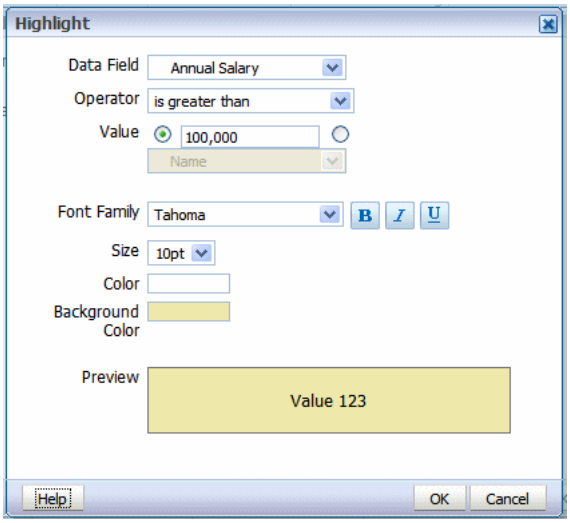
A conditional format changes the formatting of an element in the table based on a condition. Use this feature for highlighting target ranges of values in the table. For example, you could create a set of conditional formats for the table that display rows in different colors depending on threshold values.

6.1.2.4 Applying Conditional Formats to a Table or Table Column

To apply a conditional format:

1. Select the table or a specific table column.
2. Click the **Highlight** button. This launches the **Highlight** dialog.

Figure 6–3 The Highlight Dialog



3. Enter the fields to define a condition and format to apply, as described in Table 6–1.

Table 6–1 Fields to Define Conditions and Formats

Field	Description
Data Field	Select the data field to apply the condition to. All elements are available regardless of whether they are included as table columns. For example, you may want to highlight in red all employees with salaries greater than $10,000, but not actually include the salary element in the table.
Operator	Select from the following operators: is equal to, is not equal to, is less than, is greater than, is less than or equal to, is greater than or equal to, is between
Value	Enter the value or values appropriate for the operator selected. You can enter a static text value or choose a data field **Important:** If entering a date value, use one of the following XSL date or time formats: YYYY-MM-DD or YYYY-MM-DDTHH:MM:SS.
Font Family	Select the font to apply to the row of data that meets the condition. You can also apply bold, italic, or underline emphasis.
Size	Select the size of the font to apply to the row of data that meets the condition.

Table 6–1 (Cont.) Fields to Define Conditions and Formats

Field	Description
Color	Click the color box to open the **Color Picker**. Choose one of the predefined colors or click **Custom Color** to define a color to apply to the font.
Background Color	Click the color box to open the **Color Picker**. Choose one of the predefined colors or click **Custom Color** to define the background color to apply to the row.

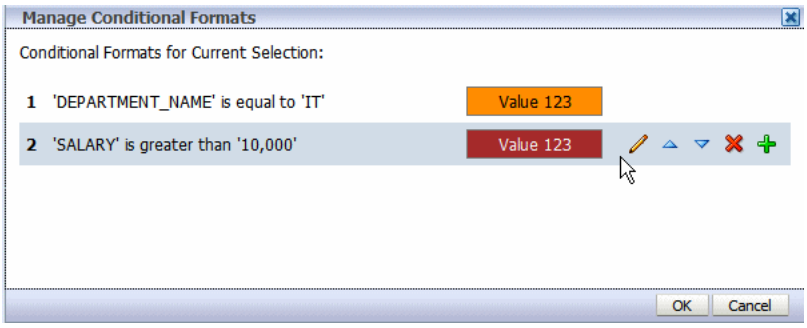
6.1.2.5 Managing Formats

After you have added conditional formats, use the **Manage Formats** command to edit or delete a format.

To manage formats:

1. Click the **Manage Formats** button to launch the **Manage Conditional Formats** dialog.

Figure 6–4 Managing Conditional Formats

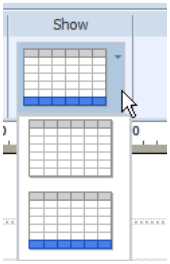


2. Hover the cursor over an item to display the actions toolbar. Use the toolbar buttons to edit the format, move the format up or down in the order of application, delete, or add another format. The order of the conditions is important because only the first condition that is met is applied.

6.1.2.6 Show or Hide the Total Row

By default, the app designer inserts a total row in a table that sums numeric columns. To remove the total row, click the **Show** menu and select the table view without the highlighted total row. Figure 6–5 shows the **Show** menu options.

Figure 6–5 The Show Total Row Options

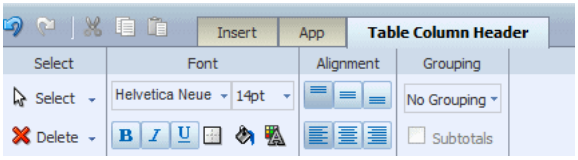


The total row can be further customized using the **Total Cell** toolbar and the **Properties** pane. For more information see Section 6.1.5, "Customizing Table Totals."

6.1.3 Customizing Column Headers

Figure 6–6 shows the **Table Column Header** toolbar.

Figure 6–6 The Table Column Header Toolbar



Use the Table Column Header toolbar to perform the following:

- Edit the font properties of the table header column
- Edit the cell properties of the table header including border weight, style, and color and background fill color
- Set the vertical and horizontal alignment of the table header
- Apply grouping

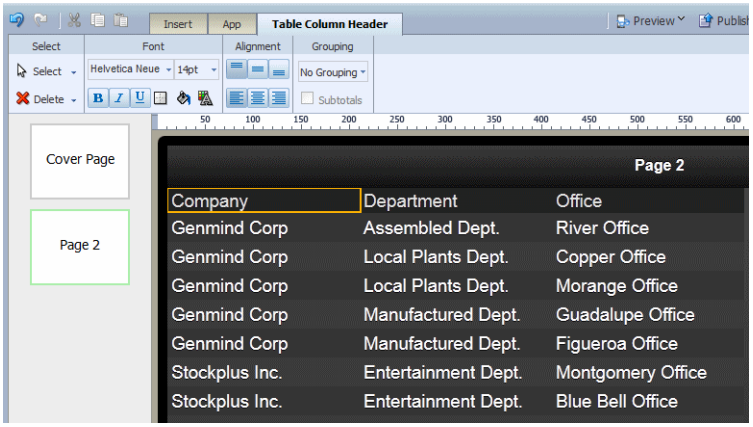
6.1.3.1 About Grouping

"Grouping" groups together elements in the data of the same value. In a table, applying grouping can make the table easier to read. After you group elements in a table, you can also add a subtotal row for each group. Grouping can be applied to a table column header or to a table column.

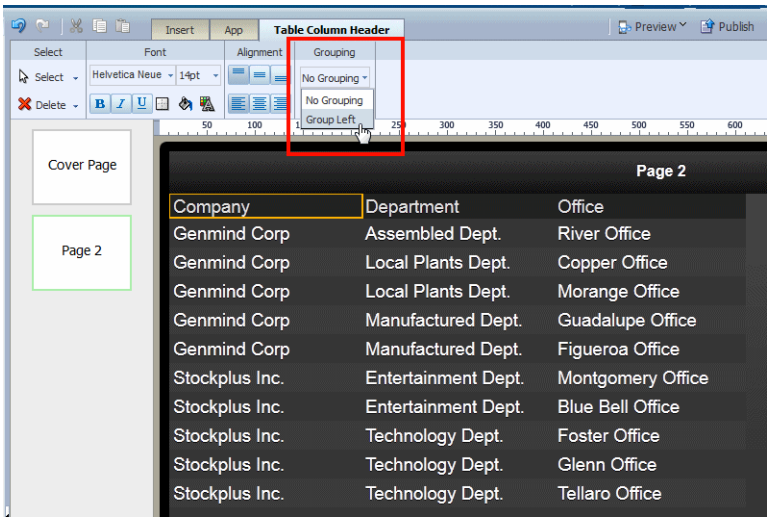
6.1.3.2 Apply Group Left

To apply group left to a table column:

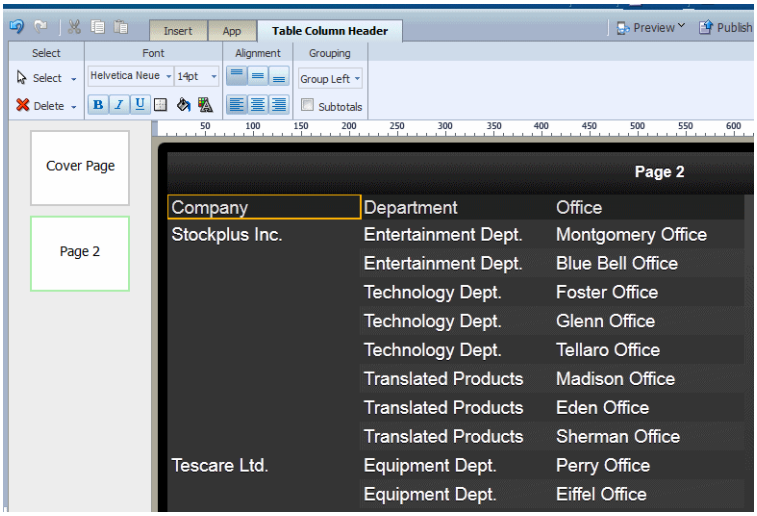
1. Select the Table Column header.



2. On the **Table Column Header** toolbar, select **Group Left**.



Like values are now grouped together for the selected column of your table.

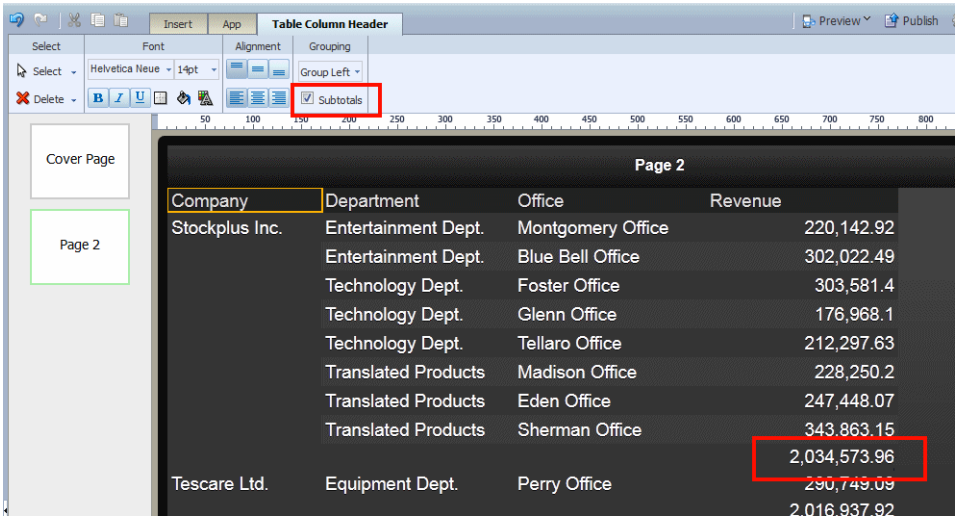


6.1.3.3 Applying Subtotals

To further enhance a table, you can add a subtotal row to display for each grouped occurrence of the element.

To apply subtotals for a grouped column:

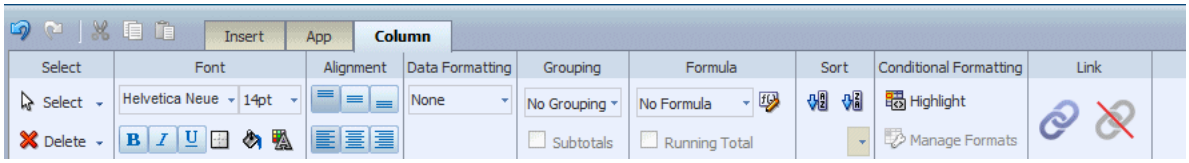
1. Select the table column header of the grouped column.
2. On the **Table Column Header** toolbar, select **Subtotals**. Your table now shows a subtotal row for each group.



6.1.4 Customizing Table Data Display

The Column toolbar is enabled when you select a specific column in a table. Figure 6–7 shows the Column toolbar.

Figure 6–7 The Column Toolbar



Use the Column toolbar to:

- Edit the font properties of the column including style, size, and color
- Edit the cell properties of the column including border weight, style, and color and background fill color
- Set the vertical and horizontal alignment of the column contents
- Apply formatting to the column data (see Section 6.1.4.1, "Setting Table Data Formatting Options")
- Apply grouping (see Section 6.1.3.1, "About Grouping")
- Apply a running total (or other formula) to the column data (see Section 6.1.4.5, "About the Formula Option")
- Apply sorting and sort precedence (see Section 6.1.4.6, "About the Sort Option")
- Apply conditional formatting to the column (see Section 6.1.2.3, "Apply Conditional Formats to a Table or Table Column")
- Create links for table column data (see Section 6.5, "Adding Static or Dynamic Links")

6.1.4.1 Setting Table Data Formatting Options

The options you see in the Data Formatting region of the toolbar depend on the data type of the column you selected. The toolbar provides common options to choose

from. If an option is not listed, you can enter a custom Oracle or Microsoft formatting mask in the Properties pane. You can also set a formatting mask dynamically by including the mask as a field in your data. These features are described in the following sections:

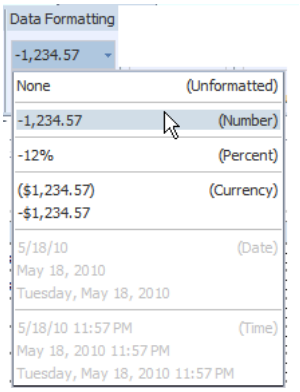
- Formatting Numeric Data Columns
- Formatting Date Type Data Columns
- Custom and Dynamic Data Formatting

6.1.4.2 Formatting Numeric Data Columns

If the column contains numeric data, the following formatting options are available:

- **Format** - Select one of the common number formats from the list. The format is applied immediately to the table column. The formats are categorized by Number, Percent, and Currency, as shown in Figure 6–8.

Figure 6–8 Number, Percent, and Currency Formats



To apply a format not available from this list, see Section 6.1.4.4, "Custom and Dynamic Data Formatting."

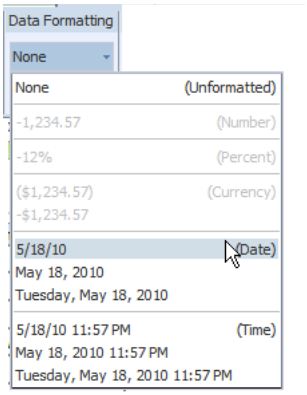
- **Decimal position** - Click the **Move Left** or **Move Right** to increase or decrease the decimal positions displayed. For example, 1,234.00 displays as 1,234 after you click Move Right twice.
- **Show/Hide Grouping Separator** - Click this button to hide the grouping separator (for example, 1,234.00 displays as 1234.00). To show the grouping separator, click the button again.

6.1.4.3 Formatting Date Type Data Columns

If the column contains dates, the following formatting options are available:

- **Format** - Select one of the common date formats from the list. The format is applied immediately to the table column. The formats are categorized by Date and Time, as shown in Figure 6–9.

Figure 6–9 Date and Time Formats



6.1.4.4 Custom and Dynamic Data Formatting

BI Mobile App Designer supports the use of the Oracle and Microsoft format masks for custom data formatting. The display of the output depends on the locale selected for viewing the app.

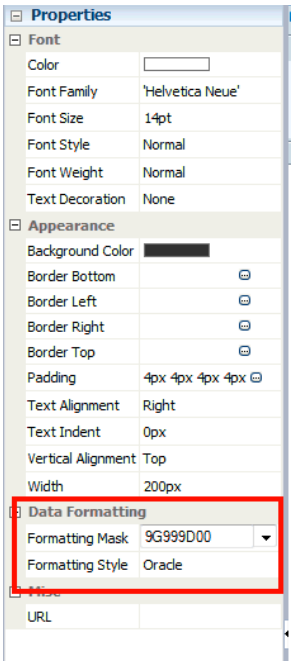
For more information on Microsoft format masks, see "Using Microsoft Number Format Masks" in *Oracle Fusion Middleware Report Designer's Guide for Oracle Business Intelligence Publisher*.

For more information on Oracle format masks, see "Using Oracle Format Masks" in *Oracle Fusion Middleware Report Designer's Guide for Oracle Business Intelligence Publisher*.

To apply custom data formatting:

1. Select a data field or column.
2. Click **Properties**. The Data Formatting options are displayed as shown in Figure 6–10.

Figure 6–10 Data Formatting Properties

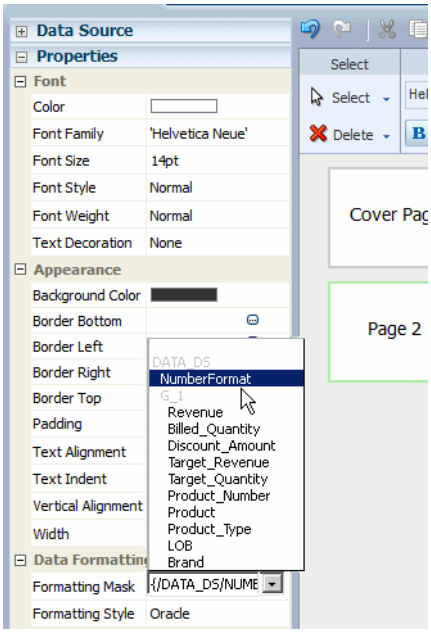


3. From the Formatting Style drop-down list, select the **Oracle** or **Microsoft** formatting style. The Oracle formatting style is recommended.
4. In the Formatting Mask field, enter a formatting mask. For example, for a column that contains product totals, you can use the Oracle formatting style, and the 9G999D99 formatting mask to display total values with two zeros to the right of the decimal place.

Formatting masks can also be applied dynamically by either including the mask in a data field or in a parameter to the app. The mask is passed at run time and applied.

To enter a dynamic formatting mask, in the Formatting Mask field, choose the data field that defines the formatting mask. Figure 6–11 shows an example of setting a dynamic number format mask. For this example, a parameter called NumberFormat prompts the user to define a format mask when the app is viewed. The value is passed to the Formatting Mask property and applied to the data field in the app at run time.

Figure 6–11 Selecting a Field for a Dynamic Formatting Mask



If you use a parameter to pass the format mask ensure that you select the **Include Parameter Tags** option on the BI Publisher 'data model Properties page.

6.1.4.5 About the Formula Option

The options available from the **Formula** region of the column toolbar depend on the data type of the column.

For more information about applying formulas, see Section 6.1.5.2, "Applying a Formula."

6.1.4.6 About the Sort Option

To sort the data in a column, select the column, then under the **Sort** group click **Ascending Order** or **Descending Order**.

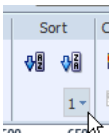
To sort by more than one column, select the column, the sort order, and then assign a **Priority** to each column. The priority list is a list of values beneath the sort order commands.

To apply multiple sort orders to a table:

1. Select the column.
2. On the **Column** tab, under **Sort**, click the appropriate **Ascending or Descending Order** button.
3. From the **Priority** list, select 1.

   Figure 6–12 shows the **Priority** list.

Figure 6–12 Priority List



4. Select the next column you want to sort by.
5. On the **Column** tab, under **Sort**, click the appropriate **Ascending or Descending Order** button.
6. From the **Priority** list, select 2.
7. Repeat Steps 1 - 6 for each column you want to sort by, applying the appropriate priority for each column.

6.1.4.7 Removing a Sort Order

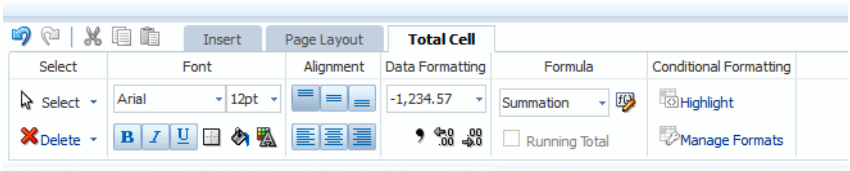
To remove a sort order applied to a column:

1. Select the column.
2. From the **Sort** region on the **Column** tab, click the appropriate button of the sort order that has been applied. For example, to deselect the ascending order, click the **Ascending Order** button to remove the sort command.

6.1.5 Customizing Table Totals

The app designer automatically inserts a grand total row when you insert a data table to the layout. As shown in the section on grouping, you can also insert subtotal rows within the table based on a grouping field. To edit the attributes of the cells in a grand total or subtotal row, select the cell that displays the total and use the options in the Total Cell toolbar shown in Figure 6–13.

Figure 6–13 The Total Cell Toolbar



The Total Cell toolbar enables you to perform the following:

- Edit the font properties of the total cell
- Edit the cell properties of the total cell including border weight, style, and color and background fill color
- Set the vertical and horizontal alignment of the table header
- Apply formatting to the cell data
- Apply a formula to the cell
- Apply conditional formatting to the cell

6.1.5.1 Formatting Total Cell Data

See Section 6.1.4.1, "Setting Table Data Formatting Options."

6.1.5.2 Applying a Formula

By default, the formula applied to a Total Cell within a numeric column is a sum of the column items. The Formula option enables you to apply a different formula.

Not all options available from the **Formula** region of the column toolbar are applicable to a Total Cell.

For more information about applying formulas, see Section 6.1.5.2, "Applying a Formula."

6.1.6 Inserting Links to Table Column Data

See Section 6.5, "Adding Static or Dynamic Links."

6.2 Working with Pivot Tables

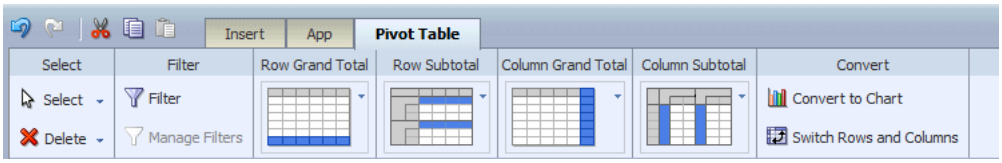
This section includes the following topics about working with pivot tables in the Mobile App Designer:

- About the Pivot Table Toolbar
- Customizing Pivot Table Headers
- Customizing Pivot Table Data

6.2.1 About the Pivot Table Toolbar

Figure 6–14 shows the Pivot Table toolbar.

Figure 6–14 The Pivot Table Toolbar



Use the Pivot Table toolbar to:

- Apply filters to the pivot table data
- Customize the display of total rows
- Convert the pivot table to a chart
- Switch pivot table columns and rows

6.2.1.1 Applying Filters

See Section 6.1.2.2, "Define Filters for Data Displayed in the Table" for a description of he **Filter** and **Manage Filters** features.

6.2.1.2 Customizing the Display of Totals

The Pivot Table toolbar enables you to quickly customize the display of grand total and subtotal rows.

By default, the pivot table display the total and subtotal rows as shown in the toolbar:

- **Row Grand Total** - Inserted at bottom of table
- **Row Subtotal** - Inserted at top of each subgroup, with no row header

- **Column Grand Total** - Inserted at the far right
- **Column Subtotal** - Inserted to the left of each column subgroup, with no header

Change the positioning and display of totals and subtotals by clicking the appropriate group in the toolbar and selecting the desired layout pattern from the menu.

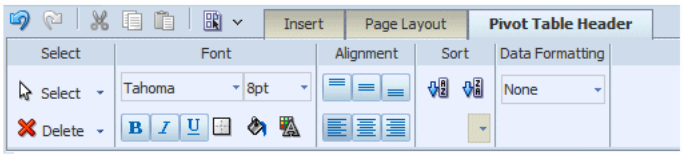
6.2.1.3 Switching Rows and Columns

Use the Switch Rows and Columns command to see a different view of the same data.

6.2.2 Customizing Pivot Table Headers

The **Pivot Table Header** toolbar is shown in Figure 6–15.

Figure 6–15 The Pivot Table Header Toolbar



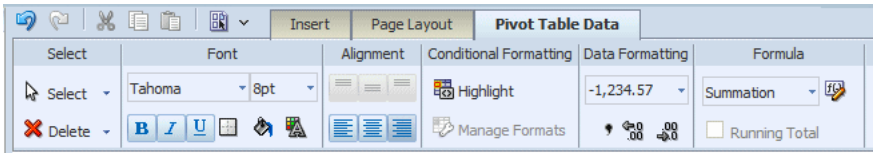
Select the column or row header of the pivot table and use the Pivot Table Header toolbar to perform the following:

- Customize the fonts, colors, alignment and other display features of the header
- Apply a sort order (for more information see Section 6.1.4.6, "About the Sort Option")
- Apply data formatting for numbers and dates (see Section 6.1.4.1, "Setting Table Data Formatting Options")

6.2.3 Customizing Pivot Table Data

The **Pivot Table Data** toolbar is shown in Figure 6–16.

Figure 6–16 The Pivot Table Data Toolbar



Select the data area of the pivot table and use the Pivot Table Data toolbar to perform the following actions. The commands in the Pivot Table Data toolbar are the same as the corresponding commands in the table Column toolbar. See the references for more information on their use.

- Customize the fonts, colors, alignment and other display features of the data
- Apply conditional formatting to the data (see Section 6.1.2.3, "Apply Conditional Formats to a Table or Table Column")
- Apply data formatting (see Section 6.1.4.1, "Setting Table Data Formatting Options")
- Apply a formula (see Section 6.1.5.2, "Applying a Formula")

6.3 Adding Filters to Tiles, Charts, Tables, and Pivot Tables

Apply a filter to refine the items displayed in tiles, charts, tables, and pivot tables. For example, apply a filter to:

- Display only the top 10 salaries
- Display only the bottom 25 store sales
- Display only employees in the IT department
- Display only sales that are between $10,000 and $20,000 and in the Southern region

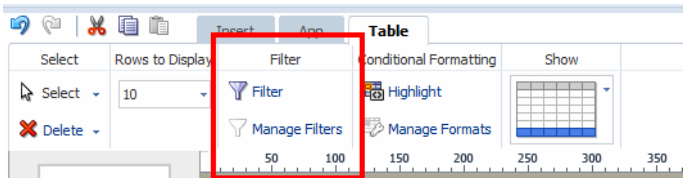
You can add multiple filters and manage the order in which they are applied to the page component.

6.3.1 Applying Filters

To define a filter:

1. Select the component in the page you want to apply the filter to (tile, chart, table, or pivot table) and click the **Filter** toolbar button.

Figure 6–17 Filter Command Shown on the Table Toolbar



This launches the **Filter** dialog.

2. Enter the fields to define the filter.

Table 6–2 Fields to Define Filters

Field	Description
Data Field	Select the data field to filter the table data by. All data fields are available regardless of whether they are included in the component or not.

Table 6–2 (Cont.) Fields to Define Filters

Field	Description
Operator	Select from the following operators: is equal to is not equal to is less than is greater than is less than or equal to is greater than or equal to is between is in top is in bottom is null is not null contains starts with ends with
Value	Value is the value to which the data field you selected is compared. Enter the value for the operator selected. You can enter a static value or select a data field.

To enter another filter, follow this procedure again. To specify the order that multiple filters are applied, use **Manage Filters**.

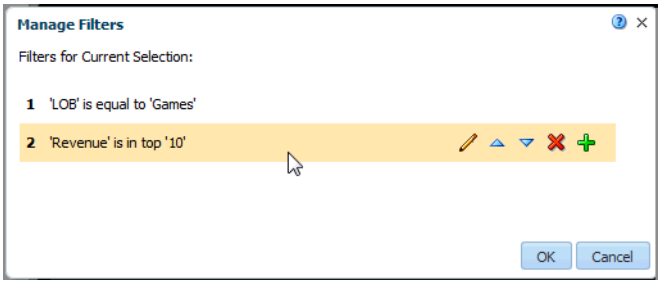
6.3.2 Managing Filters

After adding filters, use **Manage Filters** to edit, delete, or change the order that the filters are applied.

To manage filters:

1. Click the **Manage Filters** toolbar button to launch the **Manage Filters** dialog, as shown in Figure 6–18.

Figure 6–18 The Manage Filters Dialog

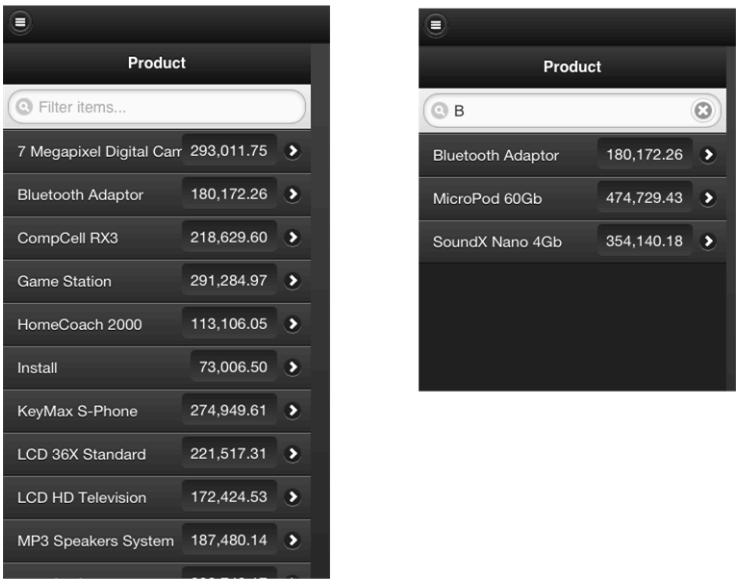


2. Hover the cursor over the filter to display the actions toolbar. Use the toolbar buttons to edit the filter, move the filter up or down in the order of application, delete, or add another filter.

6.4 Adding a Search Filter to Navigation and Accordion Lists

If the column that you select to create a navigation list or accordion list has many items, you can add a search filter to enable users to find specific items in the list more quickly. Figure 6–19 shows the data search filter option enabled for a navigation page.

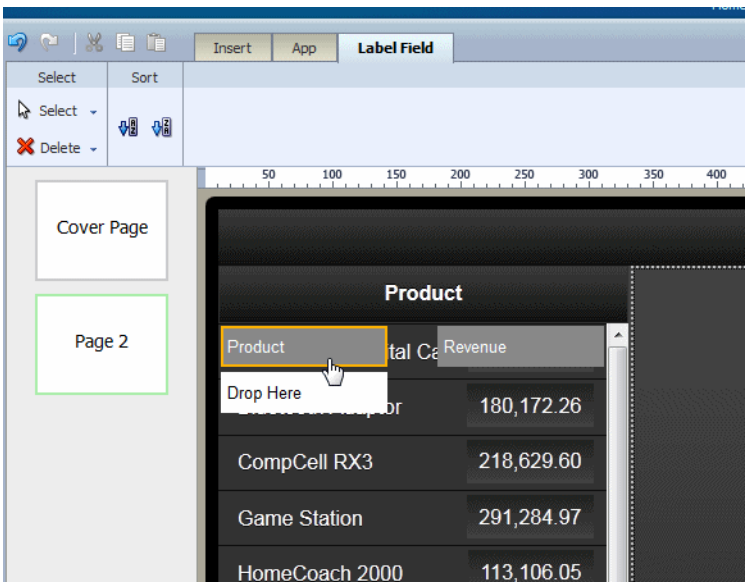
Figure 6–19 Example of Data Filter for a Navigation List



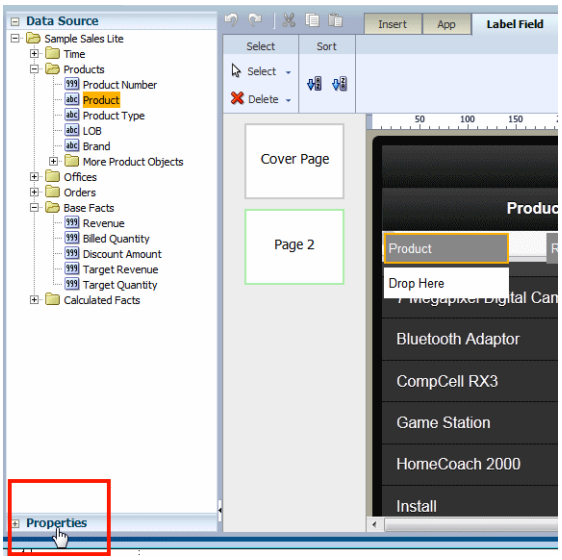
To add a search Data Filter for a Navigation or Accordion list:

1. Select the **Label** field on your Navigation or Accordion page. Figure 6–20 shows selecting the Label field of a Navigation page.

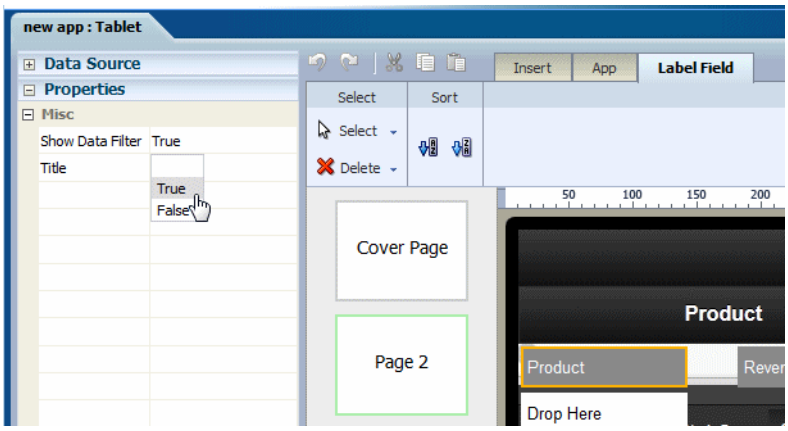
Figure 6–20 Selecting the Label Field



2. Open the **Properties** pane.



3. Set the **Show Data Filter** property to True.



Note that the data filter does not display during design time. To see how the data filter displays at run time, **Preview** the app.

6.5 Adding Static or Dynamic Links

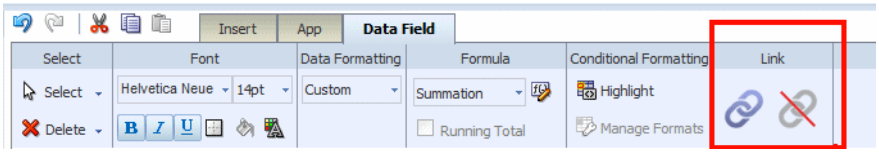
You can add links to Data Field components or table Columns. Links can be to any of the following:

- Web page - tapping the linked item in the app page opens a Web page in your mobile device browser.
- E-mail - opens the mobile device mail app and populates the To: field with the e-mail address provided in the link.
- Phone - when tapped on a phone, displays an alert to initiate dialing the number.
- SMS - launches the message app to initiate a text message to the number.

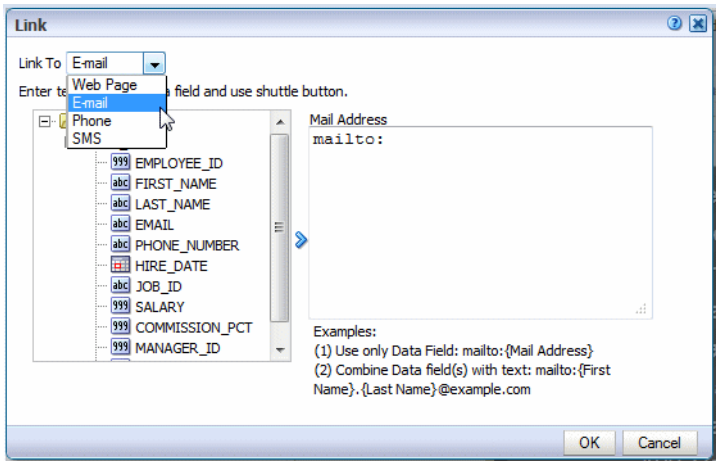
To add links:

1. Select the Data Field or the table Column in the app page for which you want to add a link. Figure 6–21 shows the Data Field toolbar.

Figure 6–21 Link Command Shown on the Data Field Toolbar



2. In the **Link** dialog, choose the type of link to add from the **Link To** menu. When you make a selection, the region where you define the link content displays the appropriate prompts.



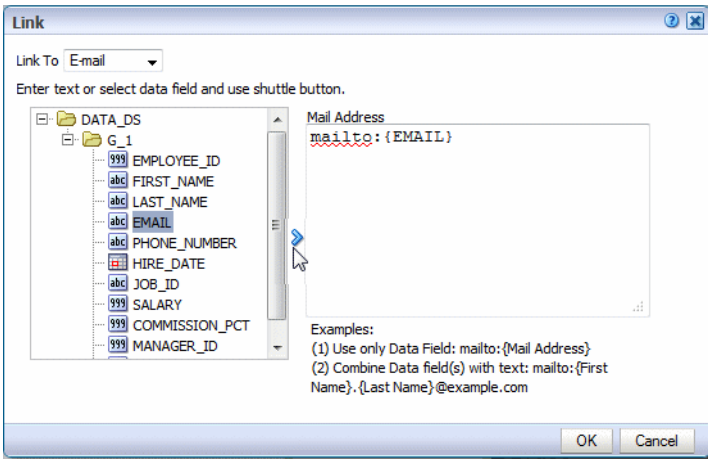
3. Specify the link to associate with the data field or column data. You can specify a static link or build a dynamic link using fields from your data. You can combine static text with data fields. To use a data field in your link definition, select the data field from the list and use the shuttle button to move it to the link definition.

Example: Create E-Mail Link with Data Field Source

Assume your app includes a table of employees. Your app data includes e-mail address as a data field. To add the e-mail link to each employee name:

1. Select the table column to enable the **Column** toolbar.
2. Click the **Link** command.
3. In the **Link** dialog, select E-mail from the **Link To** list.
4. Position your cursor to the right of `mailto:`
5. Select the data field that contains the e-mail address and click the shuttle button to move it to the link definition area. as shown in Figure 6–22.

Figure 6–22 Defining E-Mail Link Using a Data Field



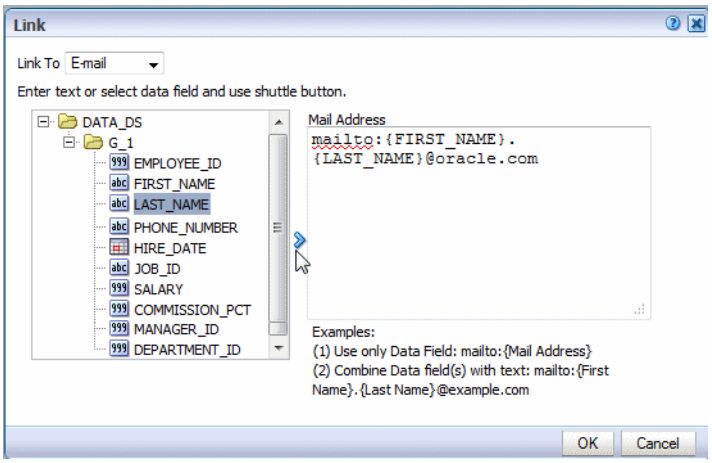
Example: Create E-Mail Link from Combination Static Text and Data Field Source

Now assume you want to include the e-mail address for each employee, but the data does not contain the e-mail address field. Instead, you must construct the e-mail address from a combination of the FIRST_NAME and LAST_NAME fields and static text.

To construct the e-mail link:

1. Select the table column to enable the **Column** toolbar.
2. Click the **Link** command.
3. In the **Link** dialog, select E-mail from the **Link To** list.
4. Position your cursor to the right of `mailto:`
5. To construct the link:
   - Select the data field that contains FIRST_NAME and click the shuttle button to move it to the link definition area.
   - Enter a period.
   - Select the data field that contains LAST_NAME and click the shuttle button to move it to the link definition area.
   - Enter the domain: `@example.com`

Figure 6–23 Using Data Fields and Static Text to Define Link

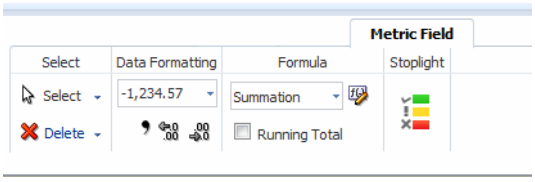


6.6 Features of Metric Fields

Metric fields are fields that calculate a measure, such as sum of revenue or count of orders. Examples of metric fields are the aggregated data fields you define for navigation and accordion pages.

When you select the measure field on an app page, the metric field toolbar enables you to customize display and calculation options. Figure 6–24 shows the Metric Field toolbar.

Figure 6–24 The Metric Field Toolbar



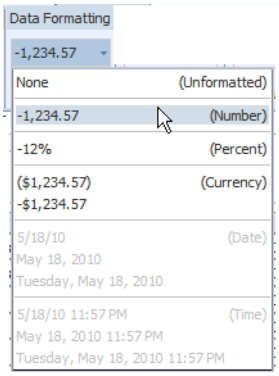
Use the toolbar to perform the following tasks:

- Apply Data Formatting
- Apply Custom Data Formatting
- Add Formulas
- Add Stoplight Formatting

6.6.1 Apply Data Formatting

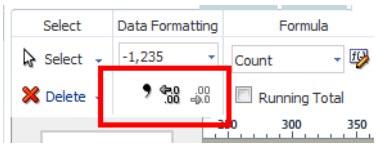
- **Data Formatting** - Select one of the common number formats from the list. The format is applied immediately to the field. The formats are categorized by Number, Percent, and Currency, as shown in Figure 6–25.

Figure 6–25 Number, Percent, and Currency Formats



To apply a format not available from this list, see Section 6.6.2, "Apply Custom Data Formatting."

- **Decimal position** - Click the **Move Left** or **Move Right** to increase or decrease the decimal positions displayed.

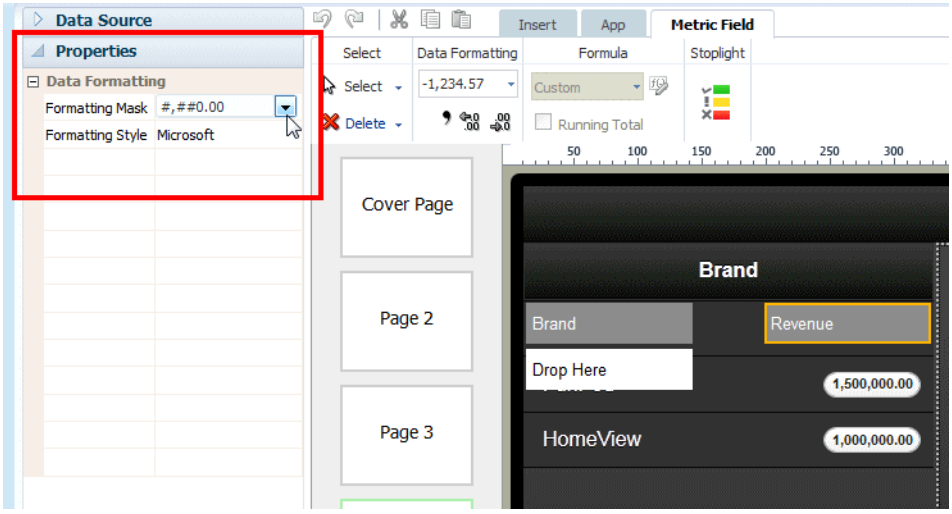


- **Show/Hide Grouping Separator** - Click this button to hide the grouping separator (for example, 1,234.00 displays as 1234.00). To show the grouping separator, click the button again.

6.6.2 Apply Custom Data Formatting

To apply custom data formatting:

1. Select the data field or table column.
2. Click **Properties**. The Data Formatting options are displayed.



3. For the **Formatting Style** property, select the **Oracle** or **Microsoft** formatting style. The Oracle formatting style is recommended.
4. In the **Formatting Mask** field, enter a formatting mask. For example, for a column that contains product totals, you can use the Oracle formatting style, and the 9G999D99 formatting mask to display total values with two zeros to the right of the decimal place.

   To apply dynamic formatting masks, select the data field from the drop-down list that contains the formatting mask. See also Section 6.1.4.4, "Custom and Dynamic Data Formatting."

6.6.3 Add Formulas

Adding a formula is available from the following toolbars:

- Column toolbar
- Table Total Cell toolbar
- Chart Measure Field toolbar
- Pivot Table Data toolbar

Not all options are applicable to each component type.

6.6.3.1 Predefined Formulas Available from the Menu

The menu provides the predefined formulas described in Table 6–3.

Table 6–3 Predefined Formulas

Formula	Description
No Formula	Removes any mathematical formula from a numeric column.
Blank Text	Removes the display of any data, text or numeric.
Count	Returns the count of the number of occurrences of the element in the current group.
Count Distinct	Returns a count of the distinct values of an element in the current group.
Summation	Sums the values of the element in the current group.
Average	Displays the average of the values in the current group.
Maximum	Displays the highest value of all occurrences in the current group.
Minimum	Displays the lowest value of all occurrences in the current group.

For non-numeric data, only the following formula options are supported:

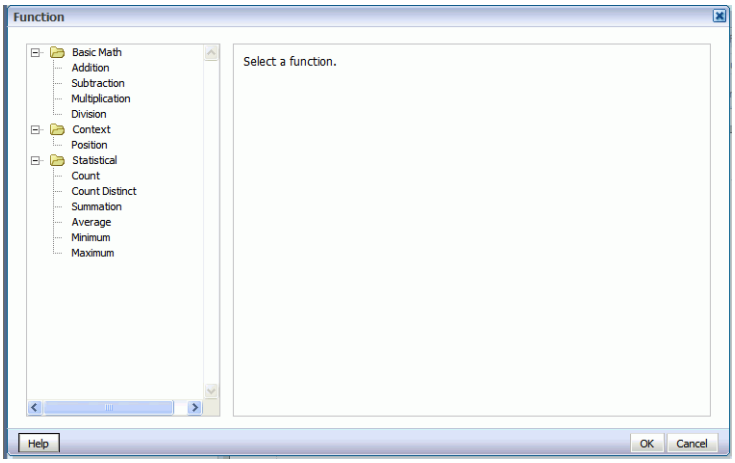
- Blank Text
- Count
- Count Distinct

6.6.3.2 Applying Custom Formulas

Click **Define Custom Formula** to define your own formula for a component. The **Function** dialog enables you to define Basic Math, Context, and Statistical functions in the layout.

Figure 6–26 shows the **Function** dialog.

Figure 6–26 The Function Dialog



6.6.4 Add Stoplight Formatting

For details on adding stoplight formatting, see Section 4.7.3, "Stoplight Formatting for Navigation and Accordion Pages."

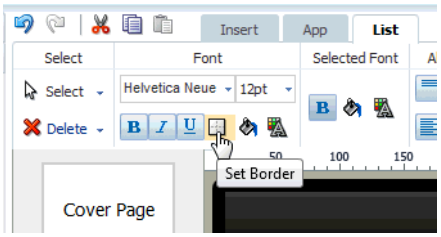
6.7 Setting Borders

Several components enable setting a border around the item. For example:

- Table columns
- Table column headers
- Table total cells
- Frame cells
- Text items
- Filters

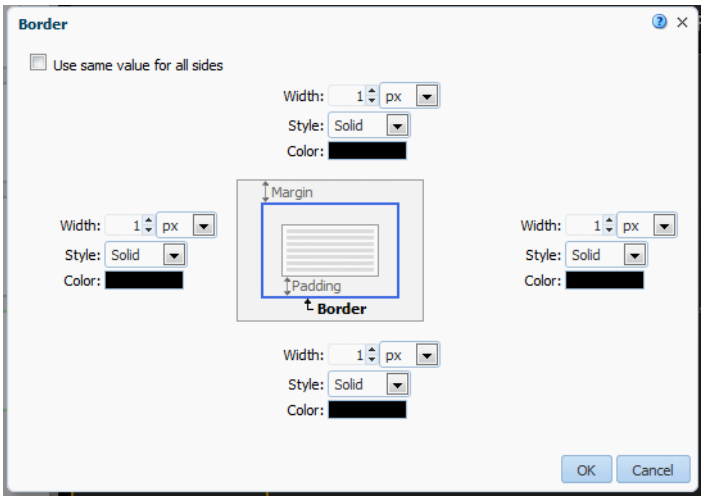
To set the border around an item:

1. Select the component in the app page to activate the component toolbar.
2. Click the **Border** icon.



3. In the **Border** dialog set the following values for each border:
   - **Width** - enter a value in pixels (px), points (pt) inches (inch), or centimeters (cm)
   - **Style** - select from Solid, Double, Dotted, or Dashed

- **Color** - click the color to launch the color picker



To use the same values for all borders, select **Use same value for all sides** and set the values for the top border only.

4. Click **OK.**

6.8 Setting Margins

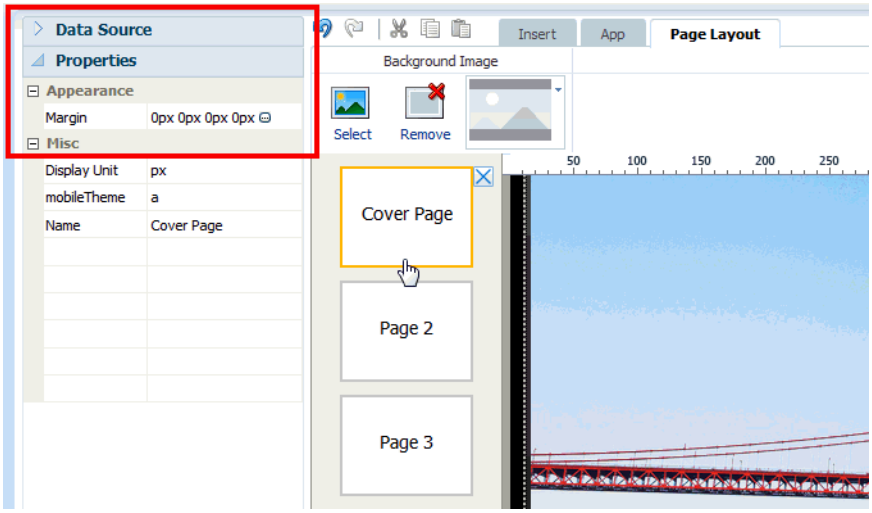
Use the Margin dialog to set the margins for:

- App pages
- Tiles
- Tables

To set margins:

1. Select the app page, tile or table component.
2. Click **Properties**. Figure 6–27 shows the Properties for an app page.

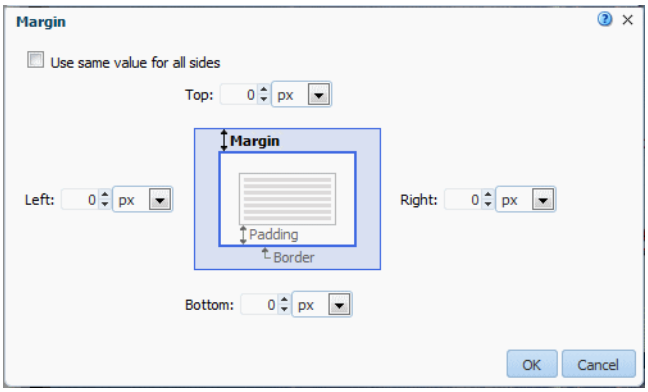
Figure 6–27 Setting Properties for an App Page



3. Click the value shown for **Margin** to launch the **Margin** dialog.

   Figure 6–28 shows the **Margin** dialog.

Figure 6–28 The Margin Dialog

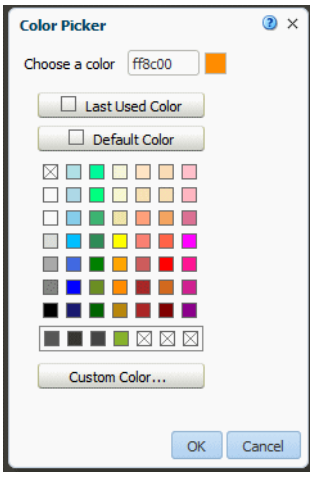


4. Select the desired size for the margin. You can set the units to pixels (px), points (pt), inches (inch), or centimeters (cm).
5. Enter the value for the Top, Left, Right, and Bottom margins.

   To automatically set the same value for all sides, select the box: **Use same value for all sides**. This action disables all but the Top margin entry. Enter the value in the Top to apply to all sides.

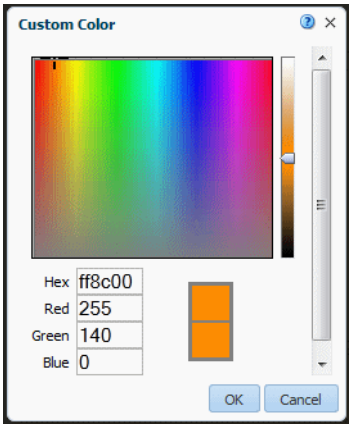
6.9 Using the Color Picker

The **Color Picker** enables you to change the color of the selected item.



You can select a new color in any of the following ways:

- Enter the hexadecimal value for the color in the **Choose a color** text box.
- Select the **Last Used Color**.
- Select the **Default Color**.
- Choose one of the common colors presented or recently used colors.
- Click **Custom Color** to define a custom selection.



To define a custom color:

1. Drag your mouse over the color palette to the color desired; or, enter the Red, Green, and Blue color model values.
2. Use the slider bar to increase or decrease the color saturation.
3. Click **OK**.

7

Configuring App Settings

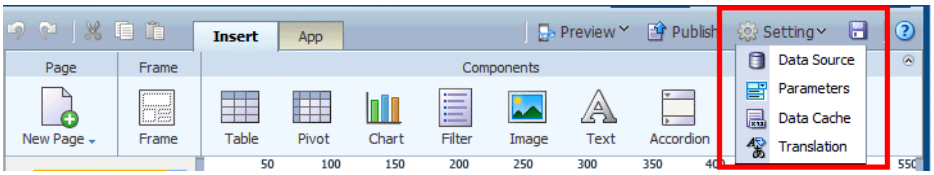
This chapter describes how to update data sources and how to configure the app settings such as parameters, caching, and translations.

It includes the following sections:

- Accessing App Settings
- Updating the Data Source
- Setting App Caching Properties
- Configuring Parameters
- Adding Translations

7.1 Accessing App Settings

To access app settings, click the **Setting** menu and choose the setting to update.



See the following sections for tasks you can perform from the **Setting** menu:

- Updating the Data Source
- Configuring Parameters
- Setting App Caching Properties
- Adding Translations

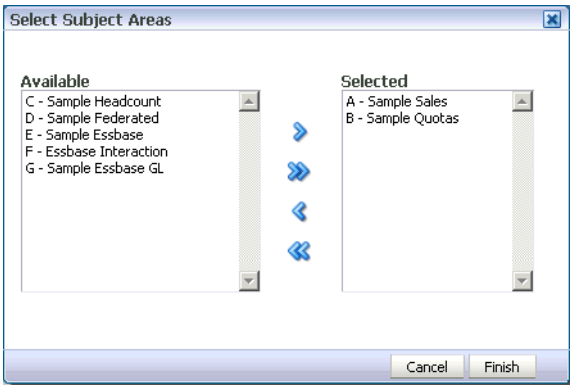
7.2 Updating the Data Source

- Add Multiple Subject Areas to a Data Source
- Update a BI Publisher Data Model

7.2.1 Add Multiple Subject Areas to a Data Source

You can add multiple subject areas to your app data source:

1. On the **Setting** menu, select **Update Data Source** to launch the **Select Subject Areas** dialog.



2. From the **Available** list, select one or more subject areas.
3. Click **Move** to move the subject areas to the **Selected** list.
4. Click **Finish**.

7.2.2 Update a BI Publisher Data Model

1. On the **Setting** menu, select **Update Data Source** to launch the BI Publisher data model editor.
2. Update the data model following the guidelines in the *Oracle Fusion Middleware Data Modeling Guide for Oracle Business Intelligence Publisher*.
3. Click **Return** to return to the Mobile App Designer.

7.3 Configuring Parameters

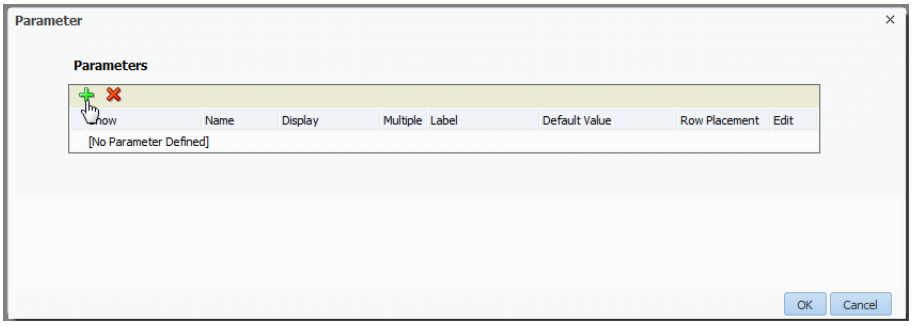
How you configure parameters depends on whether your data source is a BI Publisher data model or a BI subject area.

- Configure Parameters for a BI Subject Area Data Source
- Configure Parameters for a BI Publisher Data Model Data Source

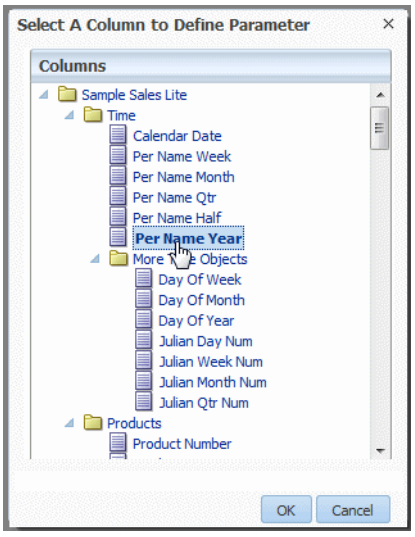
7.3.1 Configure Parameters for a BI Subject Area Data Source

To add parameters to a subject area data source:

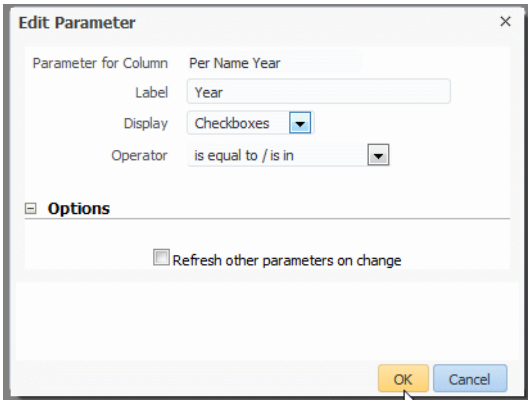
1. On the **Setting** menu, select **Parameters.**
2. In the Parameters dialog, click **Add**.



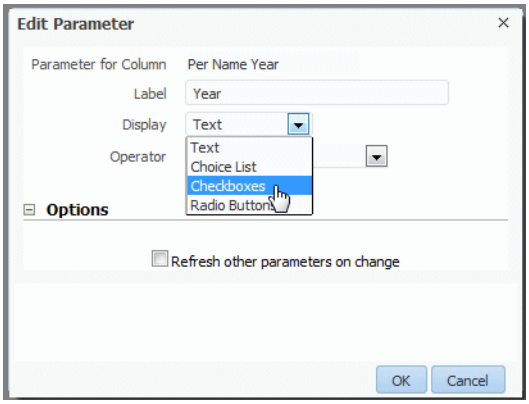
3. In the **Select a Column to Define Parameter** dialog, select the column to define the parameter and click OK. In this example, the Per Name Year column is chosen to create the parameter.



4. Define the parameter settings in the **Edit Parameter** dialog.

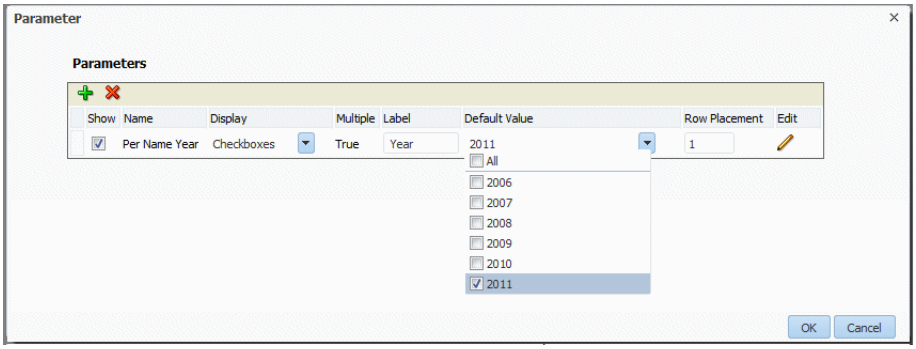


5. Enter the label to display for the parameter in the app.
6. Select a parameter display option.



- **Calendar** - Provides users with a field into which they can enter a specific date, as well as a calendar pop-up to select a date. This display option is only available for selection if the parameter has a date column type.
- **Choice List** - Provides users with a collapsed list of all prompt values. This display option is useful for a long list of values where you want to provide the user with the ability to search for a specific value.
- **Checkboxes** - Provides users with a visible list of all prompt values where a small, selectable box displays before each value item. This display option is suitable for a prompt that contains a smaller set of data.
- **Radio Buttons** - Provides users with a visible list of all prompt values where a radio button is displayed before each prompt value. This display option is useful for short lists of values where the user is to select only one prompt value.
- **Text** - Provides users with a field into which they can enter a specific prompt value. This display option cannot be used for multiple prompt values. Only the field and the field label are displayed for this option.

7. Under Options, select **Refresh other parameters on change** to constrain the values available for other parameters based on the value selected for this parameter. For example, if you created a parameter for Brand and a parameter for Product Type, select **Refresh other parameters on change** so that after you select a value for Brand the Product Type selection list displays only those product types available for the selected Brand.
8. Click **OK**.
9. In the Parameters dialog, enter a default value for the parameter.



10. Click **OK**.

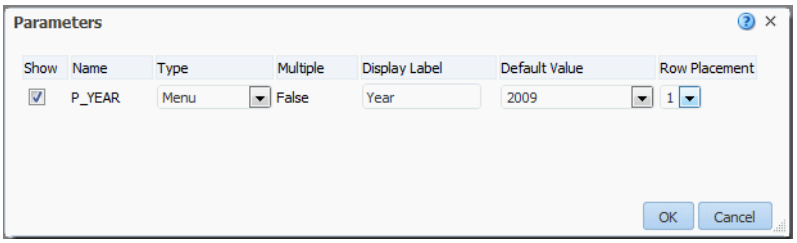
7.3.2 Configure Parameters for a BI Publisher Data Model Data Source

Parameters are defined in the BI Publisher data model. To add a new parameter, see Section 7.2.2, "Update a BI Publisher Data Model.".

The app editor enables you to configure the parameter settings specifically for each app that uses the data model.

To configure the parameters for this app:

1. On the **Setting** menu, select **Parameters.**



2. Customize the parameter settings for this app by making selections for the following display options:

Show

This property controls whether the parameter is displayed to the user. Disable the **Show** property if you do not want the user to see or change the parameter values that are passed to the data model.

Type

This property is customizable for menu type parameters only. For menu type parameters, the following display options are available:

- **Menu** - Provides users with a collapsed list of all prompt values. This display option is useful for a long list of values where you want to provide the user with the ability to search for a specific value.
- **Checkboxes** - Provides users with a visible list of all prompt values where a small, selectable box displays before each value item. This display option is suitable for a prompt that contains a smaller set of data.
- **Radio Buttons** - Provides users with a visible list of all prompt values where a radio button is displayed before each prompt value. This display option is useful for short lists of values where the user is to select only one prompt value.

Multiple

This property indicates whether multiple values may be selected for a menu parameter. This property is defined in the BI Publisher data model and is display only here.

Display Label

Use this property to edit the display labels shown for each parameter. The default values are defined in the data model.

Default Value

Use this property to configure the default value. Choose "Default" to pass the default value defined in the data model.

Row Placement

Not used.

7.4 Setting App Caching Properties

When data caching is enabled, the data generated by the app is stored in the cache. Subsequent requests to view this app with the same parameter selections display the app using the data that is stored in the cache. This setting enhances performance by

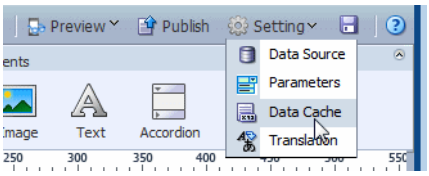
using stored data to generate the app rather than regenerating the data from the source. The data remains in the cache according to the time limit that is specified in the Cache Duration property.

When you enable caching you can choose between two types of caching:

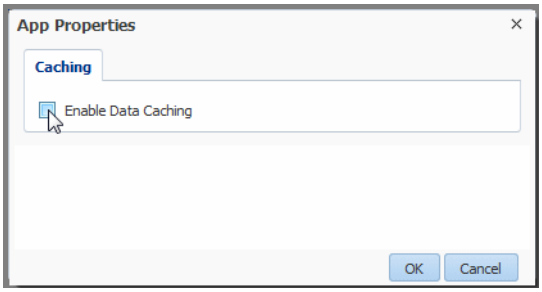
- **User Level cache** - stores a separate cache for each user. The data shown to each user comes only from the private cache. When enabled, this property ensures that each user can only see data that they are authorized to view. Be aware that user-level cache has less efficient performance. If the data is not user sensitive, you can disable this property to enhance performance.
- **Document cache** - stores the app in cache. When a user views the app, the document (data plus app layout) is placed in the cache. When any other user views the same app with the same parameter selections, the app is retrieved from the cache. The app document remains in the cache according to the caching duration specified.

To configure caching for your app:

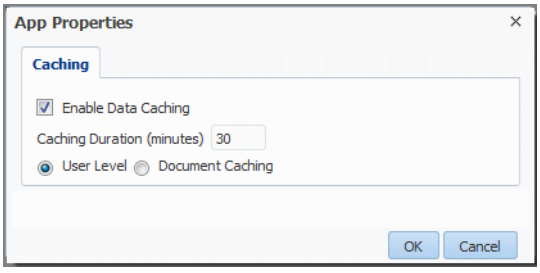
1. On the **Setting** menu select **Data Cache**.



2. On the **App Properties** dialog, select **Enable Data Caching**.



3. Choose **User Level** or **Document Caching** and enter the length of time in minutes for the data to remain in the cache.



4. Click **OK**.

7.5 Adding Translations

This section describes translation support in the Mobile App Designer. It includes the following topics:

- What Is App Translation?
- Downloading a Translation File
- Translating the XLIFF File
- Uploading the Translated File

7.5.1 What Is App Translation?

App translation is a feature of Mobile App Designer that enables you to extract the translatable strings from an app layout into an industry-standard XLIFF translation file.

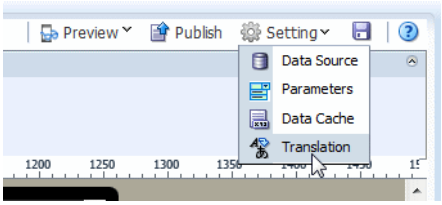
You can translate these strings within your organization or send the file to a localization provider. You then upload the translated XLIFF file back to the app and assign it the appropriate locale.

At run time, when a user's Locale preference is set to the locale of an available XLIFF translation file, the translated strings from the XLIFF are applied to the app and the user sees the translations of the text strings appropriate for his locale.

7.5.2 Downloading a Translation File

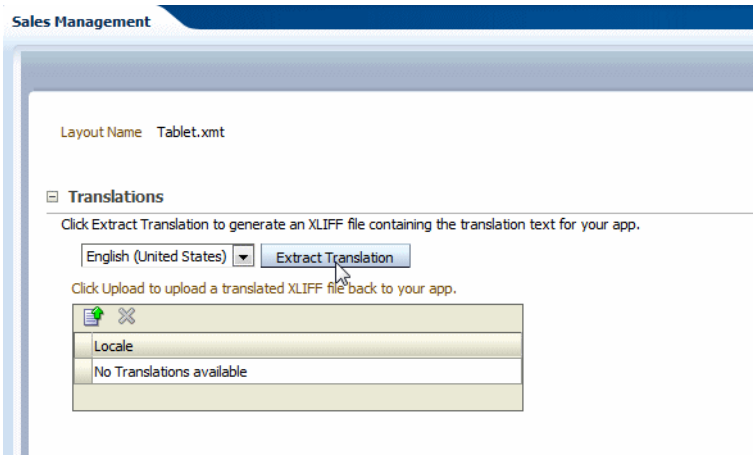
To generate and download the XLIFF file for an app:

1. On the **Setting** menu select **Translation**.



2. In the **Translations** region, click **Extract Translation**.

   BI Mobile App Designer extracts the translatable strings from the template and exports them to an XLIFF (.xlf) file.



3. When prompted, save the XLIFF file to a local directory.

7.5.3 Translating the XLIFF File

After downloading the XLIFF file, you can send it to a translation provider, or using a text editor, you can enter the translation for each string. For information about how to edit an XLIFF file, see the chapter "Translation Support Overview and Concepts" in the *Oracle Fusion Middleware Report Designer's Guide for Oracle Business Intelligence Publisher*.

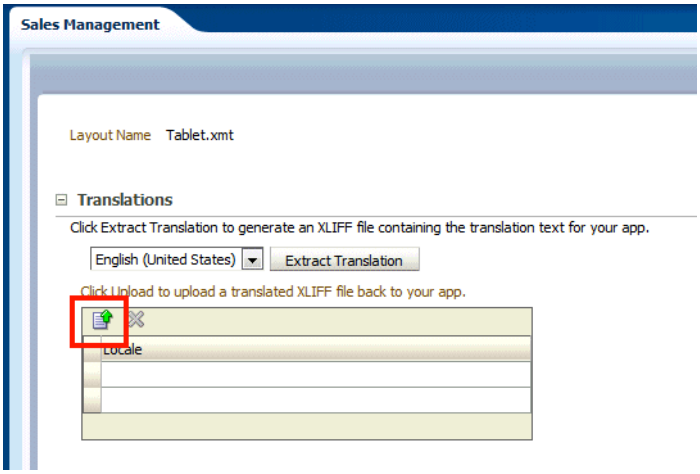
A "translatable string" is any text in the app that is intended for display, such as table headers and field labels. Text supplied at run time from the data is not translatable.

You can translate the app XLIFF file into as many languages as desired and associate these translations to the original app for multiple language support in a single app.

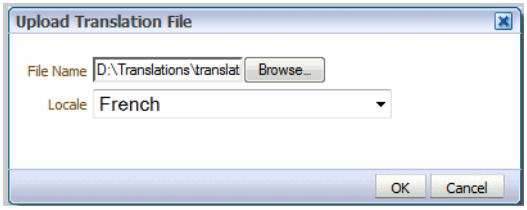
7.5.4 Uploading the Translated File

To upload the translated XLIFF:

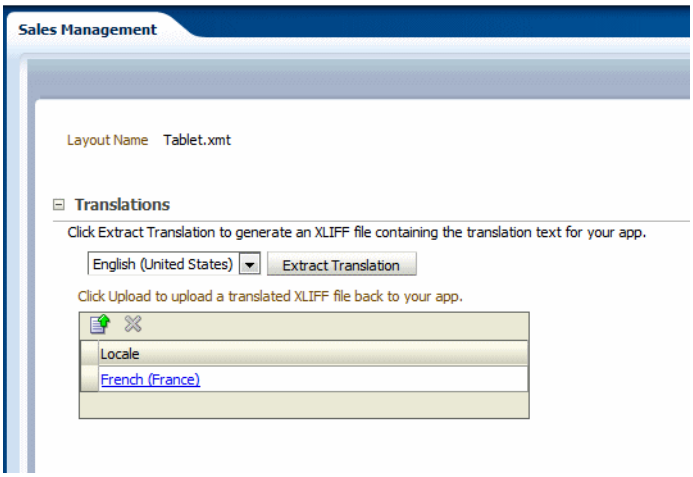
1. Open the app for editing and select **Translation** from the **Settings** menu.
2. In the **Translations** region, click the **Upload** toolbar button.



3. In the **Upload Translation File** dialog locate the file in a local directory and select the **Locale** for this translation.



4. Click OK to upload the file and view it in the **Translations** table.



Now users whose locale setting matches the locale assigned to this translation see the translated strings when viewing this app.

A

Reference for Administrators

This appendix contains information for administrators who set up and maintain Oracle BI Mobile App Designer.

It includes the following topics:

- Section A.1, "About the Apps Library"
- Section A.2, "Setting Up the Apps Library Locations"
- Section A.3, "Sharing Access to the Apps Library with App Consumers"
- Section A.4, "Securing Apps in the Apps Library"
- Section A.5, "Required Permissions to Use Oracle BI Mobile App Designer and Run Apps"
- Section A.6, "Moving Apps Between Environments"
- Section A.7, "Configuring Single Sign-On"

A.1 About the Apps Library

This section describes the Apps Library. It includes the following sections:

- What Is the Apps Library?
- What Happens When a User Subscribes to an App?
- About Local and Remote Apps Libraries

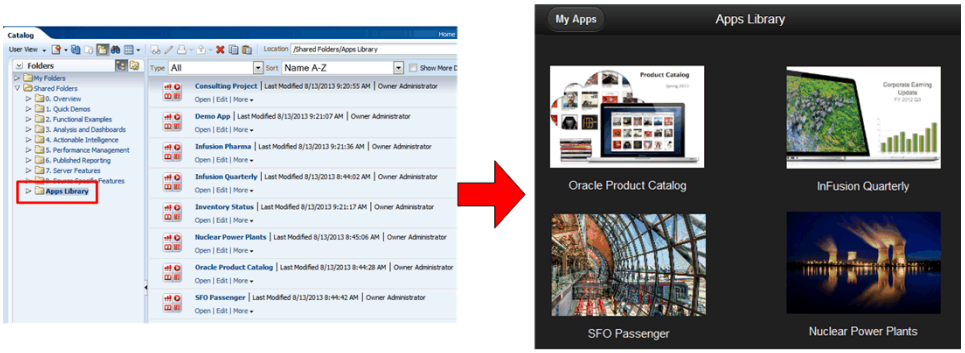
A.1.1 What Is the Apps Library?

The Apps Library is where users view, manage, and subscribe to published apps from their mobile devices. When users navigate to the Apps Library URL from a browser they can choose to subscribe to the apps they have permission to access.

Figure A–1 The Apps Library Viewed on Tablet

From the administrator's perspective, the Apps Library is a folder in the catalog configured to act as the library. When app designers publish an app it is copied to the Apps Library folder. When consumers open the Apps Library URL in their browsers they can interact with the apps that have been published to the folder.

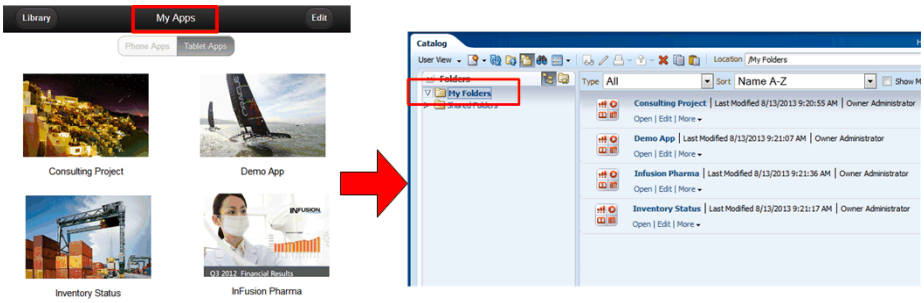
Figure A–2 Apps in the Apps Library Folder Displayed in the Apps Library



A.1.2 What Happens When a User Subscribes to an App?

Subscribing to an app copies the app from the Apps Library to the user's My Folders folder in the catalog. This exposes the app in the user's My Apps library.

Figure A–3 Subscribing to an App Copies the App to a User's My Folders Folder



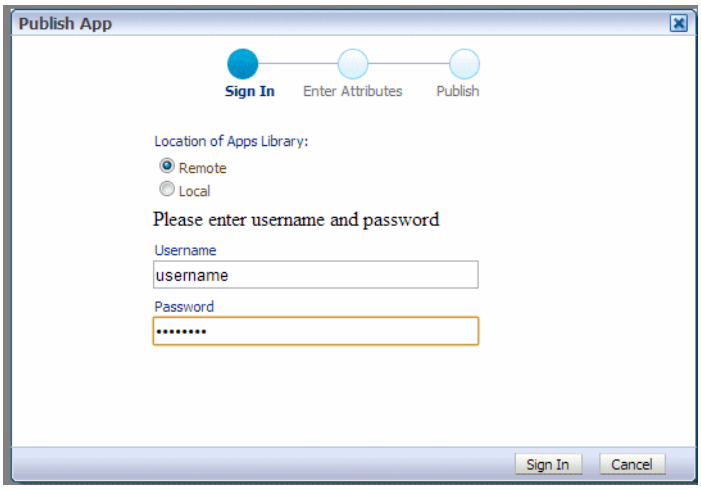
A.1.3 About Local and Remote Apps Libraries

You can configure a folder on the local instance to be the Apps Library where app designers publish their apps. You can also configure an instance to connect and publish to the Apps Library on another (remote) instance.

For example, suppose you have a development instance and a production instance. Both instances have a local Apps Library defined. The development instance has the production instance configured as a remote library. App designers using the development instance publish their apps to the local (development) instance during design time to test and review. When apps are ready for production you can use the Publish option from the development instance to publish the app to the production instance using the remote Apps Library option.

Figure A–4 shows the Remote and Local options available to select the location of the Apps Library that you publish to.

Figure A–4 Publish App Dlalog Offers Local and Remote Options



A.2 Setting Up the Apps Library Locations

The following sections describe setting up an Apps Library and enabling connection to publish to a remote server.

- Setting Up a Local Apps Library

- Enabling Remote Connection to an Apps Library on Another Instance

A.2.1 Setting Up a Local Apps Library

To set up a local Apps Library to create an Apps Library on the same instance, perform the following:

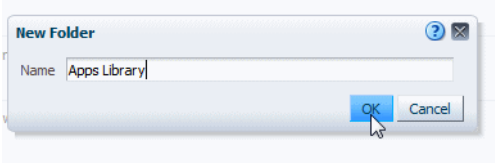
- Create the Apps Library Folder in the Catalog
- Set Up the Configuration File

A.2.1.1 Create the Apps Library Folder in the Catalog

To create a folder in the catalog:

1. On the Catalog page, select Shared Folders.
2. In the catalog toolbar, click **New** and select **Folder.**
3. Enter the folder name and click OK, as shown in Figure A–5.

Figure A–5 Creating the Apps Library Folder in the Catalog



4. Set Permissions on the Apps Library folder. App designers that will be publishing apps to the folder must have Write permissions. App consumers that will be viewing apps in the library must have Read permissions.

A.2.1.2 Set Up the Configuration File

To register the folder in the catalog designated as the Apps Library you add a property entry to the `xmlp-server-config.xml` configuration file.

To set up the configuration file:

1. Open the `xmlp-server-config.xml` file. It is located under `<DOMAIN_HOME>/config/bipublisher/repository/Admin/Configuration`.
2. Add the following property to `xmlp-server-config.xml`:

   Property: `APPS_LIBRARY_FOLDER_LOCAL`

   Description: Specifies the folder in the catalog to act as the Apps Library. Enter the path to the folder under Shared Folders that you created in the previous step (do not include "Shared Folders" in the path).

   Sample Configuration File Entry:

   <property name="APPS_LIBRARY_FOLDER_LOCAL" value="/Apps Library"/>
3. Restart the `bimad` (BI Mobile App Designer) application in the WebLogic Server Administration Console.

A.2.2 Enabling Remote Connection to an Apps Library on Another Instance

Set up a remote Apps Library connection when you want to Publish apps that reside on one instance to the Apps Library that resides in the catalog of another instance. To

enable connection to a remote Apps Library, register the connection information in the configuration file of the instance from which you want to connect.

To enable connection to a remote Apps Library:

1. Open the `xmlp-server-config.xml` file. It is located under `<DOMAIN_HOME>/config/bipublisher/repository/Admin/Configuration`.
2. Add the following properties to `xmlp-server-config.xml`:

Table A–1 Configuration File Settings to Enable Connection to a Remote Apps Library

Property	Description	Sample Configuration File Entry
`APPS_LIBRARY_FOLDER_REMOTE`	Specifies the Apps Library folder in the catalog on the remote server.	`<property name="APPS_LIBRARY_FOLDER_REMOTE" value="/Apps Library"/>`
`MOBILE_APP_REMOTE_SERVER`	Specifies the remote server where the `APPS_LIBRARY_FOLDER_REMOTE` resides. Setting this property enables connection to Publish apps to the remote Apps Library.	`<property name="MOBILE_APP_REMOTE_SERVER" value="http://example.com:7001/mobile/"/>`

The following sample shows example entries when both a local and remote Apps Library are defined:

```
<property name="APPS_LIBRARY_FOLDER_REMOTE" value="/Apps Library"/>
<property name="MOBILE_APP_REMOTE_SERVER"
value="http://example.com:7001/mobile/"/>
<property name="APPS_LIBRARY_FOLDER_LOCAL" value="/Apps Library Test"/>
```

3. Restart the `bimad` (BI Mobile App Designer) application from the WebLogic Server Administration Console.

A.3 Sharing Access to the Apps Library with App Consumers

The URL for the Apps Library is of the form:

```
http://<hostname>:<port>/mobile/appstore/
```

After you configure the Apps Library, you can provide users with this URL to open in the device browser and bookmark for later use.

Users can also access the Apps Library URL from the Oracle Business Intelligence home page under the **Browse/Manage** region.

Figure A–6 Apps Library Link on Oracle BI Home Page

A.4 Securing Apps in the Apps Library

Typically you configure the Apps Library to be accessible to all users who will be running apps. To ensure that users can only run apps appropriate for their roles, apply permissions specifically to each app. When using the Publish feature to promote apps to the Apps Library, Oracle recommends applying the permissions to the app before Publish. When the app is promoted to the Apps Library it maintains the original permission settings.

For information on setting permissions in the catalog, see "Managing Objects in the Oracle BI Presentation Catalog" in the *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition*.

A.5 Required Permissions to Use Oracle BI Mobile App Designer and Run Apps

The default permissions assigned to the BI Author role enable the use of the Mobile App Designer. To save apps to a specific folder the user's role must also have write permissions on the target folder.

The default permissions assigned to the BI Consumer role enable viewing apps.

If you create custom roles, the following are required:

- To access the Mobile App Designer to create apps a role must include the permission: oracle.bi.publisher.developReport
- To run apps a role must include the permission: oracle.bi.publisher.runReportOnline

App consumers must also have appropriate permissions on the app data sources.

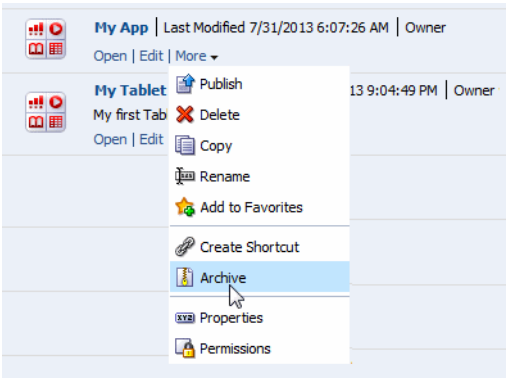
A.6 Moving Apps Between Environments

To move apps between development, test, and production environments, use the archive and unarchive feature available from the BI Presentation catalog. For more information about this feature, see the *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition*.

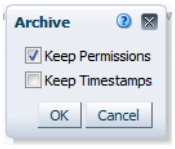
Archiving enables you to bundle the entire catalog, specific folders, or multi-component objects as a `.catalog` file and upload the `.catalog` file to unarchive the data to another location in the catalog. This process enables you to transfer specific data across environments.

To create an archive file:

1. In the Catalog navigate to the folder or app to archive.
2. Select **More**, then **Archive**.



3. In the Archive dialog, specify to maintain or omit the permissions and timestamps for the folder or object.



Keep Permissions: Use this option to maintain the object or folder's existing permissions. If you do not select this option, then the archiving process does not include any permissions. Upon unarchiving, the system assigns the parent folder's permissions to all of the objects and folders.

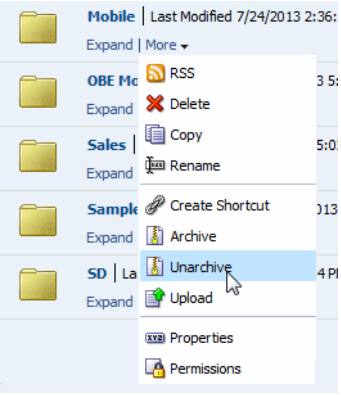
Keep Timestamps: Use this option to maintain the CreationTime, LastModified, and LastAccessed timestamps assigned to the object or folder. Upon unarchiving, the LastModified timestamp is updated to indicate the time at which the object or folder is unarchived. If you select this option, the **Old** option in the Paste Overview area of the Preferences dialog is available when unarchiving. You use the **Old** option to overwrite existing catalog items that are older than the catalog items in the archive.

If you do not select this option, then the archiving process does not include timestamp information and the **Old** option in the Paste Overview area of the Preferences dialog is not available.

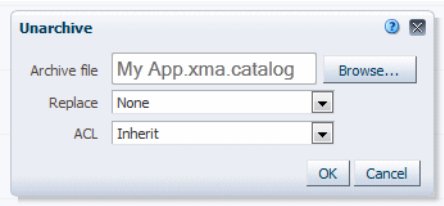
4. Click **OK** to save the archive file.

To unarchive an archive file:

1. In the catalog, select the folder location where you want to upload the archive file.
2. Select **More**, then **Unarchive**.



3. In the Unarchive dialog, browse for and select the archive file.



Replace: Use to specify if and how to replace an existing folder or object with the same name. Note the following options:

- **All** — Select this option to replace any existing folders or objects with the same names as folders or objects included in the archive file that you are uploading.
- **Old** — Select this option to replace folders or objects except those folders or objects that exist, unless they are older than the source.
- **None** — Select this option to add any new folders or objects, but preserve any existing folders or objects.
- **Force** — Select this option to add and replace all folders or objects.

ACL: Use to specify how the folders or objects are assigned permissions using Access Control Lists (ACLs) when unarchived. Note the following options:

- **Inherit** — Inherits the folder or object's permissions (ACL) from its new parent folder.
- **Preserve** — Preserves the folder or object's permissions (ACL) as it was in the original, mapping accounts as necessary.
- **Create** — Preserves the folder or object's permissions (ACL) as it was in the original, creating and mapping accounts as necessary.

4. Click **OK**.

A.7 Configuring Single Sign-On

If your Oracle BI Enterprise Edition is configured for single sign-on, you must register BI Mobile App Designer as a partner application with your single sign-on provider.

For example, for Oracle Single Sign-On implementations add the following location directive to the `$ORACLE_HOME/instances/instance1/config/OHS/ohs1/mod_wl_oh.conf` file settings:

```
<Location /mobile>
SetHandler weblogic-handler
</Location>
```

See your single sign-on provider documentation for specific requirements for your single sign-on provider. See also the *Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition*.