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Welcome

Welcome to Planning, which you'll use to create, analyze, and formalize your budgeting plans.

About Planning

Planning provides a friendly, structured set of processes to help you easily build and maintain plans. Keep your business strategy aligned with your implementation plans by using the built-in intelligence and analytic power.

Watch this overview video to get acquainted with Planning.

Overview Video

This overview video introduces you to some of the key features in Planning.

Overview Video

To get going, start with Familiarizing Yourself with Planning.

Note:

Your administrator can customize the functionality—including connections and functionality from other cloud business processes—so your functionality may be different than described here. See Navigating Across EPM Cloud Business Processes.

Navigating Across EPM Cloud Business Processes

After an administrator creates connections to other EPM Cloud business processes, the connections are listed in the My Connections pane on the Navigator.

You can toggle between the business processes from this location. You must have access to the other business processes in order to open them. Artifacts are accessible based on your role.

To open another Oracle Enterprise Performance Management Cloud business process:

1. From the Home page, click Navigator.
2. If business processes are connected and you have access to those business processes, you’ll see a list of connected business processes in the My Connections pane. Click a business process to open it.

**Note:**
Click the icon to the right of the business process name to open it in a new window.

Learning More

To access a variety of resources on using Planning, click Academy on the Home page.

**Administrators:** To create and manage the application, see Administering Planning.
Familiarizing Yourself with Planning

Planning helps you create and update plans quickly:

- Easily navigate pages among common planning tasks from the Home page.
- Work with and analyze data in forms. See You Develop Plans in Forms.
- Follow a structured process for creating plans using tasks lists. See Planning with Tasks.
- View and analyze key information graphically using dashboards. See Analyzing Data Using Dashboards.
- Get a quick overview of top-level information using infolets. See Viewing Key Information with Infolets.
- Focus your analysis with ad hoc grids. See Focusing Your Analysis with Ad Hoc Grids.
- Predict performance based on historical data with Predictive Planning. See Improving Forecasting Accuracy with Predictive Planning.
- Adjust and spread values. See Adjusting and Spreading Data.
- Use the built-in calculator. See Working with Supporting Detail.
- Get your plans reviewed and approved. See Getting Plans Approved.
- View reports that summarize data. See Working with Reports and Books.
- Leverage your experience with Microsoft Excel by using Oracle Smart View for Office. See Working with Planning Data in Excel and Oracle Smart View for Office User’s Guide.
- Run calculations. See Using Business Rules.
- Develop a plan privately in a sandbox before publishing it. See Building a Plan Privately.
- Work with multicurrencies. See Working with Currencies.
- Set preferences for how you want to work with Planning. See Setting Your Preferences.

You Develop Plans in Forms

Do you need to create a new budget or update your department’s revenue forecast? Administrators design forms as containers in which you enter, update, analyze, print, and report on data.

You enter data into the cells in structured forms, and each form has a special purpose. For example, the administrator may design a form solely for creating a revenue plan for your product line or for comparing last year’s actual expenses against this year’s projected expenses.
With the forms's objective in mind, the administrator sets up the form with certain dimensions and members, reflected in the row and column headings. An example of a dimension is Year, and its members may include FY16, FY17, and FY18. Cells display data for the selected members.

The following example shows a form for forecasting the balance sheet for the Sales US department:

```
<table>
<thead>
<tr>
<th></th>
<th>FY17</th>
<th>FY18</th>
<th>FY17</th>
<th>FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

Tip:
In this example, to work with a different group in the Entity dimension, click the link under Entity at the top of the form.

Then click OK. To reflect the new members in the form, click OK.

About Working in Forms

Watch this overview video to learn about working with data in forms.

Overview Video

Administrators set who can view and change which data. You can enter or change data only in cells that you have Write permission to (cells with a white background). After you promote or submit data for review and approval, you can't change the data (until you become the owner again). If the data is approved, you can't change the data.
unless the administrator who approved it restarts the approvals process. See Getting Plans Approved.

Opening Forms

To open a form:

1. On the Home page, click Data

2. You can filter forms by folder or type.

3. Under All Types, depending on the type of form you want to use, click the appropriate icon:

   - represents simple forms. Each form represents a subset of data in Planning. See You Develop Plans in Forms.

   - represents composite forms (composed of several simple forms). For example, you can enter data into one grid and see the results, such as Total Revenue, in another grid.

     If your administrator set up master composite forms and you select Composite, you'll see master composite forms represented as . The members selected in the master form automatically filter to the members in the simple forms. So, the simple forms show only the details that are relevant to the members highlighted in the master form.

   - represents ad hoc grids, in which you aren't confined by the form's design. See Focusing Your Analysis with Ad Hoc Grids.

   - represents Smart Forms (which are created in Oracle Smart View for Office using ad hoc grids). Smart Forms contain personalized calculations that don't affect the rest of the Planning data. See Using Your Own Excel Formulas in Planning.

4. Click to expand the folder the form is in.

5. Click the name of the form to open.

   For example, to update the cash flow forecast, click "Cash Flow - Forecast".
Selecting Different Data to Work With

Under the form name, a bar displays boxes that show which member data you’re working with. This top bar consists of the following parts:

- The POV axis is displayed as black text. Your administrator selects these members for the form; you can’t select different members for this dimension.
- The Page axis is displayed as blue hyperlinks. Click the hyperlink to select different members to work with.
- Dynamic POVs are displayed as blue hyperlinks. Click the hyperlink to select different members to work with.
- The Global POV bar is displayed as a bar at the top of the composite form or dashboard, if it’s enabled. If you change a page in the global POV bar and then click GO, the page changes for all objects that are based on forms.

Understanding Form Colors

Background colors in cells indicate the following states:

- White means that you can enter data in these cells.
- Yellow cells indicate that you have changed values but haven’t yet saved them.
- Grayish blue cells indicate that you can see, but not change, their values. They are read-only.
- Tan cells are locked (see Locking Cells).
- Teal cells have Supporting Detail (see Working with Supporting Detail).

Navigating Quickly in a Form

How you navigate depends on whether you just clicked into a cell or are editing cell data. For example, when you are editing data in a cell, you must click Tab to move to the next cell.

Watch this overview video to learn about working in simple forms.

Overview Video
You can quickly move around a simple form with these shortcut keys:

### Table 2-1   Keyboard Shortcuts

<table>
<thead>
<tr>
<th>Key or Key Combination</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tab</td>
<td>Moves to the next cell in the row. When focus is on the last cell of a row, Tab moves to the next row.</td>
</tr>
<tr>
<td>Enter</td>
<td>Moves to the next cell in the column.</td>
</tr>
<tr>
<td>Shift+Enter</td>
<td>Moves to the previous cell in the column.</td>
</tr>
<tr>
<td>Shift+Tab</td>
<td>Moves to the previous cell in the row.</td>
</tr>
<tr>
<td>Up Arrow, Down Arrow</td>
<td>Moves up or down to the previous or next row.</td>
</tr>
<tr>
<td>Right Arrow, Left Arrow</td>
<td>Moves forward and backward in the cell data.</td>
</tr>
<tr>
<td>Ctrl+Home</td>
<td>Moves to the first cell in the form.</td>
</tr>
<tr>
<td>Ctrl+End</td>
<td>Moves to the last cell in the form.</td>
</tr>
<tr>
<td>Ctrl+Left Arrow</td>
<td>Moves to the first cell in the current row.</td>
</tr>
<tr>
<td>Ctrl+Right Arrow</td>
<td>Moves to the last cell in the current row.</td>
</tr>
<tr>
<td>Shift+End</td>
<td>Moves to the last cell of the first row.</td>
</tr>
<tr>
<td>Ctrl+A</td>
<td>Selects all cells.</td>
</tr>
<tr>
<td>Shift+Space</td>
<td>Selects the row.</td>
</tr>
<tr>
<td>Ctrl+Space</td>
<td>Selects the column.</td>
</tr>
<tr>
<td>Esc</td>
<td>Discards the current changes in the cell, restoring the previous state.</td>
</tr>
</tbody>
</table>

**Note:** These shortcuts are available only if you're accessing simple forms from the desktop.

### Other Navigation Tips

Here are other navigation tips:

- To return to the Home page, click the Oracle logo (or your custom logo) in the upper left corner or the Home icon.
- To access functionality such as Copy Versions on the Navigator page, click the horizontal bars next to the Oracle logo (or your custom logo).
- Hover in the upper right corner of a form or dashboard to see options such as Actions, Save, Refresh, Settings, and Maximize.
Preparing to Work in Planning

Here are a couple of things to know before you start working in Planning.

Your administrator may have created user variables that you must select before you can open a form. See Setting User Variables and Dynamically Setting User Variables.

You can also set preferences for such aspects as how you want numbers displayed and your time zone and date format. See Setting Your Preferences.

The Announcements panel on the left side of the Home page helps orient you:

- Your administrator can provide announcements.
- See your open tasks for the day.
- View your recent history, for example, the forms or dashboards you've used.
- Return to your frequently-used forms or forms by tagging them as a Favorite.
- If your administrator created infolets to show high-level important information, explore them by clicking the white dots towards the top of the page.
  
  You can set which infolet you want as the default. See About Infolets in Administering Planning.
- Set your profile photo. See Setting Your Profile Picture.
Basics of Working With Data

Related Topics

• About Entering Data
  This topic gives you some tips on entering and saving data.

• Dynamically Setting User Variables
  If your administrator set up a form with at least one user variable and enabled dynamic user variables, then you can select and change user variable values directly in the form.

• Making Data Meaningful
  When you're in a form, you can make the data more meaningful in many ways.

• More Ways to Manipulate Values
  Here are some easy ways to manipulate data:

• Getting the Latest Data

• About Calculating Data
  Values are automatically totaled as you enter data. Here are other ways to calculate data:

• How Totals are Calculated
  Here’s how values are subtotaled and totalled:

• Reviewing Data
  You can review and analyze data in many ways.

• Promoting Data
  After you enter data, annotate your assumptions, and are satisfied with your plan's data, you can promote your numbers (as an approval unit) to another person, typically for review or approval.

• Personalizing How Data Displays
  You can customize how data displays in a form, for example, with formatting and hiding rows and columns having no data.

• Printing Data
  You can print data in forms as PDF files and customize its format if Adobe Acrobat Reader 5.0 is installed on your computer.

About Entering Data

This topic gives you some tips on entering and saving data.

• Your administrator can set up a simple form so that when you move out of a cell, your changes are automatically saved, with no prompt or message. Cell values are totaled and the affected cells are displayed with a green background.

• If the structure of the simple form hasn't changed since you started working in it, when you click Save, your changed or new data is instantly saved.

• To revert to the data on the form before you changed it, click Refresh.
• From a desktop, right-clicking in rows, columns, POV, or cells, displays the same options as the Actions menu.

Watch this tutorial to learn how to enter and save data.

Note:
Use the Planning interface to navigate instead of your browser’s interface. Using Refresh, Forward, and Back in your browser can cause instability. If this happens, log off and then log back on.

Entering Different Kinds of Data

You can enter data in many ways, depending on how your administrator set up the form:
• Enter data directly in the cell.
• If a cell displays the Down Arrow, you select a value from a list, called a Smart List. You can skip to a value by typing its first one or two letters. For example, in a list of months, skip to September by typing s.
• Members that are set up as percentages display with a percent sign (%) in the cell. You can enter a percentage value as a decimal or as a percentage, such as 60%.
• When you click into a cell that is set up for text data, a box displays. Enter your text into the box. When you enter text in cells, don’t use angle brackets (< >).
• When you save data, business rules are run that your administrator set up to launch when the form is saved.

Entering Data Quickly Using Commands

You can use these shortcuts in simple forms. Enter the keys or symbols, and then press Enter.

Table 4-1 Commands for Quickly Entering Data

<table>
<thead>
<tr>
<th>Keys or Symbol</th>
<th>Result</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>Enters the value in thousands.</td>
<td>Enter 5K for 5,000.</td>
</tr>
<tr>
<td>M</td>
<td>Enters the value in millions.</td>
<td>Enter 5M for 5,000,000.</td>
</tr>
<tr>
<td>Add or +</td>
<td>Adds a number to the cell value.</td>
<td>If the cell value is 100, entering Add10 after 100 results in 110.</td>
</tr>
<tr>
<td>Sub or ~</td>
<td>Subtracts a number from the cell value.</td>
<td>If the cell value is 100, entering Sub10 after 100 results in 90.</td>
</tr>
<tr>
<td>Percent or per</td>
<td>Multiplies the cell value by the percentage you enter.</td>
<td>If the cell value is 100, entering per10 after 100 results in 10% of the current cell value, or 10.</td>
</tr>
</tbody>
</table>
Table 4-1  (Cont.) Commands for Quickly Entering Data

<table>
<thead>
<tr>
<th>Keys or Symbol</th>
<th>Result</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase or inc</td>
<td>Increases the cell value by the percentage you enter.</td>
<td>If the cell value is 200, entering inc10 after 200 increases the cell value by 10% of 200 (20), to 220.</td>
</tr>
<tr>
<td>Decrease or dec</td>
<td>Decreases the cell value by the percentage you enter.</td>
<td>If the cell value is 200, entering dec10 after 200 decreases the cell value by 10% of 200 (20), to 180.</td>
</tr>
<tr>
<td>Power or pow</td>
<td>Changes the cell value to the number, added as an exponent.</td>
<td>If the cell value is 100, entering pow2 after 100 multiplies the cell value by an exponent of 2, to 10,000.</td>
</tr>
<tr>
<td>gr</td>
<td>Grows a cell by a percentage.</td>
<td>If the cell value is 200, entering gr50 after 200 increases the cell value by 100, to 300.</td>
</tr>
</tbody>
</table>

Note:
These shortcuts are available only if you’re accessing simple forms from the desktop.

Searching in Forms

In simple forms and Smart Forms, you can easily locate a member name or data value in a form by using the Find icon . You can enter a partial name or value in the text box, and Find locates the first occurrence of the row, column, or data value. Click the forward or backward arrows to navigate to successive occurrences.

See also Navigating Quickly in a Form. To find a specific form, see Searching for Forms, Dashboards, and Infolets.

Selecting Cell Ranges

You can select and work with multiple cells if the selection is rectangular and contiguous. To select a cell range in an ad hoc grid or composite form, click in the range's upper-left cell, click Shift, and then click in the range's lower-right cell. To select a cell range in a simple form, hover over the cell until the icon changes; then you can extend the range.

To select a row or column, click its heading. After you select a group of cells, you can copy and paste them or adjust the data values.

See:
- Copying and Pasting Data
- Adjusting and Spreading Data
Copying and Pasting Data

You can copy data within a form, from one form to another, or from another product, such as Microsoft Excel.

When you're in a form, copy and paste data by selecting the data, and then clicking Data, and then an icon under Edit. (See also Copying and Pasting Data Between Microsoft Excel and Planning Forms.)

About copying and pasting data:

- When you copy within or among forms, Planning copies and pastes the cells' stored values, not the values that display based on the precision setting.
- When pasting data to time periods, Planning applies the spreading rules for each cell in succession, starting from left to right and from top to bottom. The resulting data from a paste operation may not match the original copied data. Understand how values are spread before you paste them into time periods. See How Spreading Data Works.
- When you copy data, a message might display if you disabled Internet Explorer's setting for Allow Paste Operations via Script.
- Copying and pasting data from a text editor (for example, TextPad, Notepad, or WordPad) fails if the data is space-delimited. Use tab-delimited values instead.

The following features are supported only in the Internet Explorer browser:

- Copying data from Planning forms and pasting it into Microsoft Excel
- Copying data from one Planning form to another Planning form
- Copying and pasting nonnumeric data, for example, Smart List, Date, and Text data types

Dynamically Setting User Variables

If your administrator set up a form with at least one user variable and enabled dynamic user variables, then you can select and change user variable values directly in the form.

For example, for a variable called Department, you can select Sales members to plan sales expenses and then select Marketing members to plan marketing expenses. You can also set values for user variables in user preferences (see Setting User Variables).

If the form was defined with the Use Context option, then user variables can be used in the POV. With this setting, the value of the user variable changes dynamically based on the context of the form.

Note:

You must select a value for user variables before working in the form.

To dynamically change values for user variables:

1. Click the text that displays the user variable.
The variable and its currently selected value display under the POV.

2. Select the members that you want, and then click **OK**.
   The form displays the selected members.

### Making Data Meaningful

When you’re in a form, you can make the data more meaningful in many ways.

<table>
<thead>
<tr>
<th>Your Goal</th>
<th>Learn More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explore ways to manipulate, create, analyze, or</td>
<td>Explore functionality by clicking <strong>Actions</strong>.</td>
</tr>
<tr>
<td>comment on data.</td>
<td></td>
</tr>
<tr>
<td>Focus the data and look at it from various angles.</td>
<td>Explore what you can do with ad hoc grids. In a form, click <strong>Ad hoc</strong>.</td>
</tr>
<tr>
<td></td>
<td>See <strong>Focusing Your Analysis with Ad Hoc Grids</strong>.</td>
</tr>
<tr>
<td>Calculate the data.</td>
<td>Launch a business rule. To learn about business rules, see <strong>Using</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Business Rules</strong>.</td>
</tr>
<tr>
<td>Improve your forecasting accuracy.</td>
<td>Use Predictive Planning to predict future values based on historical data.</td>
</tr>
<tr>
<td></td>
<td>See <strong>Improving Forecasting Accuracy with Predictive Planning</strong>.</td>
</tr>
<tr>
<td>Improve the presentation quality of the data.</td>
<td>Explore the <strong>Format</strong> tab on the right, which has options for setting</td>
</tr>
<tr>
<td></td>
<td>the font, font size, font color, underscore, and background color.</td>
</tr>
<tr>
<td>Change values by a specific amount.</td>
<td>Select the cell or cells. Click <strong>Data</strong>, and then click any of the</td>
</tr>
<tr>
<td></td>
<td>following:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Adjust</strong> to increase or decrease the cell data by a value or</td>
</tr>
<tr>
<td></td>
<td>percentage.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Spread</strong> to specify an amount or percentage by which to increase or</td>
</tr>
<tr>
<td></td>
<td>decrease values across multiple dimensions, based on the existing values</td>
</tr>
<tr>
<td></td>
<td>in the target cells. You can select a <strong>Proportional</strong>, <strong>Evenly Split</strong>,</td>
</tr>
<tr>
<td></td>
<td>or <strong>Fill</strong> spread pattern.</td>
</tr>
<tr>
<td></td>
<td>To use <strong>Spread</strong>, your administrator must enable <strong>Grid Spread</strong> as a</td>
</tr>
<tr>
<td></td>
<td>form property. Watch this tutorial to learn how to adjust and spread</td>
</tr>
<tr>
<td></td>
<td>data.</td>
</tr>
<tr>
<td></td>
<td>Also, see <strong>Adjusting and Spreading Data</strong>.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Allocate</strong>. Only administrators who are assigned the Allocate role</td>
</tr>
<tr>
<td></td>
<td>can use this powerful feature. Also, <strong>Allocate</strong> must be enabled as a</td>
</tr>
<tr>
<td></td>
<td>form property. See <strong>Spreading Values Using Allocations</strong>.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Lock</strong> to temporarily lock cells while you calculate and fill in</td>
</tr>
<tr>
<td></td>
<td>other values. To unlock the cells, click <strong>Lock</strong> again. See <strong>Locking</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Cells</strong>.</td>
</tr>
</tbody>
</table>
### Table 4-2  (Cont.) Actions You Can Take When in a Form

<table>
<thead>
<tr>
<th>Your Goal</th>
<th>Learn More</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain assumptions behind the data.</td>
<td>Click a cell, and then <strong>Data</strong>. Under <strong>Details</strong>, click:</td>
</tr>
<tr>
<td></td>
<td>• <img src="image" alt="File Attachment" /> to attach an external file.</td>
</tr>
<tr>
<td></td>
<td>• <img src="image" alt="Comment" /> to add a comment.</td>
</tr>
<tr>
<td></td>
<td>Watch this tutorial to learn how to add attachments and comments. <strong>Tutorial</strong></td>
</tr>
<tr>
<td></td>
<td>See About Cell Comments and Working with Attachments.</td>
</tr>
<tr>
<td>Simplify the data presentation.</td>
<td>Control which rows or columns are displayed (or hidden) by clicking <strong>Data</strong> in the right panel, and then <strong>Keep</strong> or <strong>Exclude</strong> under <strong>Filter</strong>.  You can also sort the values in a row or column by ascending or descending order by selecting the row or column, and then clicking an arrow under <strong>Sort</strong>.</td>
</tr>
<tr>
<td>Build logic into a data value.</td>
<td>Click a cell, then <strong>Data</strong>, and then <strong>Supporting Detail</strong>. See About Using Supporting Detail.</td>
</tr>
<tr>
<td>Check how the data conforms to rules that an administrator set up.</td>
<td>Click <strong>Actions</strong>, and then <strong>Grid Validation Messages</strong>. See Resolving Data Validation Errors.</td>
</tr>
</tbody>
</table>

See also More Ways to Manipulate Values.

### More Ways to Manipulate Values

Here are some easy ways to manipulate data:

- Spread values from a parent cell to its children. For example, you can enter “300” in Q1 (the parent), and 300 is spread to its children: Jan, Feb, and March, automatically filling “100” into each of those months. To learn more, see How Spreading Data Works.

- Enter an operator (+, −, *, /, or %) and then a number. For example, if a cell's initial value is 100, you can enter *5, which changes the value to 500. See also Entering Data Quickly Using Commands and Performing What If Analysis.

### Getting the Latest Data

To ensure that you are working with the latest data, especially if other people are working on the same budget, refresh the data by clicking **Refresh**.
About Calculating Data

Values are automatically totaled as you enter data. Here are other ways to calculate data:

- Use a formula that was created in Planning.
- Use a formula that you created in Oracle Smart View for Office. See Using Your Own Excel Formulas in Planning.
- Use the Adjust or Spread feature. See Adjusting and Spreading Data.
- Use Supporting Detail. See About Using Supporting Detail and Working with Supporting Detail.

How Totals are Calculated

Here's how values are subtotaled and totalled:

- Subtotals are calculated based on factors that your administrator set, such as the member hierarchies, member properties, and the logic of the hierarchy.
- To recalculate subtotals, click Save. If the Calculate Form rule is selected to launch during Save, all subtotals are recalculated based on their members’ aggregation properties and the form’s design.
- Saving data calculates members that are set to dynamically calculate, excluding the bottom-most (level-0) members.
- Calculations are based on the stored (not the displayed) values. Displayed values might be based on scaling or precision settings.
- Only displayed members are calculated. If you have read but not write permission to some members, then subtotals correctly include their values even if they are read-only.

See also Adjusting Cell Values and How Spreading Data Works.

Reviewing Data

You can review and analyze data in many ways.

For example:

- In ad hoc grids. See Focusing Your Analysis with Ad Hoc Grids.
- In dashboards. See Reviewing Data.
- In reports. See Working with Reports and Books.
- In sandboxes. See Building a Plan Privately.

Watch this tutorial for tips on reviewing data in Planning. You learn how to view a member formula for an account to see how that value is calculated. See how to filter rows and columns to select what data to display. Finally, see how you can organize rows and columns so data is displayed in ascending order, descending order, or in the order of the dimension hierarchy.
Promoting Data

After you enter data, annotate your assumptions, and are satisfied with your plan’s data, you can promote your numbers (as an approval unit) to another person, typically for review or approval.

On the Home page, click Approvals, and then start or promote the approval unit. After you promote an approval unit, its new owner can write to it (assuming the owner has write permission), but you can no longer write to the approval unit. See Getting Plans Approved.

Personalizing How Data Displays

You can customize how data displays in a form, for example, with formatting and hiding rows and columns having no data.

See the next topics.

Emphasizing Data with Formatting

In simple forms and ad hoc grids, a variety of formatting options help you emphasize certain data.

For example, you can increase or decrease the font size and set the font color and background. You can even select a custom color. You can save or clear the formatting that you set. And in text cells, you can wrap the text.
About formatting:

- **Default**—Formatting that Planning applies to indicate a state (for example, that the cell has Supporting Detail).
- **User Defined**—Formatting that you've applied.

**Note:**

Where formatting styles conflict, the default formatting takes precedence. For example, you might format a cell and then change its value. The default formatting for a changed but not-yet-saved value overrides the formatting that you applied to that cell.

### Hiding Rows or Columns That Have No Data or Zeros

To simplify the data in a form, you can hide rows that have no data or contain zeros.

To hide rows that have no data or contain zeros:

1. Click **Actions**, and then **Filter**.
2. Click an option:
   - **Hide rows with no data**: To toggle between hiding and showing rows that have no data (displayed as #MISSING or blank, depending on how your administrator set this property). This option is not displayed if your administrator has set the form's property to Suppress Missing Data.
• **Hide rows with zeros**: To toggle between hiding and showing rows that have zeros for values.

• **Hide rows with zeros and no data**: To toggle between hiding and showing rows that have either no data or zeros, or both.

To hide columns that have no data or contain zeros, follow these steps, but select columns instead of rows.

### About Cells That Have No Data

#MISSING in a cell indicates that the cell contains no data, whereas zero in a cell is a data value.

#MISSING decreases the database size and improves performance. To improve performance, your administrator can set cells having no data as #MISSING. See Writing #MISSING Values in Administering Planning.

### Printing Data

You can print data in forms as PDF files and customize its format if Adobe Acrobat Reader 5.0 is installed on your computer.

You can also export formatted reports to Oracle Smart View for Office (see Exporting Formatted Reports to Excel).

To print a form's data to a PDF file:

1. With a form open, click the Data tab, and then Print.
2. Select the print options that you want.
3. Click Print Preview.
4. Click Open with to open the file in Adobe Acrobat Reader or click Save and name the file.

To revert to the printing options that you set in preferences, click Restore Form Settings.
More About Working With Data

Related Topics

- **Viewing Member Formulas**
  Your administrator can set up member formulas to perform calculations on members.

- **Working with Planning Data in Excel**
  If you're familiar with working in Microsoft Excel, you may want to work with Planning data in Oracle Smart View for Office.

- **Drilling Through to Source Data**
  Your administrator can load data from a source using Data Management or the Planning import and export functionality. You can drill through to view details of the data source.

- **Cell Icons**
  Icons in a form's cell provide information. Here's what they mean.

- **Resolving Data Validation Errors**
  Your administrator can set up data validation rules to ensure that data meets company guidelines.

- **Copying Versions of Data**
  **Copy Versions** is a handy feature when you want to copy data from one version to another version.

- **Pushing Data for Reporting**
  For meaningful and complete reporting, your administrator can set up forms so that you can analyze data coming from different cubes using **Smart Push Details**.

- **About Cell Comments**
  To explain data or provide background, you can add comments to a cell or to a range of cells across multiple dimensions.

- **Working with Attachments**
  You can provide background information on data by attaching a file to a cell or range of cells.

- **Searching for Forms, Dashboards, and Infolets**
  You can easily search for specific forms, dashboards, and infolets from their listing page.

- **About Read-Only Cells**
  Learn why you can't change data in some cells.

- **Seeing What's Changed**
  If your administrator has enabled audit trails for certain items, you can see their history of changes.

**Viewing Member Formulas**

Your administrator can set up member formulas to perform calculations on members.
To view a member's formula, click the formula icon.

**Working with Planning Data in Excel**

If you're familiar with working in Microsoft Excel, you may want to work with Planning data in Oracle Smart View for Office.

Smart View provides a common Microsoft Office interface for Planning. Using Smart View, you can view, import, manipulate, distribute, and share data in Microsoft Word and PowerPoint.

To learn more, see *Oracle Smart View for Office User's Guide*.

Watch this overview video to learn what's new in Smart View.

![Overview Video](image)

To install Smart View:

1. Click on the top right of the Home page.
2. Under **Settings and Actions**, click **Downloads**.
3. Under **Smart View**, click **Download from Oracle Technology Network**, and then follow the prompts.

**Using Your Own Excel Formulas in Planning**

In Oracle Smart View for Office ad hoc analysis, you can create your own Excel formulas and members that calculate instantly without affecting other data. You can then open this *Smart Form* in Planning and execute the calculations that you created in Smart View.

For example, say you're analyzing Planning data in Smart View, which is the Microsoft Office interface to Planning. You want to calculate the average profit margin for four products. You can add a row called "Average Profit Margin" to the grid, and then create a formula on the four rows listing the products' profit margins. Select the four rows. Then, in the new "Average Profit Margin" row, add the Excel formula `=AVERAGE(D5:D8)`. The average profit margin is instantly displayed in the new row, but the new row is saved only in this Smart Form, and not the rest of Planning.

To make this customized ad hoc grid available in Planning, when you save it, select the option **Save as a Smart Form**. Then you can open and use this customized Smart Form, including the rows, columns, and calculations that you added, in Planning (see **Opening Forms**). You can even create a sandbox from a Smart Form (see **Keeping Your Work Private with Sandboxes**).

To learn more, see *Oracle Smart View for Office User's Guide*.

To learn about calculating data using Smart Forms, watch this tutorial video.

![Tutorial Video](image)
About Smart View Formatting in Planning Forms

Depending on how your administrator set up the form, a form may display the cell formatting that you saved in Oracle Smart View for Office.

Microsoft Excel formatting is supported in Smart View and Planning except for:

- Planning supports Excel's font styles except for underline and alignment.
- Planning supports Excel's borders except for solid borders.
- Smart View supports Excel's cell formatting, including many of Excel's number and date formatting. Planning doesn't support Excel's numbers and dates formatting.
- Planning supports Excel's row formatting except for Excel's read-only, column width, or row height formatting.

See the Oracle Smart View for Office User's Guide.

Copying and Pasting Data Between Microsoft Excel and Planning Forms

If you're accessing Planning from a desktop, you can copy and paste data between Microsoft Excel and forms.

Note:
This functionality is available on desktops only, not on mobile devices.

To copy and paste data from Microsoft Excel to Planning forms:

1. In Microsoft Excel, highlight the data in a single cell or a range of cells, and then press Ctrl+C to copy the data to the clipboard.
2. Select the target cell or cells in the Planning form, and then press Ctrl+V.
3. When the Clipboard helper displays, press Ctrl+V again. The data is pasted to the Clipboard helper.
4. Click Paste to paste the data into the Planning form.

Note:
Data that you copy and paste from Microsoft Excel to Planning reflects the formatting that's set up in Microsoft Excel. For example, if you set the number of decimal places in Microsoft Excel to zero, when you enter the value 459.123 in Microsoft Excel, the value displays as 459. If you copy this value into a Planning form, then the value 459 is pasted.
Exporting Data to Microsoft Excel

By exporting data from a form to Microsoft Excel, you can explore “what-if” scenarios in Excel before copying and pasting values back to Planning.

About exporting data:

- Planning doesn't export these details to Excel: Supporting Detail, cell comments, numerical formatting, the application name, user, form folder, attributes, currency tags, or percentages.
- Full decimal places are exported for numerical values, but scaling isn't applied to preserve accuracy. When you view the exported data in Oracle Smart View for Office, data displays like it does in the Planning form.
- Member aliases display if your administrator set the form to display them.
- Values pasted back to Planning from Excel must be unformatted data.

To export data from forms to Microsoft Excel:

1. Open a form.
2. Click Actions, then Spreadsheet Export, and then Export.
3. Either open or save the file.
   Use standard Excel procedures to make and save your changes.

Drilling Through to Source Data

Your administrator can load data from a source using Data Management or the Planning import and export functionality. You can drill through to view details of the data source.

In a multicurrency environment, all currencies in the source system can be loaded for an entity. Exchange rates are converted within Planning.

To drill through to source data:

1. Open a form containing loaded source data.
   The icon \[ \text{100} \] in the right top corner of a cell indicates that it has drill-through data.
2. From a cell that contains drill-down data, click Actions, and then Drill Through.
3. Click the link in the top left corner Drill Through to Source.
4. From the Drill Through Summary, you can drill through to the source.

Cell Icons

Icons in a form's cell provide information. Here's what they mean.

- The cell has an attachment.
- The cell has a member formula.
Resolving Data Validation Errors

Your administrator can set up data validation rules to ensure that data meets company guidelines.

For example, your administrator can set:

- Criteria for the data you enter, called data validation rules
- Background colors to call your attention to data validation errors
- Messages that tell you what the criteria is

If the data in a form doesn’t meet the criteria in data validation rules, follow these steps to fix the errors.

In Simple Forms

To resolve data validation errors:

1. In a form with errors, hover your cursor over the cell (or on mobile devices, tap into) having a non-default colored background. Your administrator typically calls your attention to cells having data validation rules by displaying them with a colored background. Pop-up text displays the cell intersection and the text **This cell contains Data Validation Messages**.

2. Click **Actions**, and then **Data Validation Messages**.

3. If there’s more than one message, expand the list, and then click each hyperlink to go to the cell to be corrected.

4. Resolve each error based on the instructions in the data validation message.

5. When you’ve resolved all errors, save the form. The cells’ colored backgrounds and Data Validation Messages no longer display.

In Composite Forms

- When you click into a cell having a Data Validation Message, the message displays to the right of the cell.

- To resolve errors in each form in the composite form, click **Actions**, and then **Grid Validation Messages**. Select the form to resolve errors in.

- For each error, click its hyperlink.
• Repeat this for each form having data validation messages.

Tip:
If your Page/POV doesn't include valid members, in the member selector you can clear the current members by clicking and then Clear Page Selections. You can then select members from other dimensions that are included in the valid intersection definition.

Copying Versions of Data

Copy Versions is a handy feature when you want to copy data from one version to another version.

For example, use Copy Versions when you want to:
• Quickly create a starting point for a new version of a plan.
• Work with multiple versions of data.
• Create a copy of your data for your records and future analysis. For example, you can compare the baseline version against future versions of data.
• Start a new Approvals cycle based on updated data that reflect new business assumptions. For example, you want to copy some of the data in a Worst Case version to a Best Case version. Similarly, you can create a starting point for subsequent versions. For example, copy your First Pass version to a Second Pass version, and then make your changes to it.

Copy Versions copies the data you select from one bottom-up or target version of a selected scenario to another bottom-up or target version within the same scenario.

Note:
Copying a version does not copy data to approved approval units.

To copy a version:
1. Click Navigator on the Home page.
2. Under Actions, click Copy Versions.
3. Select the scenario to copy.
4. In Copy From, select the source version to copy data from.
5. In Copy To, select the target version to copy data to.
6. Click ➡️.
7. Use the arrows to move entities from Available Entities to Selected Entities.

To copy data successfully, you must select at least one member for the Scenario, Account, Entity, Period, and Version dimensions. Available Entities displays the
entities (approval units) that you have write permission to and that belong to you. You can copy entities with an Approvals status of **Not Started** or **First Pass**.

8. **Optional:**
   - Click **Copy Comments**.
   - Click **Copy Attachments**.
   - Click **Copy Supporting Detail**.

9. Click **Copy Data**.

   ![Note:](image)
   
   **Note:**
   
   Wait until **Copy Versions** completes before you start something else.

---

### Pushing Data for Reporting

For meaningful and complete reporting, your administrator can set up forms so that you can analyze data coming from different cubes using **Smart Push Details**.

For example, say you have expense data in one cube and revenue planning in another cube. Using **Smart Push Details**, you can quickly push the data from both cubes to a reporting cube. You can then analyze the consolidated data in the reporting cube. Smart Push includes data, comments, attachments, and Supporting Detail.

Watch this tutorial to learn how to instantly push data for reporting.

#### Tutorial

Your administrator can set up forms to automatically push data when you save the data in the form. Or, the administrator can set up the form so that you can initiate the Smart Push. If so, click **Actions**, then **Smart Push Details**, and then click the link in the Smart Push dialog box. If Smart Push is set to run on save, it doesn’t display in Smart Push Details.

   ![Note:](image)
   
   **Note:**
   
   Smart Push always clears data in the reporting cube before it pushes data.

---

### About Cell Comments

To explain data or provide background, you can add comments to a cell or to a range of cells across multiple dimensions.

To add and view comments, click a cell (or select a cell range), then the **Data** tab, and then **Comments**. A small triangle in the upper right of a cell indicates that it has a comment.
You can also view comments in a PDF file or a printed report.

Working with Attachments

You can provide background information on data by attaching a file to a cell or range of cells.

If your administrator selects the Enable Cell-Level Document property for the form, you can add attachments to cells. These attachments can be any file type such as an XLS file. You could attach several documents to a cell, each with updated assumptions behind the cell's sales data. The attachment icon indicates that a cell has an attachment.

To add an attachment:
1. In the form, select the cell or range of cells.
2. Click Data, and then Attachments.
3. Browse to the file, and then click Upload.

To view the attachment, click its hyperlink.

Searching for Forms, Dashboards, and Infolets

You can easily search for specific forms, dashboards, and infolets from their listing page.

On the listing page for these artifacts, you can toggle between viewing these artifacts by a flat view or a tree view:

Then you can search for forms, dashboards, or infolets using Search.

The flat view displays only the artifacts that meet the search criteria, not the folders that contain them. The tree (or hierarchical) view displays artifacts in the context of the folders that contain them.

To search on another keyword, clear the search criteria by clicking X in the Search box.

About Read-Only Cells

Learn why you can't change data in some cells.

Grayish blue cells in a data form indicate that you can see, but not change, their values. They are read-only.

Some reasons why cells may be read-only:
• The form is read-only. See Assigning Permissions to Artifacts, Rules, and Folders in *Administering Planning*.

• The data in the cell is dynamically calculated. See Storage Options in *Administering Planning*.

• The cell has Supporting Detail. See *Working with Supporting Detail*.

• The administrator has set the **Apply Security** property, but hasn't granted you Write access permissions to every dimension member of the data intersection. *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators* describes how the administrator grants global roles, and *Administering Planning* describes how the administrator assigns permissions to Planning artifacts.

• The cell is invalid according to the valid intersection definition. See Understanding Valid Intersections in *Administering Planning*.

• The cell has a member formula. See *Viewing Member Formulas* and Working with Member Formulas in *Administering Planning*.

• The cell is part of an approval unit that you've submitted or promoted. You can't change the data until you become the owner again. See *Getting Plans Approved*.

• You've locked the cell. See *Locking Cells*.

• The cell is an upper level in a form that is based on a bottom up version. With bottom up versions, you enter data only into bottom level members. See Target and Bottom Up Versions in *Administering Planning*.

• The cell is a reporting currency cell whose value is calculated based on the input currency. See About Simplified Multicurrency in *Administering Planning*.

• The cell is outside the range defined for the scenario time period. See About Scenarios in *Administering Planning*.

### Seeing What's Changed

If your administrator has enabled audit trails for certain items, you can see their history of changes.

For example, if your administrator enabled auditing for **Data**, you could see who changed cell values and when they did so.

To see the history of tracked changes:

1. Click **Actions**.
2. Click **Change History**.
Planning with Tasks

Related Topics

- **Why Use Tasks?**
  Administrators set up tasks lists to guide you through the planning process. Task lists help you organize, track, and prioritize your workload.

- **Using Tasks to Plan**
  Get a high-level view of the status of your task lists on the **Tasks** page.

**Why Use Tasks?**

Administrators set up tasks lists to guide you through the planning process. Task lists help you organize, track, and prioritize your workload.

For example, a task might help you complete forms, launch business rules, or promote approval units. They can also launch a website or internal company page.

For information on creating task lists and tasks, see Working with Task Lists in *Administering Planning*.

**Using Tasks to Plan**

Get a high-level view of the status of your task lists on the **Tasks** page.

**Click Tasks**

on the Home page. The summary bar on the top of the **Tasks** page helps you track the number of tasks that are:

- Assigned to you
- Incomplete
- Due today, this week, or in the future
- Completed

Watch this overview video to learn about working with tasks and task lists.

**Overview Video**

Using tasks:

- To view task lists, click .
- To launch a task to complete its activities, click its name.
- To search for tasks or view a task list report, click the icons on the right.
• To mark a task as complete, on the task page, click the box by **Complete**.

• To control how your tasks are displayed, click *** to view the lists in a flat list.
  
  Click ** to display the tasks in a tree, or hierarchical, view.

**Note:**

If your administrator sets email alerts, you can receive email reminders about tasks that are approaching or are past their due date.
Analyzing Data Using Dashboards

Dashboards are especially useful when you start your planning and forecast process. They give you an overview to key information and let you change and save data. You can work with multiple forms or charts, change the data in one, and see the immediate effects in other forms, charts, and tiles in the dashboard. Change a driver in the grid and see its impact immediately in the chart.

When you save data, it's saved in all the objects in a dashboard. Depending on the form's design, you can also drill down into more detail. The dashboard may include a dynamically linked Web site or a place for commentary. You can select which members to work with and change chart types, for example. Your administrator creates dashboards, but you have a lot of flexibility when using them. For example, for many chart types, you can customize the colors that represent the data. You can also set which dashboard you want as the default.

To access dashboards:

1. Click **Dashboards**

   on the Home page.
Tip:

To search for a specific dashboard, click on the listing page. See Searching for Forms, Dashboards, and Infolets.

2. Click the dashboard's name.

Tip:

Move the cursor in the upper right corner of an object on the dashboard to use the hover toolbar. It provides options such as Actions, Save, Refresh, Settings, and Maximize, depending on the type of object:

To work with forms in a dashboard from the hover toolbar:

- Click Actions to access such form options as Spreadsheet Export or Supporting Detail.

- Click Settings to change the chart type associated with the form or its height percentage.

Customize charts in a dashboards. Each chart type has options that are specific to it. For example, for a bar chart, you can set:

- The width percentage of the bars
- The type of chart displayed (for example to area, bubble, column, doughnut, funnel, gauge, scatter, radar, and so on)
- The chart to display in 3D
- Horizontal or vertical placement
- The background
- The legend's and label's position

And if the dashboard includes a gauge chart type, you can set the Maximum Value that the dial displays. To learn more about dashboards and chart type options, see The Power of Dashboards in Administering Planning.

Some other points to know about using dashboards:

- Changes you make to the chart type options aren't saved for the next session. Clicking Save saves the data, but not the dashboard definition.
- If you select a new value from the Page drop-down, a Go button (right arrow) is displayed in the POV bar.
Click the Go button to show your selection.

- You can change data in a form's cell only if the intersection in the underlying form is writable.
- In a Smart Form (with the form design option **Autosave** enabled), when you enter data and tab out of the cell, the other objects refresh, displaying fresh data.
- Missing or suppressed data is plotted as zeros in graphs.
Viewing Key Information with Infolets

Infolets provide quick insights into data that guide your decisions and actions.

Infolets present a visually engaging overview of high-level, aggregated information and can help you quickly analyze data and understand key business questions such as:

- Where is it most important to direct my attention?
- What critical information has recently changed?
- How many orders are in jeopardy, listed by status?

Getting an instant overview into key information enables you to react quickly to changing conditions.

Your administrator can design an infolet to display a chart, a data point in a form, or an entire form. The administrator may design an infolet to progressively display more detail when you flip or expand it. (Only administrators can design infolets.)

To draw your attention to important data, your administrator can set an infolet page that displays directly on your Home page. A sample infolet page:

You can also access infolets by clicking the dots at the top of the Home page. See About the Infolet Dots. If the infolet content takes more space than can be displayed on a page, use the scroll bar on the right.
Note:

Using the Navigation Flow designer, your administrator can define up to seven infolet dots on the Home page. If your administrator can create connections to other EPM Cloud business processes, infolets can link to infolet pages in other EPM Cloud business processes.

Tip:

To search for a specific infolet on the listing page, click 🔍. See Searching for Forms, Dashboards, and Infolets.

About Infolet Views

Your administrator can design up to three views in an infolet.

The front page typically identifies key information. For example:

![YoY % Change]

If an infolet has a back view, hover over the bottom right corner to see the flip arrow, and then click it. Back views typically present more analytical information, such as a graph. For example:

![Revenue by Years]

To flip to the front view again, hover over and then click the bottom left arrow. An infolet may have an expanded view to present even more detailed information. If so,
hover over and then click the double arrow in the bottom right corner to see an expanded view. For example:

![Revenue Trends](image)

To return to the front or back view from an expanded view, click the double arrows in the bottom right corner.

**Note:**

Infolet views honor the access permissions that are assigned to the underlying forms and dimensions. So, your infolet views may differ from other users' views to the same infolet.

### About the Infolet Dots

You open infolets that your administrator gives you access to by clicking the dots towards the top of the Home page.

For example:

- The first dot links to the Home page.
- The second dot links to your default, or favorite, infolets page. See Setting Your Default Infolet.
- The third through up to ninth dots link to other infolets that your administrator created.

### Setting Your Default Infolet

You can set an infolet that you access most often as the default. Clicking the second dot on your Home page displays your default infolet.

To set your default infolet:

1. On the Home page, click **Infolets**.
2. From the **Actions** menu for the infolet you want to be the default, click **Default**. To undo the **Default** setting, click **Unmark**.
You can mark both a dashboard and an infolet as the default, but only one is in effect at a time. Whichever one you set as the default most recently is the current default.
Focusing Your Analysis with Ad Hoc Grids

Using ad hoc grids, you can personalize focused data slices that you frequently use for analysis.

Examples of how ad hoc grids can help you focus your analysis:

- Save a set of products that you work with during spring promotions.
- Quickly review profit margins in your regions.
- Change the set of accounts in an ad hoc grid that someone else set up.
- Save the data in an ad hoc grid as a report and view it in Planning and Financial Reporting.
- Use an ad hoc grid in Oracle Smart View for Office that you set up in Planning.

You create and access ad hoc grids in similar ways in Planning and Smart View.

Watch this tutorial to learn how to use ad hoc analysis in Smart View.

Watch this tutorial to learn about ad hoc options in Smart View.

To learn more, see Oracle Smart View for Office User's Guide.

Ad Hoc Grids’ Flexibility

Ad hoc grids offer many ways to manipulate data for analysis.

Examples of the flexibility that ad hoc grids offer for working with data:

- You can drag a dimension from one axis of the ad hoc grid to another (called pivoting). See Pivoting Dimensions.
- To emphasize data, format it with color, font size, underline, and so on. You can also use the formatting that you set up in Oracle Smart View for Office. See Emphasizing Data with Formatting and About Smart View Formatting in Planning Forms.
- Save the data in the ad hoc grid as a report. To learn about working with reports, see Working with Reports and Books.
- Use Predictive Planning to predict future values based on historical data. See Improving Forecasting Accuracy with Predictive Planning.

For more options, click Ad Hoc Options. See Changing Your Focus.

Watch this tutorial to learn about ad hoc grids.
Creating an Ad Hoc Grid

1. Click Data on the Home page.

2. Click New Ad Hoc Grid, then select a Cube, and then click Create.
   By default, Account is on the row, and Year and Period are on the column. The other dimensions are on the POV (Point of View) at the top of the grid.

   **Note:** If its cube is aggregate storage and has no Year dimension, then only the Period dimension is on the column.

3. Save the new ad hoc grid.
   Watch this tutorial to see how to set up an ad hoc grid.

Accessing an Ad Hoc Grid

1. Click Data on the Home page.

2. Click on the left, and then click the name of the ad hoc grid.
   To access an ad hoc grid from within a form, click Actions, and then Analyze.

Ad Hoc Options

You can control the display and behavior of ad hoc grids using Ad Hoc Options.

From within an ad hoc grid, click Actions, then Ad Hoc Options to set aspects such as:

- Selecting to perform an operation such as zoom only on the selected group of members or on the members retrieved as a result of the operation. For example, zooming in on the selected member Qtr1 displays data for Qtr1, Jan, Feb, Mar.
Displaying member names or their aliases and setting whether or how to indent member levels.

The level at which to zoom.

Displaying ancestors at the top or bottom of the hierarchy during **Zoom In**.

Turning off data refresh as you perform ad hoc actions (data is refreshed by default).

Hiding rows or columns with zeros or that have no data.

Using the Currency member's precision setting or setting the number of decimal positions displayed in a cell. For example, if the cell value is 100, and you select the **Minimum** precision "2", the value displays as "100.00".

---

**Tip:**

You can set your preferences for working in ad hoc grids. See [Setting Ad Hoc Options](#).

---

**Changing Your Focus**

To facilitate your analysis in an ad hoc grid, you can control which members and dimensions display in the grid.

Click the **Ad hoc** button in an ad hoc grid to view the data differently.
Tip:
On mobile devices, to easily access ad hoc actions, click the Down Arrow \( \downarrow \) in the Page / POV.

See also Emphasizing Data with Formatting.

Displaying and Collapsing Lower Level Members

You can zoom in or out to display data for lower level members, as set by the zoom level.

Note:
To set the zoom level, select a member, then click Actions, then Ad Hoc Options, and then a Zoom in level option. For example, selecting All levels sets the zoom level to display data for all descendants of the selected member.

Select the member, and then click:

- **Zoom in Next Level** to display data for the selected member's children.
- **Zoom in Bottom Level** to display data for the lowest level members.
- **Zoom Out** to see the parent of the selected member.

Moving Dimensions

In an ad hoc grid, you can move a row or column dimension up, down, left, or right with a move icon.

Select the dimension and then click the appropriate icon:

Note:
When working from a desktop, to move a dimension in the Page, right-click it, and then select Ad Hoc, then Move, and then Left or Right.
Pivoting Dimensions

Pivot a dimension in an ad hoc grid by dragging a dimension from one axis to another.

For example, you can drag a dimension from the row to a column, or a Page dimension to a row or column. However, you can't pivot the last remaining dimension in a row or column.

Pivot

Note:

In ad hoc grids, all dimensions that aren't on a row or column are on the Page axis.

Mobile devices: To pivot dimensions on the Page, you drag and drop them. To pivot rows and columns, click the icons for the selected dimensions.

Filtering Out Members

To narrow your focus, you can remove members and their data from the grid:

On the Ad hoc panel:

- To keep only the currently selected member and its data, select the member whose data you want to keep. Then click Keep Selected. All other members in the dimension are removed.
- To remove a member, select the member that you want to remove, and then click Remove Selected.

Tip:

You can also filter which data displays from the Data panel: Select a row or column, then under Filter, select an operator, enter a value, and then click Keep or Exclude.
Improving Forecasting Accuracy with Predictive Planning

Use Predictive Planning to predict future performance based on your historical data.

You can compare and validate plans and forecasts based on the predictions. For a more accurate and statistically-based forecast, you can copy the prediction values and paste them into a forecast scenario for your plan.

Watch these videos to see an overview of using Predictive Planning.

Overview Video

Overview Video

Predicting Future Values Based on Past Performance

You can start a prediction from a valid form or ad hoc grid. When you run a prediction, historical data for each member on the form is retrieved and then analyzed using time series forecasting techniques to predict the future performance for these members.

For details about valid forms, see Using Valid Forms.

1. From a form or ad hoc grid, click Actions, and then Predictive Planning. The prediction runs, and a results area opens below the form with a chart and detailed information about the prediction.

Use the results to compare the predicted values to your forecasted values for each member.

Depending on the chart settings:
The historical data is shown as a green series to the left of the vertical separator line. Administrators determine the scenario/version to use for historical data values.

The base case for predicted data is in the blue series to the right of the vertical separator line.

The predicted data series is bounded by dotted lines that show the upper and lower prediction intervals—the range between the Best Case predicted scenario and the Worst Case predicted scenario.

Your forecast values are in the red series on the right side of the chart. The chart displays a data series for each scenario on the form.

You can change the way the chart is displayed. See Customizing the Chart.

2. To see predicted values for a different member, select the member from the member list in the results area, or click the row for the member in the grid area.

The prediction area is updated so you can see the historical trends and predictions for each member on the form.

Tip:
Hover the cursor over the upper right corner of the prediction area, and then click Zoom In to zoom in to the future values area of the chart. Click Zoom Out to restore the chart view to the original size.

About predictions:

- Predictive Planning predicts all members on a form.
- The lowest Period dimension member level on a form determines the time granularity of the prediction. A form with lower level Period members (for example, months instead of quarters) has more historical data, which improves the accuracy of the prediction. There should be at least twice the amount of historical data as the number of prediction periods.
- Predictive Planning can detect seasonal patterns in the data and project them into the future (for example, spikes in sales numbers during holiday seasons). At least two complete cycles of data must be available to detect seasonality.
- Predictive Planning detects missing values in the historical data, filling them in with interpolated values, and scans for outlier values, normalizing them to an acceptable range.

For detailed information about the forecasting methods and error measures used in Predictive Planning, see Predictive Planning Forecasting and Statistical Descriptions.

Predictive Planning always runs a full prediction. Full predictions predict all members on a form without regard to dimension hierarchies. With this method, Predictive Planning makes no assumption about the type of aggregation on the form. If you want to preserve the results at the summary-levels, ensure that the business logic does not aggregate the results from lower level members. For more information about hierarchical prediction issues, see Hierarchical Data Prediction Issues.
Using Valid Forms

Before you can predict using Predictive Planning, make sure you have a valid form.

In general, a valid form must have the following:

- A series axis, containing one or more non-time dimensions, such as Account or Entity. The series axis may not contain Year or Period dimensions.
- A time axis, containing the Year or Period dimensions, or both. The time axis may contain Scenario and Version dimensions. The time axis may not contain other non-time dimensions.
- Scenario and Version dimensions are permitted on the series or time axes, or both.
- The form must not be empty.

Getting More Information About a Prediction

After you run a prediction, you can get more information about the data in the chart and the predicted values.

To get more information:

- Use the tooltips for each data series in the chart to get more information about the values.
- Use the Info Boxes to see details about each data series on the chart:
  - The risk gauge in the Info Box indicates the probability of a scenario occurring above or below the prediction.
  - Click (Details) to get more information about the prediction data or the historical data.
## Prediction Details

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accuracy</strong></td>
<td>97%</td>
</tr>
<tr>
<td><strong>Error Measure (RMSE)</strong></td>
<td>565,128</td>
</tr>
<tr>
<td><strong>Best Prediction Method</strong></td>
<td>Damped Trend Seasonal Multiplicative</td>
</tr>
<tr>
<td><strong>Start Date</strong></td>
<td>Jul-FY14</td>
</tr>
<tr>
<td><strong>End Date</strong></td>
<td>Jun-FY15</td>
</tr>
</tbody>
</table>

## Historical Data Details

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Values</strong></td>
<td>54</td>
</tr>
<tr>
<td><strong>Filled-in Missing Values</strong></td>
<td>0</td>
</tr>
<tr>
<td><strong>Adjusted Outliers</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Seasonality</strong></td>
<td>12</td>
</tr>
<tr>
<td><strong>Start Date</strong></td>
<td>Jan-FY10</td>
</tr>
<tr>
<td><strong>End Date</strong></td>
<td>Jun-FY14</td>
</tr>
</tbody>
</table>

- Use the tooltips to get insight about the detail information.
- The Growth Rate makes it easy to quickly compare any two series.
The tooltips explain the comparison. For example, the growth rate statistic for the prediction indicates the year-over-year growth rate for the first year of future values compared to the last historical year.

- For more information, see Predictive Planning Forecasting and Statistical Descriptions.

About Prediction Accuracy

When you click (Details) to get more information about the prediction data or the historical data, you see the accuracy of the prediction.

The amount of historical data available impacts the accuracy of the predictions; the more data the better. At a minimum, there should be at least twice the amount of historical data as the number of prediction periods. A ratio of three or more times the amount of historical data as the prediction periods is preferable. If not enough historical data is available at the time of prediction, a warning or error is displayed. Predictive Planning can detect seasonal patterns in the data and project them into the future (for example, spikes in sales numbers during holiday seasons). At least two complete cycles of data must be available to detect seasonality.

In addition, Predictive Planning detects missing values in the historical data, filling them in with interpolated values, and scans for outlier values, normalizing them to an acceptable range. If there are too many missing values or outliers in the data to perform reliable predictions, a warning or error message is displayed.

The prediction accuracy can also be affected by how noisy the data is. Even though a large amount of historical data may be available, the noise or random fluctuations in the data can obscure the underlying trend and cause the prediction accuracy to be low.

In general, use these guidelines to determine a prediction's accuracy:

- 95 – 100%: Very Good—The historical data has a strong trend or seasonal pattern.
- 90 – 94.9%: Good—The historical data has a moderate trend or seasonal pattern.
- 80 – 89.9%: Fair—The historical data has a weak trend or seasonal pattern.
- 0 – 79.9%: Poor—The historical data has no detectable trend or pattern.

Modifying Future Values

After running a prediction, you can modify the values for any future data series, such as the forecast or best case and worst case scenarios.

For example, after reviewing the predicted values, you might want to adjust your forecast values to more closely align with the prediction.

To adjust values for a future data series:

1. In the chart area, click one of the future data series. An x is displayed for each data point and a triangle—the chart grabber—appears at the end of the line.
2. Change the values for the selected series using one of these methods:
• Move the chart grabber up or down to increase or decrease values. By default, the first predicted value is constant. Moving the chart grabber up or down increases or decreases all values relative to the first value.

• To unlock the first point in the data series, hover the cursor over the upper right corner of the prediction area, click Unlock First Period, and then move the chart grabber to increase or decrease all values evenly.

To keep the first predicted value constant, hover the cursor over the upper right corner of the prediction area, and then click Lock First Period.

• Click a data point and move it to adjust only that value. A tooltip indicates which value is adjusted and how it is changing.

The values in the grid (for writable members) and the prediction Info Boxes are updated to reflect the adjusted values.

Note:
You can modify values for writable cells only. You can always modify the prediction series and best/worst case series because they are not linked to values in the grid.

3. To restore the original values, hover the cursor over the upper right corner of the prediction area, and then click Reset Series.

4. You can also change forecast values by entering new values in the grid. The chart and the Info Boxes are updated to reflect the adjusted values (for writable members).

Customizing the Chart

Related Topics
• Changing the Chart Appearance
  You can change the chart's appearance by changing the chart settings.

• Changing Prediction Options
  You can change the date ranges used for historical and predicted data and adjust which data series display in the chart. These settings apply to all forms.

Changing the Chart Appearance

You can change the chart's appearance by changing the chart settings.

To change the chart appearance:

1. Hover the cursor over the upper right corner of the prediction area, and then click Chart Settings.

2. Select from the following options, and then click Apply.

  • Highlight seasonality—Uses vertical bands to separate periods of cyclical data (years, months, and so on)
• **Highlight missing values and outliers**—Graphically emphasizes filled-in or adjusted-outlier data if these are present

• **Highlight Prediction Interval**—Uses dotted lines and shading that show the upper and lower prediction intervals—the range between the Best Case predicted scenario and the Worst Case predicted scenario.

• **Show separator between past and future data**—Displays a vertical line between historical and predicted data sections

• **Animate chart transitions**—Animates the change in the chart when data values change

You can also select a grid line style and legend placement.

---

**Note:**

Changing these settings affects only the appearance of charts on your local computer and does not affect the charts of other users.

---

### Changing Prediction Options

You can change the date ranges used for historical and predicted data and adjust which data series display in the chart. These settings apply to all forms.

1. After you run a prediction, in the results area, click **(Settings)**.

2. Click **Date Ranges** to adjust the default historical date range and prediction date range.

   A single end date for historical data is used for all members on the form. If the members do not all have the same amounts of historical data, the end date is determined by those members that have the greatest amount of similar historical data.

   The prediction range starts one period after the end of the historical data. By default, the end date on the form determines the end date of the prediction.

   You can't predict values beyond the end date defined in Planning.

3. Click **Chart View** to select the data series to display in the chart.

   Data series in the view can include a Past section, which contains historical data, and a Future section, which contains future values.

   If you add the Growth Curve to the chart, click **Edit Growth Rate** and enter a value for the growth curve you want to see.

4. The prediction runs again when you click **Apply**.

---

### Using Predicted Values in Your Plans

For simple forms, after you run a prediction, for a more accurate and statistically-based forecast, you can copy predicted values and paste them into a scenario on the form.
For example, you can paste predicted values into a scenario named Forecast or Plan. You can paste values for only the currently selected member or for all members on the form.

### Note:

If you want to save prediction data for later comparisons without overwriting other scenarios, an administrator can add a Prediction scenario to the form.

You can't paste values to ad hoc grids and composite forms.

1. To paste values for only a specific member, click the member on the form, or from the prediction results area, select the member from the member list.

2. Make sure the form displays the time periods for the type of data used in the prediction. For example, to paste data for months, make sure that month members are displayed and not hidden in collapsed columns or rows.

3. In the results area, click (Paste).

4. Specify the paste options:
   - **Results**—Which predicted values to copy, and the scenario to paste them to.
   - **Prediction Range**—The range of values to paste—the entire prediction range, or the number of periods you specify.
   - **Members**—Whether to paste values for only the currently selected member or all members on the form.

5. Click Paste. The values in the grid are updated.
   - If the prediction range overlaps the data range on the form, only the dates shown on the form are pasted.
   - Members that are read-only on the form are predicted, but you can't paste results to read-only members.

6. Click Save.

### Using Predictive Planning with Smart View

When the Predictive Planning Oracle Smart View for Office extension is installed, and you load a valid form in Smart View, you can use the **Predict** item on the **Planning** ribbon to predict performance based on historical data.

Watch this overview video to learn more about using Predictive Planning with Smart View.

**Overview Video**

To install the Predictive Planning Smart View extension:

1. Click 🔽 on the top right of the Home page.
2. From **Settings and Actions**, click **Downloads**.

3. Under **Predictive Planning**, click **Download**, and then follow the prompts.

See *Working with Predictive Planning in Smart View*.
11

Adjusting and Spreading Data

Related Topics

• **Adjusting Cell Values**
  Planning offers a number of ways to adjust cell values quickly.

• **Performing What If Analysis**
  Before you commit data by saving it, you can perform "what if" calculations and review the changes.

• **Spreading Data for Time Periods**
  While working in forms, you can spread, or distribute, values, as described here.

• **Spreading Values Using Grid Spread**
  If your administrator has enabled **Grid Spread** as a form property, you can specify an amount or percentage by which values across multiple dimensions on the form are increased or decreased, based on the existing values in the target cells.

• **Spreading Values Using Allocations**
  Using **Allocate**, you can mass allocate data to multiple cells, even across dimensions.

Adjusting Cell Values

Planning offers a number of ways to adjust cell values quickly.

You can increase or decrease values by a specific amount or by a percentage. You can also enter operators and commands in a cell. See **Performing What If Analysis** and **Entering Data Quickly Using Commands**.

Performing What If Analysis

Before you commit data by saving it, you can perform "what if" calculations and review the changes.

By experimenting with data, you can see the impact of various scenarios before saving the data, which is useful for manipulating values to produce the results you want.

You can manipulate data values by:

• **Entering values** (see **Entering Data Quickly Using Commands**).
• **Locking a value during spreading** (see **Locking Cells**).
• **Changing values by typing an operator, followed by a number**, described here.
• **Using ad hoc functionality in Planning and Oracle Smart View for Office** (see **Focusing Your Analysis with Ad Hoc Grids**).
• **Experiment with various outcomes in "sandboxes"** (see **Keeping Your Work Private with Sandboxes**).

To perform quick calculations on a value:
1. Select the cell to perform a calculation on.
2. Enter an operator (+, ±, *, /, or %), and then enter a value.
3. Move the cursor from the cell.
   A color change indicates a modified cell.

Spreading Data for Time Periods

While working in forms, you can spread, or distribute, values, as described here.

You can:

• Spread the value in a summary time period back to its base time periods, or to the first parent or first child of its parent time period
• Spread values among children and parents proportionally, based on existing distribution
• Spread values based on a calendar's weekly distribution in a quarter, which could be 4-4-5, 5-4-4, 4-5-4, or None
• Fill the parent's value to all its descendants
• Temporarily lock certain cell values while spreading data over time periods (see Locking Cells)

You can select, copy, paste, or adjust multiple values. If you paste data to time periods, Planning applies the spreading rules for each cell in succession, starting from left to right and top to bottom. The data resulting from a paste operation may not match the original copied data. See How Spreading Data Works.

Notes:

• You can't spread data in a summary time period that includes members with mixed currencies.
• Values for summary time periods are automatically spread, even if the form uses an alternate hierarchy for Period, so ensure that the spread results are correct. Oracle recommends against entering data into alternate hierarchy members, because the values could spread incorrectly.

To spread data for time periods:

1. In a form, put the cursor in the cell with the value to spread.
2. Enter the value.
   The value is distributed according to the rules described in How Spreading Data Works.
3. Click Save.

How Spreading Data Works

Factors such as account type, the Time Balance property, existing distribution, member hierarchies, and data type affect how values are distributed, assuming that no data cells are locked.

For information on locking cells, see Locking Cells.
Note:
Date and text values are excluded when spreading data.

The following table shows examples of the effect on data of entering or changing a currency or non-currency value:

Table 11-1  Examples — The Effect on Data of Entering or Changing a Currency or Non-currency Value

<table>
<thead>
<tr>
<th>Time Balance Property of the Account</th>
<th>New Value Distribution</th>
<th>Examples</th>
</tr>
</thead>
</table>
| FLOW                                 | To all its children and its parents proportionally, based on the existing distribution. The value affects the entire Summary Period Rollups hierarchy so that the parent time period is the sum of its children. If no distribution exists (that is, the values for all the children are zeros or are missing), and the changed value is a Quarter, the value spreads down proportionally, based on the weekly distribution (which can be 4-4-5, 4-5-4, 5-4-4, or evenly distributed if the account’s spreading is set to None). If the changed parent is a Year Total or some other kind of summary time period, the value is spread evenly. | Example 1   
You change Qtr 1 from 250 to 500, with these current values for its months:  
• Jan = 100  
• Feb = 50  
• Mar = 100  
Result: 500 is distributed to its children proportionally, replacing their previous values with:  
• Jan = 200  
• Feb = 100  
• Mar = 200  
The increment of 250 is aggregated to the parents of Qtr 1. If Year Total was 1000, its new value is 1250. |
| Revenue, Expense, Saved Assumption (where the Time Balance property is set to Flow) | | |
| FIRST                                 | Upward to its first parent and downward to its child only if the changed cell is the first child of its parent time period. The summary time period equals the first of its child time periods. If no distribution exists (that is, values for all children are zeros or are missing), the value is copied to each of the children. | Example 2   
You change March from 100 to 200.  
Result: March, Qtr 1, and Year Total all increment by 100. Jan and Feb remain unchanged. |
| All types of Accounts                 | | |
### Table 11-1  (Cont.) Examples — The Effect on Data of Entering or Changing a Currency or Non-currency Value

<table>
<thead>
<tr>
<th>Time Balance Property of the Account</th>
<th>New Value Distribution</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>BALANCE</td>
<td><strong>Downward to its last child and upward to its parent only if the changed cell is the last child of its parent time period.</strong>&lt;br&gt;The summary time period equals the last of its child time periods.&lt;br&gt;If no distribution exists (that is, the values for all children are zeros or are missing), the value is spread across its children.</td>
<td><strong>Example 1</strong>&lt;br&gt;You change Qtr 1 from 30 to 50.&lt;br&gt;<strong>Result:</strong> March also changes to 50.&lt;br&gt;Jan and Feb don't change. Year Total does not change because Qtr 1 is not its last child. <strong>Example 2</strong>&lt;br&gt;You change Qtr 4 from 100 to 50.&lt;br&gt;<strong>Result:</strong> Dec changes to 50 because it is Qtr 4’s last child. Oct and Nov remain unchanged, as do Qtrs 1, 2, and 3. Year Total changes to 50 because Qtr 4 is its last child. <strong>Example 3</strong>&lt;br&gt;You change Qtr 2 to 100 with these current values:&lt;br&gt;• Apr = 0&lt;br&gt;• May = 0&lt;br&gt;• June = 0&lt;br&gt;<strong>Result:</strong>&lt;br&gt;• Apr = 100&lt;br&gt;• May = 100&lt;br&gt;• June = 100&lt;br&gt;Year Total is unchanged.</td>
</tr>
<tr>
<td>Asset, Liability, Equity, Saved Assumption (where the Time Balance property is set to Balance)</td>
<td><strong>AVERAGE</strong>&lt;br&gt;Revenue, Expense, Saved Assumption, (where the Time Balance property is set to Average)</td>
<td><strong>Example</strong>&lt;br&gt;You change Qtr 1 from 5 to 10 with these current values:&lt;br&gt;• Jan = 05&lt;br&gt;• Feb = 10&lt;br&gt;• Mar = 00&lt;br&gt;• Q1 = 05&lt;br&gt;<strong>Result:</strong>&lt;br&gt;• Jan = 10&lt;br&gt;• Feb = 20&lt;br&gt;• Mar = 00&lt;br&gt;• Q1 = 10&lt;br&gt;Year Total is unchanged.</td>
</tr>
<tr>
<td>FILL</td>
<td>The value set at the parent is filled into all its descendants.</td>
<td><strong>Example</strong>&lt;br&gt;You change YearTotal from 100 to 200.&lt;br&gt;<strong>Result:</strong>&lt;br&gt;Values for Q1, Q2, Q3, Q4 and all months are changed to 200&lt;br&gt;Consolidation operators and member formulas overwrite FILL values when the members are recalculated.</td>
</tr>
</tbody>
</table>
Table 11-1  (Cont.) Examples — The Effect on Data of Entering or Changing a Currency or Non-currency Value

<table>
<thead>
<tr>
<th>Time Balance Property of the Account</th>
<th>New Value Distribution</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Weighted Average - Actual_365 Revenue, Expense, Saved Assumption, (where the Time Balance property is set to Average) | Weighted daily average based on 365 days in a year, assuming that February has 28 days. This does not account for leap years. About Weighted Average - Actual_365:  
  - You can't customize month labels, although you can use aliases.  
  - Years must have 12 months, and quarters must be the sum of three base months.  
  - You can't change the fiscal start month after Planning is set up.  
  - All months are included in the calculation. #MISSING is treated as 0 in the numerator, and all the days are included in missing months in the denominator. This means, for example, that QTR means three months, not QTD, and Total Year means all 12 months, not YTD. | Example  
You enter values for Jan, Feb, and Mar. For any year, including leap years, February is assumed to have 28 days, and Q1 is assumed to have 90 days.  
**Value Entered and Number of Days**  
- Jan = 9,000 31 days  
- Feb = 8,000 28 days  
- Mar = 8,000 31 days  
- Q1 = 90 days (the total days for Jan, Feb, and Mar)  
**Result:**  
Q1 = 8,344  
The average for Q1 is calculated thus: (1) Multiply the value for each month in Q1 by the number of days in that month, (2) Sum these values, and (3) Divide the total by the number of days in Q1. Using 28 for the number of days in Feb, and 90 for the number of days in Q1, the result is: (9,000 times 31 plus 8,000 times 28 plus 8,000 times 31) divided by 90 = 8,344. |
Table 11-1  (Cont.) Examples — The Effect on Data of Entering or Changing a Currency or Non-currency Value

<table>
<thead>
<tr>
<th>Time Balance Property of the Account</th>
<th>New Value Distribution</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted Average - Actual_Actual</td>
<td>Weighted daily average based on the actual number of days in a year. This accounts for leap years, in which February has 29 days.</td>
<td>Example 1</td>
</tr>
<tr>
<td>Revenue, Expense, Saved Assumption, (where the Time Balance property is set to Average)</td>
<td>About Weighted Average - Actual_Actual:</td>
<td>For a leap year, you enter values for Jan, Feb, and Mar. February is assumed to have 29 days, and Q1 is assumed to have 91 days.</td>
</tr>
<tr>
<td></td>
<td>• You can't customize month labels, although you can use aliases.</td>
<td>Value Entered and Number of Days</td>
</tr>
<tr>
<td></td>
<td>• Years must have 12 months, and quarters must be the sum of three base months.</td>
<td>• Jan = 9,000 31 days</td>
</tr>
<tr>
<td></td>
<td>• You can't change the fiscal start month after Planning is set up.</td>
<td>• Feb = 8,000 29 days</td>
</tr>
<tr>
<td></td>
<td>• All months are included in the calculation.</td>
<td>• Mar = 8,000 31 days</td>
</tr>
<tr>
<td></td>
<td>#MISSING is treated as 0 in the numerator, and all the days are included in missing months in the denominator. This means, for example, that QTR means three months, not QTD, and Total Year means all 12 months, not YTD.</td>
<td>Q1 = 91 days (the total days for Jan, Feb, and Mar)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Result:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q1 = 8,341</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The average for Q1 is calculated thus: (1) Multiply the value for each month in Q1 by the number of days in that month, (2) Sum these values, and (3) Divide the total by the number of days in Q1. Using 29 for the number of days in Feb, and 91 for the number of days in Q1, the result is: (9,000 times 31 plus 8,000 times 29 plus 8,000 times 31) divided by 91 = 8,341.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For a non-leap year, you enter values for Jan, Feb, and Mar. February is assumed to have 28 days, and Q1 is assumed to have 90 days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value Entered and Number of Days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Jan = 9,000 31 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Feb = 8,000 28 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mar = 8,300 31 days</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Q1 = 90 days (the total days for Jan, Feb, and Mar)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Result:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q1 = 8,344</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using 28 for the number of days in Feb, and 90 for the number of days in Q1, the result is: (9,000 times 31 plus 8,000 times 28 plus 8,000 times 31) divided by 90 = 8,344.</td>
</tr>
</tbody>
</table>
Note:
The Skip option does not apply to data spreading but affects only the calculation of the member hierarchy.

If you change a percentage:

Regardless of account type, existing distribution, or 4-4-5 setting, the value is spread evenly across its children. If the changed cell is the last child of its parent time period, the value is copied upward to its parent.

Example 1
You change Qtr 1 from 10 to 20.
Result: Jan, Feb, and Mar also change to 20. However, Year Total does not change because Qtr 1 is not its last child.

Example 2
You change Feb from 10 to 20.
Result: Jan and Mar do not change because neither one is a child or parent of Feb. Qtr 1 (and therefore Year Total) does not change because Feb is not its last child.

Example 3
You change Qtr 4 from 30 to 20.
Result: Oct, Nov, and Dec also change to 20 because the value is copied to Qtr 4’s children. Year Total also changes to 20 because Qtr 4 is its last child.

Note:
See Adjusting Cell Values and Spreading with Multiple Currencies.

Spreading with Multiple Currencies

When data is spread from a parent member to children of mixed currencies, the children assume the currency type of the parent time period.

Data is spread as described in How Spreading Data Works.

When currencies are mixed and a child time period is changed, the currency of the parent time period assumes the currency type of the child only if that time period does not contain children with multiple currencies.
Locking Cells

When spreading or manipulating data, you can temporarily lock cells while Planning calculates and fills in other values.

You can review the changes before saving them. See Examples of Spreading Data with Cell Locking.

To temporarily lock values:

1. Select the cells to lock.
2. Click Data, and then Lock.
   
   A lock icon indicates that a cell is locked. If you lock multiple cells, some of which are already locked, all the unlocked cells become locked.

   You can now spread or manipulate the other data. (See Spreading Data for Time Periods and How Spreading Data Works.)

3. To unlock cells, click Lock again.

   Clicking Lock unlocks all cells in a group only if they were all locked (or were read-only for another reason). When you save the data, locked cells become unlocked.

Examples of Spreading Data with Cell Locking

To learn how data is spread when cells are locked, see these examples.

Example 1

Before locking and spreading, Account A has these values:

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account A</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>300</td>
</tr>
</tbody>
</table>

You then lock the Feb and Mar values at 100 and change Q1 from 300 to 600. Because Jan, Feb, and Mar must now total 600, and Feb and Mar are locked at 100 each, Planning calculates Jan to be 400 and fills in that value:

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Q1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account A</td>
<td>400</td>
<td>100</td>
<td>100</td>
<td>600</td>
</tr>
</tbody>
</table>

Example 2

Before locking and spreading, Account B has these values:

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>YearTotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account B</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>400</td>
</tr>
</tbody>
</table>
You then lock Q1 and Q2 values at 100 each and change Year Total from 400 to 800. Because the yearly total must equal 800, and Q1 and Q2 are locked at 100 each, Q3 and Q4 are calculated to be 300 each:

<table>
<thead>
<tr>
<th>Account B</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>100</td>
<td>300</td>
<td>300</td>
<td>800</td>
</tr>
</tbody>
</table>

### Spreading Values Using Grid Spread

If your administrator has enabled **Grid Spread** as a form property, you can specify an amount or percentage by which values across multiple dimensions on the form are increased or decreased, based on the existing values in the target cells.

You immediately see the result in the form and can save the new data or discard it. When calculating the spread data, Planning ignores read-only and locked cells and cells that have Supporting Detail. Data integrity is ensured by spreading values only to cells you have write permission to.

Note:

The **Time Balance** property setting affects how data is spread with the **Fill** option. See How Spreading Data Works.

To spread values using **Grid Spread**:

1. Place the cursor in the Subtotal or Total source cell whose value you want to spread to target cells.
2. Click **Data**, and then **Spread**.
3. In **Adjust By**, enter the change factor:
   - To change values by a specified amount, click ![+/-]. Precede the value by a minus sign to decrease the value.
   - To change values by a percentage, click ![%].
4. Click a spreading pattern:
   - **Proportional spread**: Spreads the value proportionally, based on the existing values in the target cells (default).
   - **Evenly split**: Spreads the value evenly among the target cells.
   - **Fill**: Replaces the value in all target cells.
5. Click **Apply**.
   
   The specified value or percentage is spread across the target cells, replacing former values with new ones.
6. Click **Save**.
Spreading Values Using Allocations

Using Allocate, you can mass allocate data to multiple cells, even across dimensions.

**Notes:**

- You can't undo a mass allocation of values.
- The Time Balance property setting affects how data is spread with the Fill option. See How Spreading Data Works.

If your administrator assigned the Mass Allocate role to you and selected the Enable Mass Allocate property for your forms, you can spread data using Allocate. You can allocate data to all the source cell's descendants, allocate across multiple dimensions, and spread data even to cells not displayed on the form. In fact, you need not have write permission to the target cells.

To spread values using Allocate:

1. Place the cursor in the Subtotal or Total cell whose value you want to spread.
2. Click Data, and then Allocate.
3. In Adjust By, enter the change factor:
   - To change values by a specified amount, click \[\pm\] Precede the value by a minus sign to decrease the value.
   - To change values by a percentage, click \%.
4. Click Spread Type for allocating the specified value or percentage across the target cells, as described in the following table.

<table>
<thead>
<tr>
<th>Spread Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportional Spread</td>
<td>Spreads the value proportionally, based on the existing values in the target cells (the default).</td>
</tr>
<tr>
<td>Relational Spread</td>
<td>Spreads into the selected cells, based on values in a different source location. Selecting this option displays the currently selected members for each dimension in the Selected column. Under Relative, select the members that identify the base values to be spread, creating a pattern based on the existing values in the relative cells. To select members, use the Member Selector (see Working with Members in Administering Planning).</td>
</tr>
<tr>
<td>Evenly Split</td>
<td>Spreads the value evenly among the target cells.</td>
</tr>
<tr>
<td>Fill</td>
<td>Replaces the value in all target cells.</td>
</tr>
</tbody>
</table>
5. Click Spread.
Working with Supporting Detail

Related Topics

• About Using Supporting Detail
  If you want to build logic into how a cell value is calculated, you can use the built-in calculator, called Supporting Detail, to develop that value and save your assumptions behind the value.

• More About Supporting Detail
  Supporting Detail helps you build and understand the assumptions behind data in a form.

• Adding Supporting Detail
  Use Supporting Detail to set how detail items aggregate to cell values.

• Pasting Multiple Cells into the Supporting Detail Window
  You can copy Supporting Detail from multiple cells in Microsoft Excel or another product and paste it into the Supporting Detail window.

About Using Supporting Detail

If you want to build logic into how a cell value is calculated, you can use the built-in calculator, called Supporting Detail, to develop that value and save your assumptions behind the value.

Watch this tutorial to learn how to create Supporting Detail.

![Tutorial](image)

For example, say you want to plan for—using your own logic—the travel expenses for an upcoming quarter. This example shows how you could use Supporting Detail to plan travel expenses:
Supporting Detail

<table>
<thead>
<tr>
<th></th>
<th>Operator</th>
<th>FY13 Jul</th>
<th>FY13 Aug</th>
<th>FY13 Sep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airfare</td>
<td>+</td>
<td>2400.0</td>
<td>3600.0</td>
<td>6000.0</td>
</tr>
<tr>
<td>CustomerVisits</td>
<td>+</td>
<td>2.0</td>
<td>3.0</td>
<td>5.0</td>
</tr>
<tr>
<td>AverageRate</td>
<td>×</td>
<td>1200.0</td>
<td>1200.0</td>
<td>1200.0</td>
</tr>
<tr>
<td>Hotel</td>
<td>+</td>
<td>450.0</td>
<td>900.0</td>
<td>1500.0</td>
</tr>
<tr>
<td>NumberOfNights</td>
<td>+</td>
<td>3.0</td>
<td>6.0</td>
<td>10.0</td>
</tr>
<tr>
<td>RatePerNight</td>
<td>×</td>
<td>150.0</td>
<td>150.0</td>
<td>150.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2850.0</td>
<td>4500.0</td>
<td>7500.0</td>
</tr>
</tbody>
</table>

You can include text, numbers, and operators that define how data is calculated. See Adding Supporting Detail.

More About Supporting Detail

Supporting Detail helps you build and understand the assumptions behind data in a form.

For example, you can add Supporting Detail for Pens: ballpoint, fountain, marker, and so on. The Pen member can then display the total for all pen types.

About Supporting Detail:

- Cells with Supporting Detail have a teal background.
- Supporting Detail does not add members to the form or change its organization.
- You must have write permission to cells that you create Supporting Detail for.
- To protect the Supporting Detail, the aggregate values in cells having Supporting Detail are read-only.
- You can add Supporting Detail to target and bottom-up versions.
- You can add Supporting Detail only to base time periods (level-0 members). You can't add Supporting Detail to Summary Time Periods, such as Quarters.
- Number and precision formatting is not reflected in the Supporting Detail window.
- The sequence of operators follows the same logic as is used to process multiple operators in a complex calculation. See Order of Supporting Detail.
- You can print Supporting Detail.
- When using Copy Versions, you can copy Supporting Detail from one version to another. See Copying Versions of Data.
- Your administrator can copy data, including Supporting Detail, from one dimensional intersection to another. For example, administrators can copy Budget, FY19, Final to Forecast, FY20, First Draft.
Adding Supporting Detail

Use Supporting Detail to set how detail items aggregate to cell values.

To work with supporting detail:

1. Select the cell or cells you want to add supporting detail to.
   
   You can select contiguous cells in a row or column, but can’t include a combination of rows and columns. Select cells that are in the local or input currency so that you can write to them.

2. Click Data, and then Supporting Detail.

3. From this window, click Actions, and then add rows that reflect the structure you want.
   
   For example, click Add Child to add a row directly below the selected item. See Working with the Supporting Detail Structure.

4. For each row, enter a description of up to 1,500 characters.

5. Set the mathematical relationships among the rows by selecting an operator for each row: click in each row’s Operator cell, and then select from these operators: + - * / and ~ (ignore).

6. Enter data to set or calculate.
   
   Enter numbers using the same scaling that was set up for the form.

7. Click Save.
   
   Values are dynamically calculated and aggregated before the data is saved. Data on the form is also saved.

See Working with the Supporting Detail Structure.

Working with the Supporting Detail Structure

Learn how to structure the elements in Supporting Detail.

To create or change the Supporting Detail structure:

1. Select a row, and then click one of the following options from Actions:

   Table 12-1  Supporting Detail Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add Child</td>
<td>Adds an item one level below the selected cell. You can add unlimited children, but consider the potential performance impact.</td>
</tr>
<tr>
<td>Add Sibling</td>
<td>Adds an item at the same level as the selected cell. You can add unlimited siblings, but consider the potential performance impact.</td>
</tr>
<tr>
<td>Delete</td>
<td>Removes the selected item.</td>
</tr>
<tr>
<td>Delete All</td>
<td>Removes all Supporting Detail.</td>
</tr>
</tbody>
</table>
Table 12-1  (Cont.) Supporting Detail Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote</td>
<td>Moves the selected item to the next-higher level.</td>
</tr>
<tr>
<td>Demote</td>
<td>Moves the selected item to the next-lower level.</td>
</tr>
<tr>
<td>Move Up</td>
<td>Moves the selected item before its sibling predecessor.</td>
</tr>
<tr>
<td>Move Down</td>
<td>Moves the selected item after its sibling successor.</td>
</tr>
<tr>
<td>Duplicate Row</td>
<td>Adds a row below the selected item, duplicating its structure (text, operator, and values)</td>
</tr>
<tr>
<td>Fill</td>
<td>When you select contiguous cells and then enter a value in one of the cells, fills the other empty cells</td>
</tr>
</tbody>
</table>

2. Click Save.

Save stores the rows, data, and calculated values.

Order of Supporting Detail

The Supporting Detail order affects the resulting value that is saved.

Understanding the calculation order helps you correctly enter Supporting detail. Supporting Detail leverages the calculation order of + (addition), - (subtraction), * (multiplication), and / (division). A simple Unit times Rates example demonstrates how to correctly enter Supporting Detail.

See Incorrectly Entering Supporting Detail and Correctly Entering Supporting Detail.

Incorrectly Entering Supporting Detail

This example shows the order of rows in Supporting Detail generating incorrect data.

Because Rate in the following table is set to the unary operator +, the calculation order first adds the Rate and then multiplies by the Unit, resulting in incorrect data for Feb and Mar.

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate+</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Unit*</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2500</td>
<td>250</td>
<td>250</td>
</tr>
</tbody>
</table>
Correctly Entering Supporting Detail

This example shows the order of Supporting Detail generating correct values.

The following table shows the correct order of the Units times Rates calculation, resulting in correct values.

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit+</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate *</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>2500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Verify the Supporting Detail order, ensuring that correct values are calculated and saved.

Totaling When Supporting Detail Cells are Blank

If a data cell in Supporting Detail is blank, Planning ignores it when aggregating values (instead of assuming that a blank cell means zero).

For example, you might define Supporting Detail to calculate the daily rate of hiring an instructor ($250) times the number of days per month for which you plan to hire an instructor (4 in January, but none in February). The Instructor total for Feb is 250, even though you don't intend to hire an instructor in Feb:

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>1000</td>
<td>250</td>
</tr>
<tr>
<td>Rate +</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Days</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

To correctly total values that are aggregated by the * multiplier when some cells are blank, you can leave the Rate cell blank, or enter a zero in the Days cell, instead of leaving it blank:

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>1000</td>
<td>0</td>
</tr>
<tr>
<td>Rate +</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Days</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
This causes the rate (250) to be multiplied by 0 (zero), resulting in a value of zero for Feb.

Pasting Multiple Cells into the Supporting Detail Window

You can copy Supporting Detail from multiple cells in Microsoft Excel or another product and paste it into the Supporting Detail window.

Note:
This functionality is available on desktops only, not on mobile devices.

For example, you can work on Supporting Detail in spreadsheets, and copy it back to Planning.

About copying and pasting Supporting Detail:

• The cell range of the data that you paste must exist in the Supporting Detail window. Any excess values on the clipboard are ignored when you paste the contents of the clipboard.
• You can copy only the data (not the row descriptions or labels) in a range of cells from Microsoft Excel into a range of cells in Supporting Detail.
• The pasted data does not retain the original formatting.

To copy Supporting Detail from a Microsoft Excel worksheet:

1. In Planning, select a cell or range of cells that you want to view or create Supporting Detail for, and then click Data, then Actions, and then Supporting Detail.
2. In Supporting Detail, note the range of cells with Supporting Detail, or add cells with Supporting Detail, and then click OK.
3. In Excel, select the range of cells containing Supporting Detail, and then press Ctrl+C to copy the data.
4. In Planning, open the form to which to add Supporting Detail.
5. Select the cell or cells with the details to modify, and then click Supporting Detail.
6. In Supporting Detail, click in the gray frame of the range's upper-left cell that you want to paste Supporting Detail to, and then press Ctrl+V.
   If you are using a browser other than Internet Explorer, pressing Ctrl+V displays the clipboard. Press Ctrl+V again to paste the copied data.
7. Click Save.
Getting Plans Approved

Related Topics

• About Approvals
  Approvals structure the workflow and formalize authority levels as you prepare budget data.

• Building a Plan with Approval Units
  Plans are tracked and managed through approval units. An approval unit is the basic unit for preparing, annotating, reviewing, and approving plan data.

• Selecting Approval Units
  You can view approval units in many ways.

• Entering Your Plan
  An administrator kicks off the annual or quarterly planning process by "starting" approval units. Before your approval unit is officially started, you can enter data into it, but the data isn't part of the official planning cycle.

• About the Review Process
  The next topics describe the states that approval units can be in and what actions you can take on them.

• Validating Approval Units
  Your administrator may have set up data validation rules for the approval unit, so it's a good idea to validate an approval unit before sending the budget to the next reviewer.

• Changing the Status of an Approval Unit
  An approval unit changes status each time a reviewer passes the budget to another reviewer. The status of an approval unit is based on what action a reviewer takes to send the budget to another reviewer.

• Adding or Viewing Approval Unit Annotations
  Annotations are comments about the data in a started approval unit. Adding annotations helps create an "audit trail" of plan data.

• Creating Approval Status Reports
  You can view detailed status of the approval process using approval status reports. All users can access this report, however you'll see only the approval units that you have write access to.

• When You're Out of the Office
  If you're out of the office during the budget review process, you can delegate someone else to handle review responsibilities while you are away. You can also include a message.

About Approvals

Approvals structure the workflow and formalize authority levels as you prepare budget data.

Approvals enables you to:
Building a Plan with Approval Units

Plans are tracked and managed through approval units. An approval unit is the basic unit for preparing, annotating, reviewing, and approving plan data.

Using Approvals, you submit your plan data for a particular scenario, version, and entity (or part of an entity). For example, your approval unit might consist of a version (Worst Case), a scenario (Actual), and an entity (New York), as shaded in this example:

Watch this overview video to learn about using Approvals to review and approve plans submitted by cost centers or departments as part of your overall budgeting process.

Overview Video

To prepare for the approvals process, an administrator:

- Sets up approval units, typically based on the company’s organization, geographical regions, or product lines.
- Designates who reviews and approves the plan data as the data moves through the organization (the promotion path).
- Begins the planning cycle by officially starting each approval unit. Its state then changes to Under Review. In the Under Review state, you can enter data (if you own the approval unit), and then Promote or Submit the approval units when you...
consider the data ready. After doing so, you can’t change the data until you become the owner again.

Approval units that an administrator has started are part of the approvals process and are managed and tracked. When all reviewers approve all approval units, the planning cycle is complete.

To work with approval units, click Approvals on the Home page.

Selecting Approval Units

You can view approval units in many ways.

Click Filter. To see:

• Your approval units, click . Only approval units that are Started are displayed.
• Approval units by Scenario, Version, Approvals Status, or Approval Unit name, click them.
• Approval units by other properties, click More at the bottom, and then select from the options.

• Approval units graphically, click in the upper right corner.
• The promotional path for an approval unit, click .

You can sort approval units by their name, approvals status, or current owner.

Tip:

When you sign in, all the latest Approvals set up information is current. If it’s been awhile since you signed in to Planning, click Refresh. Doing so ensures that Approvals reflects updates that your administrator may have made since you signed in.

Note:

Administrators can set up approval unit owners and reviewers as groups. See About Group-based Approvals in Administering Planning.
Entering Your Plan

An administrator kicks off the annual or quarterly planning process by “starting” approval units. Before your approval unit is officially started, you can enter data into it, but the data isn’t part of the official planning cycle.

After your administrator starts your approval units, you can enter data into the selected Scenario, Version, and Entity that comprise it. You can annotate, analyze, and revise an approval unit until you promote or submit it. After that, you can no longer change the data until you become the current owner again.

About the Review Process

The next topics describe the states that approval units can be in and what actions you can take on them.

Related Topics

- Approval Unit Actions
  Actions available in an approval unit depend on what state the approval unit is in.
- Approval Unit States
  Each approval unit has a status, depending on where it is in the review process.
- Viewing Approval Unit Totals
  With your administrator’s support, you can view the total value of an approval unit. For example, you can see your budget’s total before you approve it.

Approval Unit Actions

Actions available in an approval unit depend on what state the approval unit is in.

- **Start**—Starts the approval unit
  New approval unit state: 1st Pass for Free Form, Under Review for Bottom Up and Distributed
- **Exclude**—Stops the approval unit and deletes all its history
  New approval unit state: Not Started
- **Originate: Bottom Up**—Moves the approval unit to first in the promotion path
  New approval unit state: Under Review
- **Promote**—Free Form moves the approval unit to anyone in the list. Bottom Up moves the approval unit to the next position in the promotion path.
  New approval unit state: Under Review
- **Reject**—Free Form moves the approval unit to anyone in the list. Bottom Up and, Distributed move the approval unit to anyone previous in the promotion path
  New approval unit state: Not Signed Off
- **Sign Off**—Moves the approval unit to the Signed Off state
- **Delegate**—Delegates the approval unit to a newly selected owner
  New approval unit state: Under Review
• **Take Ownership**—Takes ownership away from the current owner. For Groups, claims ownership of the approval unit from the group.
  New approval unit state: Under Review

• **Return**—Returns ownership to Group
  New approval unit state: Under Review

• **Pass**—When in a group, passes ownership to another person in the group
  New approval unit state: Under Review

• **Freeze**—Freezes the approval unit from data entry
  New approval unit state: Frozen

• **Unfreeze**—Unfreezes the approval unit and allows data entry again
  New approval unit state: Under Review

• **Distribute**—Moves the approval unit to previous in the promotion path
  New approval unit state: Distributed

• **Distribute Children**—Moves the approval unit to previous in the promotion path. Applied to children of the selected approval unit.
  New approval unit state: Distributed

• **Distribute Owner**—Moves the approval unit to first in the promotion path
  New approval unit state: Distributed

• **Submit**—Moves the approval unit to next in the promotion path
  New approval unit state: Under Review

• **Submit to Top**—Moves the approval unit to last in the promotion path
  New approval unit state: Under Review

• **Approve**—Approves the approval unit. This completes the approval process, and users can't perform any additional actions.
  New approval unit state: Approved

• **Reopen**—Reopens an approved approval unit. Reopen is available to users and Power Users who are last in the promotion path.
  New approval unit state: Under Review

### Approval Unit States

Each approval unit has a status, depending on where it is in the review process.

An approval unit has one of the following statuses:

• **Not Started**—Initial state of all approval units. An administrator begins the review process using the **Start** action, which changes an approval unit's state to either **First Pass** (in FreeForm); **Under Review** and first in the promotion path (in Bottom Up); or **Under Review** and last in the promotion path (in Distribute).
Note:

First and Last in the promotion path are not states but locations of where and who owns the approval unit.

- **1st Pass**—Beginning state of approval units selected for the budgeting process. Approval units have no owners during First Pass. People having write permission can enter data and promote approval units during the 1st Pass state. During this state, administrators may exclude members from approval units.

When an approval unit is ready for review, you select one of several actions, changing approval unit status and passing ownership. To be notified by email if you become the owner of an approval unit, see Setting Up Email for Notifications and Setting Approvals Options.

Note:

When using the Free Form template for approvals, you must assign the next owner.

- **Under Review**—Occurs after a Promote or Submit action, and means that someone is reviewing the approval unit. Only the current owner or administrators can change data on approval units whose state is Under Review. While Under Review, approval units may undergo iterations of promotions, submissions, signoffs, and rejections until they are finally approved.

- **Frozen**—All related data in descendant approval units is locked (read only). The owner who froze the approval units, or an owner above that person, selects Unfreeze to reverse this action.

- **Distributed**—Multiple people are reviewing the budget. The reviewers are filtered by permissions and specified reviewers for the distribute action selected (Distribute, Distribute Children, or Distribute Owner).

- **Not Signed Off**—Occurs when the owner or administrator selects Reject. Only the current owner or administrator can change data or perform an action on an approval unit whose state is Not Signed Off.

- **Approved**—Occurs when Approve is selected. The last person in the promotional path (the owner of the approval unit) becomes the owner, regardless of whether they are an owner or a reviewer. Owners can edit the data if they have write permission to the member combination that defines the approval unit, and can perform the Approve action. Reviewers who are the last person in the promotional path can't edit the data in the approval unit, but can perform the Approve action. After all approval units are approved, the budgeting cycle is complete.

Notes:

- In all states except Not Started, people with read permission can view data, view the approval state, view the history, and read and add annotations.

- An approval unit may skip approval states.

- The review process can be managed at a higher level with parent approval units.
• Approval unit owners and reviewers can be individuals, or they can be a group. See "About Group-based Approvals" in Administering Planning.

**Note:**

The actions available when changing approval unit status depend on which Approvals template is selected. For example, when using the Distribute template, people can select **Submit** to pass ownership to the next user in the promotional path. When using the Bottom Up template, however, **Submit** is not available. Instead, people select **Promote** to pass ownership to the next person in the promotional path. The **Freeze** and **Unfreeze** actions are available only for the Bottom-up template and Distribute template.

### Viewing Approval Unit Totals

With your administrator's support, you can view the total value of an approval unit. For example, you can see your budget's total before you approve it.

To set up an approval unit so that you can view its total value:

- An administrator selects the cube from which the aggregated approval unit values are derived (see Setting Approval Unit Hierarchy Name, Scope, and Template in Administering Planning).
- An administrator selects members for all dimensions (see Assigning Approval Unit Owners and Reviewers in Administering Planning).
- In a multicurrency environment, you can set the reporting currency to display total approval unit values in. To ensure that the totals are calculated correctly, launch the Currency Conversion business rule.

### Validating Approval Units

Your administrator may have set up data validation rules for the approval unit, so it's a good idea to validate an approval unit before sending the budget to the next reviewer.

Click **Validate** for the approval unit. If the validation finds an error, a **Validation** link displays. Click the link to get information on how to correct the error.

The review process follows the promotional path unless an event triggers a change. Events that affect the promotional path include:

- Exceeding or not reaching expense boundaries for budget items such as salaries, new hires, or capital equipment
- The current owner returning the budget to the previous owner for additional information
- The current owner requesting help from an authorized person who is not necessarily on the promotional path
Changing the Status of an Approval Unit

An approval unit changes status each time a reviewer passes the budget to another reviewer. The status of an approval unit is based on what action a reviewer takes to send the budget to another reviewer.

Note:
If the status of a parent approval unit changes, all its children change too, unless they were excluded during the 1st Pass state or were approved.

To change approval unit status:

1. Click Approvals on the Home page.

2. Select the approval unit.

3. From Action, select an action, click Change Status, and then an Owner.

4. Possible Change Status actions:
   - **Originate**: Changes the ownership of all selected approval units (including all descendants) to the first owner defined for that approval unit in the approval unit hierarchy.

Note:
The approval unit first owner differs between the Distribute and Bottom Up templates. With the Distribute template, the first owner is the owner at the top of the approval unit hierarchy. With the Bottom Up template, the first owner is an owner at the bottom of the approval unit hierarchy.
• **Start**: Begins the budget process and changes the approval unit status to **First Pass**.

• **Promote**: Passes the approval unit to another person to review. This action assigns ownership of an approval unit the first time, and thereafter transfers ownership of an approval unit from one reviewer to another. **Promote** causes an implicit signoff by the current owner and changes the approval unit status to **Under Review**.

• **Exclude**: Excludes an approval unit from the budget process.

• **Reject**: Indicates the approval unit requires more work from the previous owner. Reject typically requires the previous owner to create another iteration. By default, **Reject** returns approval unit ownership to the previous owner, but you may select the next owner. Reject changes the approval unit status to **Not Signed Off**.

• **Approve**: Approves the approval unit and changes its status to **Approved**. With the Distribute or Bottom Up templates, only the last owner in the promotional path can approve the approval unit. With the Free Form template, a person can approve approval units from any status except **Not Started**. Only the last reviewer in the promotion path can approve from a **Not Signed Off** or **First Pass** status.

  Approving an approval unit is an implicit reviewer signoff. Typically, an approval unit is approved only once. However, an administrator can reopen an approved approval unit.

• **Delegate**: Passes ownership to a person not on the promotional path. Select a person from **Owner** to pass ownership to that person. The specified user selects **Promote** when done to return the budget to the first approver on the promotional path. This action is available with the Bottom Up and Distribute templates.

• **Take Ownership**: Become the owner of the approval unit and any level-0 approval units under a selected parent approval unit. Available to the current user and users above the current approval unit owner in the approval unit hierarchy.

• **Freeze**: Locks all related data in descendant approval units. This action makes all related data read only, but does not change ownership of any approval unit.

• **Distribute**, **Distribute Children**, or **Distribute Owner**: Passes approval unit ownership to multiple people. Distribute actions work differently, depending on the current location of the budget in the approval unit hierarchy. These actions are for an approval unit hierarchy using the Distribute template.

  **Distribute** assigns ownership to the members at the current level of the approval unit hierarchy. **Distribute Children** assigns approval unit ownership to the children of the current owner. **Distribute Owner** assigns approval unit ownership to the level-0 owner defined during approval unit hierarchy creation.

• **Sign Off**: Signs off on an approval unit. **Sign Off** does not transfer ownership of the approval unit, but changes its state to **Signed Off**.

• **Submit**: Submits the approval unit to the next level.

• **Submit to Top**: Gives ownership to the top person defined in the hierarchy.

• **Reopen**: Reopens an approved approval unit.

5. Click **Done**.
Adding or Viewing Approval Unit Annotations

Annotations are comments about the data in a started approval unit. Adding annotations helps create an “audit trail” of plan data.

To add an annotation:

1. On the Approvals page, click the link to the approval unit.
2. Click Add Annotation.
3. Enter an annotation, and then click Post.

The annotation displays under the link. You can respond to an annotation by clicking Reply.

Note:

You can enter a URL that displays as a hyperlink when the annotation is viewed.

Administrators can print annotation reports. See Printing Approval Unit Annotations in Administering Planning.

Creating Approval Status Reports

You can view detailed status of the approval process using approval status reports. All users can access this report, however you'll see only the approval units that you have write access to.

Filters allow you to generate more focused reports. You can filter by:

- Approval Status
- Scenario
- Version
- Approval Unit Hierarchy

Approvals status reports provide the following information:

- Approval Unit
- Parent
- Status and Sub-Status
- Previous, Current, and Next Owner
- Current Location
- Total Value
- Last Status Change Date
Sample Approval Status Report (PDF Format)

Approval Status Report

Scenario: Forecast
Version: Stage 1

<table>
<thead>
<tr>
<th>Approval Unit</th>
<th>Status</th>
<th>Sub-Status</th>
<th>Previous Owner</th>
<th>Current Owner</th>
<th>Next Owner</th>
<th>Current Location</th>
<th>Total Value</th>
<th>Last Status Change Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>S21_1</td>
<td>S21</td>
<td>Under Review</td>
<td>admin</td>
<td>admin</td>
<td>admin</td>
<td>S21</td>
<td></td>
<td>April 18, 2017</td>
</tr>
<tr>
<td>S21</td>
<td>North Zone</td>
<td>Under Review</td>
<td>admin</td>
<td>admin</td>
<td>admin</td>
<td>North Zone</td>
<td></td>
<td>April 18, 2017</td>
</tr>
<tr>
<td>S21</td>
<td>South Zone</td>
<td>Under Review</td>
<td>admin</td>
<td>admin</td>
<td>admin</td>
<td>S21</td>
<td></td>
<td>April 18, 2017</td>
</tr>
<tr>
<td>S21</td>
<td>Southeast</td>
<td>Under Review</td>
<td>admin</td>
<td>admin</td>
<td>admin</td>
<td>North Zone</td>
<td></td>
<td>April 18, 2017</td>
</tr>
<tr>
<td>S21</td>
<td>South Zone</td>
<td>Under Review</td>
<td>admin</td>
<td>admin</td>
<td>admin</td>
<td>S21</td>
<td></td>
<td>April 18, 2017</td>
</tr>
<tr>
<td>S21</td>
<td>South Zone</td>
<td>Under Review</td>
<td>admin</td>
<td>admin</td>
<td>admin</td>
<td>S21</td>
<td></td>
<td>April 18, 2017</td>
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<tr>
<td>S21</td>
<td>South Zone</td>
<td>Under Review</td>
<td>admin</td>
<td>admin</td>
<td>admin</td>
<td>S21</td>
<td></td>
<td>April 18, 2017</td>
</tr>
</tbody>
</table>

Note:
Filtering on Approval Unit Hierarchy is optional. Use this option if you want to filter on a subset of an approval unit hierarchy.

You can generate approval status reports in the following formats:

- XSLX (Excel)
- PDF
- HTML
- XML

To create approval status reports:

1. Click the Navigator icon and then under Monitor and Explore, click System Reports.
2. Click Approval Unit, and then click Approval Status.
3. Make your selections:
   - Under Select Approval Status, select which states you’d like to view in the report or select All.
   - Under Filters, select the Scenario and Version. Click to open the Member Selection dialog.
4. Under **Select Format**, choose a file format (XSLX, PDF, HTML, or XML).

4. Click **Create Report** and select where to save the report.

**When You're Out of the Office**

If you're out of the office during the budget review process, you can delegate someone else to handle review responsibilities while you are away. You can also include a message.

To delegate review responsibilities, see Setting Approvals Options.

**Note:**

When you return to the office, clear the out of office setting.
Working with Reports and Books

View summaries of key data with reports and books.

On the Home page, click **Reports**.

An example of a report:

<table>
<thead>
<tr>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>500k: Salaries</td>
<td>474,826</td>
<td>161,175</td>
<td>181,396</td>
<td>481,205</td>
</tr>
<tr>
<td>600k: Miscellaneous Expenses</td>
<td>125,072</td>
<td>42,382</td>
<td>44,281</td>
<td>481,205</td>
</tr>
<tr>
<td>700k: Total Employee Expenses</td>
<td>567,896</td>
<td>202,364</td>
<td>232,676</td>
<td>481,205</td>
</tr>
</tbody>
</table>

**Types of Reports**

Snapshot reports and books display a view of data when the report or book was saved, so they show data at a point in time. With dynamic reports and books, you view the latest data and can change which data to view.

The icons on the **Reports** page describe their type:

- Dynamic report, one that you can preview on-the-fly as you create or change it.
• Snapshot report, which you create in Financial Reporting from a dynamic report. See Creating Snapshot Reports and Books.

• Dynamic book, a collection of reports that you create in Financial Reporting.


Tip:
See Exporting Formatted Reports to Excel.

See also Working with Financial Reporting for Oracle Enterprise Performance Management Cloud.

Creating Snapshot Reports and Books

You generate snapshot reports and books in several ways.

You can generate a snapshot report either by saving a report in Financial Reporting as a snapshot report, or by scheduling the report in a batch to output as a snapshot. You can generate a snapshot book either by running a book in Financial Reporting and then saving the book as a snapshot book, or by scheduling the book in a batch to output as a snapshot.

Note:
You can open snapshot books only in PDF format.

Fine-Tuning Reports and Books

With dynamic reports and books, you can preview and change them on-the-fly as you create and view them.

For reports and books that have a POV, you can select different POV members to change the context of the presented data. You can create reports of Planning data using ad hoc grids. You can publish related reports as report books in Financial Reporting.

Exporting Formatted Reports to Excel

You can export formatted reports to Microsoft Excel.
1. On the Home page, click **Reports**.

2. Select a report to export to Excel.

3. Under **Actions**, click the Excel icon.

4. If the report is dynamic, you can click [ ] to display different members in the **POV**.

5. Click **Continue**, open or save the file, and view the formatted report in Excel.

**Note:**

You can also export reports to Excel while viewing the report. See Viewing and Updating Dynamic Reports.

### Creating Dynamic Reports

You can generate reports of data in ad hoc grids.

For information about working with ad hoc grids, see Focusing Your Analysis with Ad Hoc Grids.

**Note:**

If the ad hoc grid displays collapsed members, the report you create from it also displays as collapsed. So if you want the report to display as expanded, expand the ad hoc grid before you create the report.

1. From an ad hoc grid, click **Save Ad Hoc Grid**, and then **Report**.

   See Creating an Ad Hoc Grid and Accessing an Ad Hoc Grid.

2. Specify a name, and optionally click **Replace** to replace a previous report.

3. To view the report, click **Reports**, then **Refresh**, and then the report or book.

### Viewing and Updating Dynamic Reports

You can view a dynamic report in HTML or PDF format. You can update the report by selecting different **POV** members or by expanding members.
1. On the Home page, click **Reports**, and then click the report you want to see. You may need to expand a folder containing the report. You can toggle between viewing reports by a flat view or a tree view:

   ![Flat View vs. Tree View]

   **Tip:**
   Click **Refresh** to see recently-saved reports.

2. Click **HTML**, **PDF**, or **XLS** for the report.
   The POV on the top defaults to the last selected members. See **Displaying the POV Member Selector for a Report**. If there is no pre-defined member, see Step 4 for selecting POV members.
   For information on the **XLS** option, see **Exporting Formatted Reports to Excel**. Click **Continue**.

3. **Optional**: Select the members you want to display from the Page drop-down list.

4. **Optional**: If you view the report in HTML, you can expand members (for example, expand Q1 to display Jan, Feb, and Mar). Using the **HTML Preview** or **PDF Preview** toggle on the top left of the page, you can then switch to PDF with the expanded report displayed.

5. **Optional**: If you view the report in HTML, you can select different POV members.
   - To search for a member, enter all or part of the name in the text box.
   - To change the member data displayed, click ![Member Data Change]
   See Working with Members in **Administering Planning**.

   **Note:**
   To report on sandbox data, select the ConsolidatedData member for the HSP_View dimension. To report on base view data, select the BaseData member of HSP_View. To learn more about sandboxes, see **Building a Plan Privately**.
   - **Optional**: In **HTML Preview**, click **Export in Query-Ready Mode** to export the report to Excel, reflecting the preferences that you set. See **Setting Your Report Preferences**.
Creating Dynamic Books

Create books of related Planning reports in Financial Reporting.

Note:
You can open dynamic books in PDF format only.

Viewing and Updating Dynamic Books

You can preview and select different members in a dynamic book that was created in Financial Reporting. If you select different book POV members, the new members replace the POV of reports in the book that used the original POV selection.

For example, if three reports use 2019 as the Year member, and you change the book POV to 2020, the reports display data for 2020.

1. Click Reports, and then .
2. To the right of the report you want to work with, under Actions, click HTML or PDF.
   To expand dimensions to the level of detail you want, click HTML Preview, and make your changes.

Note:
To export a formatted report to Microsoft Excel, see Exporting Formatted Reports to Excel.

3. To select different POV members, click .
   • To search for a member, enter all or part of the name in the text box.
   • To change the member data displayed, click .
   See Displaying the POV Member Selector for a Report.
4. Click **Continue**.

   The book is generated and displays in a separate window. For example, a PDF book displays in Adobe Acrobat

**Displaying the POV Member Selector for a Report**

Selecting the **Show POV Options** option on the **Reports** page enables you to select different members in reports that have a POV.

When you click **Reports**

on the Home page, the **Reports** page displays, where you select the report to display. If you select the **Show POV Options** check box on the page and select a report that has a POV, a POV member selector window is displayed. See Working with Members in *Administering Planning*.

Your selection for this check box applies to all reports in the list that have a POV and persists for the current session, until you log out.

If you clear the **Show POV Options** check box (it's selected by default), the report launches directly, without displaying the POV member selector window. The POV members in the report are the most recently used members on the form, or the dimension's root if there are no most recently used members.

Even if you launch a report directly and bypass the POV member selector window, when the report is displayed, you can still change the members in the POV by clicking a link in the POV and selecting different members.

**Using Financial Reporting Reports and Annotations**

To view report annotations, enable the corresponding option in Financial Reporting.

Financial Reporting options:

- Perform an advanced search to find reports
- Attach repository artifacts to annotations
- Open annotation attachments
- Specify annotation access permissions

You can access Financial Reporting by clicking the Navigator's **Manage Reporting** link.
Using Business Rules

Like formulas in Microsoft Excel, business rules launch specific calculations.

For example, you might launch a business rule to calculate the updated employee expenses for your department. Your administrator sets rules up for you. Your administrator may schedule business rules to run at a set time or at a regular interval. Administrators can also set business rules to automatically launch when you open a form or when you save the data in a form.

Launching Business Rules

You can also run a business rule from within a form or from a task list if your administrator set them up that way.

   
   Optional: Filter the business rules by cube or type of business rule.

2. To the right of the business rule to run, click Launch.

3. If presented with a runtime prompt, enter or select the required information, and then click Launch.

   See About Runtime Prompts.

   If the rule runs successfully, a message displays and data is updated. The Jobs page lists business rules that have recently run or have errors. See Checking Job Status.

About Runtime Prompts

Some business rules prompt you to enter or select information, called a runtime prompt.

About runtime prompts:

• The type of information you’re prompted for can vary. Examples:
  - One or more members or a range of members. For a range of members, you select from each dimension the designer set (for example: IDescendants("Marketing"),FY19).
  - A number
  - Text
  - An item in a list
  - A dimension or cross-dimension, which is a member combination that includes only one member from each dimension the designer has set (for example:
Sales -> Actual -> Jan, which refers to the member intersection of Sales, Actual, and January).

- Your administrator can set up forms to launch business rules when you open or save the form.
- If your administrator enabled the parent member for adding dynamic children, you can create new members by entering their name in the runtime prompt. See About Dynamic Members in Administering Planning.
- If a business rule has a runtime prompt and the administrator selected **Use Members on Forms**, the default member on the runtime prompt window matches the current member in the page or POV axes of the open form.
- If multiple business rules having runtime prompts are launched when you save the data, enter values for each one, and then click **Launch**.

### Runtime Prompts and Approvals

Depending on how your administrator has designed a business rule, for you to run a business rule, you must have write permission to all members selected in runtime prompts and own the affected approval units members.

For example, a business rule can be designed such that, if you have already promoted an approval unit containing entity ABC, you can't change the data for ABC using a runtime prompt. Runtime prompts display only members that you have access to.

### Checking Job Status

You can monitor many activities on the **Jobs** page. For example, you can check on the execution status of such jobs as Copy Versions, Publish Sandbox, Smart Push, and Refresh.

**Notes:**

- You can be notified by email when a launched job is in a state such as completed, in error, or if it involves violation errors or warnings. To set up email notifications, see Setting Up Email for Notifications.
- You can't cancel or start a job from the **Jobs** page.
- Administrators can view all jobs and their status. All other users can view only their own jobs and their status.
- You can't delete jobs that are processing.

To check the execution status of jobs:

1. Click **Application**, and then **Jobs**.
2. To filter which jobs display, select any of the following: **Job Type**, **Status**, **Job Name**, **Start Time**, and **End Time**, and then click **Apply**.
3. **Optional: For administrators only**: To remove selected jobs from the list and to remove their job records from the database, click **Delete**.
Building a Plan Privately

Related Topics

• Keeping Your Work Private with Sandboxes
  As you build a plan or create an analysis, you may want to keep your work private. You can privately experiment with various outcomes, and others can’t see your numbers until you’re ready to make them public.

• Using a Sandbox Examples
  Here are some scenarios where sandboxes can help you build plans.

• About Sandboxes
  As you build a plan or create an analysis, you may want to keep your work private as you experiment with various outcomes. Doing this work in a sandbox keeps your work private until you’re ready to make your numbers public to other users.

• Creating and Using Sandboxes

• Comparing Sandbox Data to Other Data
  You can compare sandbox data against the base view data or the data in other sandboxes in several ways.

• Publishing Data in a Sandbox
  When you’re ready to make your sandbox data public to others who have access to it, you publish the data in it.

• Sandboxes and Smart View
  You work with sandboxes in Oracle Smart View for Office much like you do in Planning, but you can publish sandbox data only from within Planning.

Keeping Your Work Private with Sandboxes

As you build a plan or create an analysis, you may want to keep your work private. You can privately experiment with various outcomes, and others can’t see your numbers until you’re ready to make them public.

For example, you want to see how changing the volume sold for a particular product in January can affect the product revenue for the year and the Total Revenue for the company. Working in a sandbox, you can immediately see the effect of your private analyses. You can experiment with numbers, and when they’re ready, you publish the data in the sandbox. Publishing the data in the sandbox enables other to see the data.

To learn about analyzing data using sandboxes, watch this tutorial video.

Tutorial Video
Using a Sandbox Examples

Here are some scenarios where sandboxes can help you build plans.

• You're creating a hiring plan, updating contract versus permanent employee headcount, and assessing the effect of various combinations on expenses and revenues. By analyzing and saving your analyses in a sandbox, your data is available only to you, not to everyone who has access to the affected Entity and Accounts. When you're ready, you make your plan available to others.

• You're planning a project and have finished your expense planning, but you haven't yet planned for the project's revenue. By building this plan in a sandbox, your expense data is exclusive to you until you've also planned the revenue. When you've completed your project's plan, you publish the data in the sandbox.

• You want to privately test different project dates to see their effect on the financials. When you decide on the optimal project dates, you publish the data.

About Sandboxes

As you build a plan or create an analysis, you may want to keep your work private as you experiment with various outcomes. Doing this work in a sandbox keeps your work private until you're ready to make your numbers public to other users.

Some basics about sandboxes:

• An administrator must enable cubes and Version members for sandboxes. (See About Sandboxes in Administering Planning.)

• Calculations and totals occur instantly as you work.

• When you're working in a sandbox, you're in sandbox view. When you're working in a form but not in a sandbox, you're in basic view (the default).

• In a single form, you can see the data you modified and the original base data.

• You create a sandbox from within a form or an ad hoc grid. You can have multiple sandboxes and switch among them.

• If you don't want to publish a sandbox, you can delete it. (An administrator can also delete your sandbox.)

• If you create and work in a sandbox from a composite form, all the forms that comprise the composite form also change to sandbox view.

Creating and Using Sandboxes

To create a sandbox:

1. From within a form, click on the far right.

   Note:
   • When you open a form, the form displays the Version-enabled members in the POV.
   • The names of the sandboxes that you created display in boxes in the POV. To switch to another sandbox, click its name.
• Only you (and administrators) can see the data that you add or change in a sandbox until you publish it.

2. Enter a unique name.
   The sandbox name displays in bold in the POV.

3. In the sandbox, build your plan or perform your analyses.
   • If you change the data in a cell and then click out of that cell, the cell background turns pale yellow. When you click Save to save the data in the sandbox, the yellow background turns pale pink.
   • Clicking Refresh loads data from the last saved state. If other people are simultaneously changing data that displays in the current form, you can get the latest data from the base view by clicking Refresh.
   • You can switch to other forms or ad hoc grids from the same sandbox.
   • You can compare sandbox data against the base view data or the data in another sandbox. See Comparing Sandbox Data to Other Data.
   • You can launch the Calculate Form and Calculate Currencies business rules.

4. To leave the sandbox without publishing its data and return to the base view of the form, click the base version, for example, Working.
   You can also switch to another sandbox by clicking its name in the POV at the top of the form.

5. When you're ready to include your plan in all calculations, and to have others see it, publish its data.
   See Publishing Data in a Sandbox.

   **Note:**
   You can delete a sandbox if you don't need it anymore and don't intend to publish its data. To do so, click x to the right of the sandbox name.

### Comparing Sandbox Data to Other Data

You can compare sandbox data against the base view data or the data in other sandboxes in several ways.

For example:

• Create an ad hoc grid where you put the versions adjacent to each other in the ad hoc grid. For example, to compare the product revenue for Oct, FY15 in MySandbox1 and MySandbox2 against the base data, you could put these dimension members in the columns and rows:
Note:

When you compare data in an ad hoc grid, and version members are on rows or columns, you can change only the base version data. You can’t change the data in sandbox versions. To learn more about ad hoc grids, see Focusing Your Analysis with Ad Hoc Grids.

- View a side-by-side comparison of sandbox data and base data in a dashboard. Just drag the same form into the dashboard multiple times, and then select to show sandbox data or base data for each instance.

### Publishing Data in a Sandbox

When you’re ready to make your sandbox data public to others who have access to it, you publish the data in it.

After publishing the data, the sandbox is deleted, and the form changes to base view. The data for members that you updated and published then displays in all forms that display the updated members.

To publish data in a sandbox:
1. From the sandbox, click **Actions**, then **Sandbox**, and then **Publish**. The sandbox data is saved to the base form, and the sandbox is deleted.
2. Update calculations by launching the appropriate business rules. For example, launch business rules that calculate totals on higher-level members or business rules that are launched when you open or save the form.

### Sandboxes and Smart View

You work with sandboxes in Oracle Smart View for Office much like you do in Planning, but you can publish sandbox data only from within Planning.

To work with your sandbox data in Smart View:
1. From your sandbox in Planning, click **Refresh**.
2. In Smart View, select the sandbox from the Page drop-down list, and then click **Refresh**.
The data from your sandbox displays in Smart View.
Working with Currencies

You can plan and analyze your data in one currency or in multiple currencies if multicurrencies is supported.

To enable users to enter data using their own currency in a multi-national company, your administrator sets up multiple currencies by creating a Currency member for each currency. For example, the administrator can add two currencies, USD and EUR, and set EUR as the input currency and USD as the reporting currency. The administrator enters the exchange rates by month between each currency and the base currency. The administrator typically designs forms with the Currency dimension on the Page axis, but can put currencies on the row or another axis.

The **Calculate Currency** rule converts the input values from the current currency to the reporting currencies. Forms can be set up to automatically run the **Calculate Currency** rule when you save the data in a form. If this isn't the case, manually launch the rule to convert data from one currency to the reporting currencies. After the **Calculate Currency** rule is run, view the converted values by selecting that currency's member from the Currency dimension.

**Note:**

You can’t enter data into a reporting currency. You can enter data only into a local, or input, currency.

Your administrator can set up either multicurrency option:

- Simplified Multicurrency, in which you enter data into the input currency.
- Standard Multicurrency, in which you enter data into the local currency.

In both multicurrency models, you view or report on data in another currency by selecting the reporting currency.

For more information, see Setting up Currencies in *Administering Planning*. 
Setting Your Preferences

Related Topics

- **Setting Your Preferences**
  You can set preferences to control many aspects of function and display, including how reports and forms are printed.

- **Setting General Preferences**
  On the General tab, you can set your preferred time zone, language, profile picture, out-of-office assistant, and so on.

- **Setting Your Display Preferences**
  You can set how you want numbers formatted, how many members to display on the Page drop-down list, how the members are indented, how dates are formatted, and whether consolidation operators display.

- **Setting Up Email for Notifications**
  You can set which activities you want to be notified of by email when there's a change in task lists, approvals, and the Jobs.

- **Setting Ad Hoc Options**
  Control the display and behavior of ad hoc grids by setting your preferences.

- **Setting User Variables**
  User variables act as filters in forms, enabling you to focus only on certain members, such as your department. Before you can open a form, you must set your preferences for the user variables that your administrator has set up.

- **Setting Your Report Preferences**
  You can set preferences for how you want to print and export Financial Reporting reports.

- **Setting Your Printing Preferences**
  You can set your preferences for how forms and their data are printed as PDF files.

Setting Your Preferences

You can set preferences to control many aspects of function and display, including how reports and forms are printed.

Watch this overview video to learn about setting user preferences.

Overview Video
To set your preferences:

1. On the Home page, click **Tools**, and then **User Preferences**.

2. Click the tabs on the left to set your preferences.
   - **General**: Set your profile photo, your preferences for time zone, language, which alias table to use, the display of member names and aliases, and approvals options, including an out of office message. See Setting General Preferences.
   - **Display**: Set your preferences for how numbers are formatted, how members are displayed on Page drop-down lists, whether consolidation operators are displayed, and the date format. See Setting Your Display Preferences.
   - **Notifications**: Set your email address and select which activities you want to be notified about—Task Lists, Approvals, and the Jobs. See Setting Up Email for Notifications.
   - **Ad Hoc Options**: Set options for working with ad hoc grids. See Setting Ad Hoc Options.
   - **User Variables**: Select members for user variables that your administrator set up. See Setting User Variables.
   - **Financial Reports**: Set preferences for displaying reports. See Setting Your Report Preferences.
   - **Form Printing**: Set your preferences for how to print data in forms as PDF files. See Setting Your Printing Preferences.

### Setting General Preferences

On the General tab, you can set your preferred time zone, language, profile picture, out-of-office assistant, and so on.

1. On the Home page, click **Tools**
2. Click **General**.

3. Set your preferences for:
   - Your time zone. You can type ahead, for example, type "PT" for Pacific Time.
   - The language used to display labels and buttons. If you don't select a language, then your browser's locale is used.
   - Your profile photo. See **Setting Your Profile Picture**.
   - Which alias table to use and how you want members or their aliases displayed. (Your administrator can set up alias tables and assign alternate names, or aliases, to Account, Currency, Entity, Scenario, Period, Version, Years, and user-defined dimension members. The administrator can set up to 30 aliases per dimension member, including the default alias.) See **Setting the Display of Member Names or Aliases**.
   - Your preferences for Approvals, including whether to display aliases and whether to show approval units that aren't yet started. You can also set the out-of-office assistant and set Approvals actions to be in effect when you're away. See **Setting Approvals Options**.

4. Click **Save**.

### Setting Your Profile Picture

You can set your profile picture to display on the Announcements panel of the Home page.

For example:

![Profile Picture Example](image_url)

1. On the Home page, click **Tools**

   , and then **User Preferences**

   , and then **User Preferences**

2. By **Profile Image**, click **Browse** to browse to and open the image file. The image can be of type .png, .jpg, .jpeg, or .gif.
3. Click **Save**.  
   Your profile picture displays after you sign out and then sign back in.

**Setting the Display of Member Names or Aliases**

On the **General** page, you can set which alias table you want to use and how you want the member name or alias displayed.

An **alias** is another, often more descriptive, name for a member. Sets of aliases are stored in **alias tables** that your administrator creates. For example, there may have an alias table for English member names, another alias table for German member names, and so on.

1. On the Home page, click **Tools**

   ![Tools icon]

   , and then **User Preferences**

   ![User Preferences icon]

2. Click the **General** tab, and then select an alias table from **Alias Table**.
3. From **Display Member Label as**, select how you want member names to display:
   - **Member Name**
   - **Alias**
   - **Member Name:Alias**
   - **Alias:Member Name**
   - **Default**. If you select **Default**, then the form, grid, or dimension settings determine how member names are displayed.

4. Click **Save**.

**Setting Approvals Options**

Set your preferences for Approvals, for example, what action to take on approval units when you're out of the office. You can also delegate an alternate reviewer.

To set Approvals options:

1. On the Home page, click **Tools**

   ![Tools icon]

   , and then **User Preferences**

   ![User Preferences icon]
2. On the **General** tab, under **Approvals**, select your preferences:
   - **Display Aliases**: Select to display aliases. This option is useful when member names are cryptic.
   - **Show Not Started Approval Units**: Select to display approval units that aren't started with those that are started.
   - **Show Approval Units as Aliases in Approvals Notification**: Select to show approval units as aliases if you've enabled Approvals in Notifications.

3. If you'll be out of the office, you can select **I am currently out of the office** to set what action to take on approval units while you're out. Doing so keeps the budget review process moving when you're away.
   
   Set what action to take when you're out:
   - **Promote**: Promote the approval unit.
   - **Reject**: Reject the approval unit.
   - **Submit**: Submit the approval unit.
   - **Delegate**: Select to designate an alternate reviewer to handle your review responsibilities while you're away. You can also include a message for the reviewer in the **Message** text box.

4. Click **Save**.

When you return to the office, clear the out of office setting.

For more information about Approvals, see **Getting Plans Approved**.

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**Note:**

You can enable notifications so that you'll automatically get an email when you become the owner of an approval unit or you've been delegated an approval unit. See **Setting Up Email for Notifications**.

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**Setting Your Display Preferences**

You can set how you want numbers formatted, how many members to display on the Page drop-down list, how the members are indented, how dates are formatted, and whether consolidation operators display.

1. On the Home page, click **Tools**

   ![Tools icon]

   , and then **User Preferences**

   ![User Preferences icon]

2. Click **Display**, and then set your preferences:
• Under **Number Formatting**, set how numbers are formatted. Your selections apply to all currencies, in all forms that you have access to. You can't select the same option for the **Thousands Separator** and the **Decimal Separator**.

• Under **Page Options, Indentation of Members**, set how members are indented on the page and how many items you want listed on the Page drop-down list. If you select **Do not indent**, the members are displayed as a flat, sequential list. If the Page drop-down list displays so many items that you have to scroll through the list, you may want to let a lower number of items to display in the **Number of Items on the Page Drop-down**.

• Under **Other Options**, set whether to show consolidation operators (for example, **Yes**, **No**, or use the **Form Setting**). Also set the **Date Format** (for example, **dd/MM/yyyy**). Selecting **Automatically Detect** sets the date format based on your browser locale. The format you select is used throughout the user interface, including in reports.

• If your administrator set up multiple currencies, you can set the reporting currency. See **Setting the Reporting Currency**.

3. Click **Save**.

### Setting the Reporting Currency

If your administrator set up multiple currencies and fully defined the approval unit intersection, you can see your total budget's value in the currency you want. The value is formatted using your preference as described here, or the administrator's settings if the **Use Administrator's Settings** option is selected. The selected reporting currency member determines the precision, scale, and currency symbol settings. If you don't set the reporting currency when there are multiple currencies, the total approval unit value displays in the base currency.

To set the reporting currency:

1. On the Home page, click **Tools** , and then **User Preferences**

2. Click **Display**.

3. Under **Other Options**, in the **Currency Code** box, enter the code for the currency. For example, enter **YEN**.

4. Click **Save**.
Setting Up Email for Notifications

You can set which activities you want to be notified of by email when there’s a change in task lists, approvals, and the Jobs.

To set up and enable email notifications:

1. On the Home page, click **Tools**, and then **User Preferences**.
2. Click **Notifications**.
3. Enter your email address and select which updates you want to be notified about:
   - Task Lists
   - Approvals
   - Jobs
4. Click **Save**.

Setting Ad Hoc Options

Control the display and behavior of ad hoc grids by setting your preferences.

1. On the Home page, click **Tools**, and then **User Preferences**.
2. Click **Ad Hoc Options**.
3. In the top section, set how members are displayed:
   - **Member inclusion**:
     - **Include selection**: Select to display both the selected member and the members retrieved as a result of the operation. For example, zooming in on the selected member Qtr1 displays data for Qtr1, Jan, Feb, Mar.
     - **Within selected group**: Select to perform an operation such as Zoom only on the selected group of members, leaving unselected cells as is. This setting is meaningful only when there are two or more dimensions.
down the grid as rows or across the grid as columns. This option pertains to Zoom, Keep Only, and Remove Only.

- **Zoom in**: Select the level at which to zoom in:
  - Next level: Select to get data for the children of the selected members.
  - All levels: Select to get data for all descendants of the selected members.
  - Bottom level: Select to get data for the lowest level of members in a dimension.

- **Ancestor Position**: Set how to display ancestors in the hierarchy:
  - Top: Select to display member hierarchies in order from highest to lowest level.
  - Bottom: Select to display member hierarchies in order from lowest to highest level.

- **Display Member Label as**: Set whether member names, aliases, or both are displayed.

- **Alias Table**: Select which alias table to use.

- **Indentation**: Set how member hierarchy levels are indented:
  - None: Select for no indentation.
  - Subitem: Select to indent descendants. Ancestors are left-justified in the column.
  - Totals: Select to indent ancestors. Descendants are left-justified in the column.

- **Navigate without refreshing data**: Selecting this option improves performance as you navigate around the grid, for example pivoting and zooming. Just click Refresh when you want to update the data. (If you don't select this option, data is refreshed as you work in ad hoc.)

4. Under Suppression, to simplify your view of the data, select options to suppress elements of the grid. For example, you can hide rows or columns with zeros.

- **Zeros**:
  - Row: Select to hide rows containing only zeros.
  - Column: Select to hide columns containing only zeros.

- **Suppress**:
  - Repeat members: Select to hide rows that contain repeated member names, regardless of the grid orientation.
  - Missing blocks on rows: Select to hide blocks of cells in rows that have no data.

- **Missing data**: Select to hide rows or columns with zeros or that have no data.

- **No Access**: Select to hide rows or columns that you don't have access to.
5. Under **Precision**, set:

   - **Use currency member setting**: Select to apply the precision setting of the Currency member.
   - Set the minimum and maximum number of decimal positions to display in a cell for currency values, non-currency values, and percentage values. For example, if the cell value is 100, and you select the **Minimum** precision "2", the value displays as "100.00".

6. Under **Replacement**, set labels to display for cells that are missing data, that you don't have access permission to view, or that have invalid data:

   - **No Data**: Enter the text that you want displayed for cells that have #Missing or #NoData as their value.
   - **No Access**: Enter the text that you want displayed for cells that you don't have access permission to view.
   - **Submit Zeros**: Select if you specified #NumericZero as the text for the **No Data** or **No Access** replacement option and you want to submit zeros.

### Setting User Variables

User variables act as filters in forms, enabling you to focus only on certain members, such as your department. Before you can open a form, you must set your preferences for the user variables that your administrator has set up.

Administrators can set up user variables to help users focus on those members that they're interested in, such as their department's expenses. For example, your administrator can create a form with entities on the rows and a user variable called Department. You can limit the number of rows displayed on the form by selecting a member for the Department user variable, such as Sales. Later, you can select another member for Department, such as Marketing.

To update user variables:

1. On the Home page, click **Tools**

   ![Tools icon]

   , and then **User Preferences**

   ![User Preferences icon]

The **User Variables** page lists the user variables that the administrator has set up for each dimension and under **Member**, the currently selected member for each variable.
2. Click \(~\) next to the variable you want to change.
   You can also type a member name directly in the Member column for the dimension.

3. Select members by clicking the member or the checkmark in front of it.

4. Click Save.

   To learn more, see Selecting User Variables as Members in Administering Planning.

Setting Your Report Preferences

You can set preferences for how you want to print and export Financial Reporting reports.

1. On the Home page, click Tools , and then User Preferences .

2. Click Financial Reports .

3. On the top of the page, under Financial Reports , set preferences:
   - Annotation Printing Preferences: Define how to print annotations in a report, and then click OK:
     - Select Details, and then under Use Footnote Details, select options to create a system-defined footnote. Generic formatting is applied and system-defined sizes and fonts are used. For example, you can select Title, Description, Category, Date, Author, Attachments, and Include Replies.

   Note:
   If you select Include Replies, select whether to include: All replies; the Top specified number of replies, starting from the initial reply; or the Bottom specified number of replies, which prints the initial annotation and the last number of specified replies. Enter the number of replies to print in the provided space.

   - Select Text Object to select a saved text box in the repository that contains the Financial Reporting text function Footnote. In the text box for Use Footnote Text Object, enter text to use in the footnote function in the report's text object to print annotations. The report designer creates footnote functions. This option provides more flexibility for formatting and printing annotations. For example, the footnote function may specify to
print only grid annotations with different size, font, and color to be applied to the heading and content.

- Select None to print no annotations.

- **Merge Equivalent Prompts**: Select to respond only once or to respond consecutively to prompts and variables that are repeated.

- **Show Annotations**: Select to include annotations in the report.

4. Under **Query-Ready Export**, set your preferences for how reports are exported to Excel:

   - **Export Mode**:
     - **Smart View**: Exports the report to Oracle Smart View for Office (the default). This option launches a link that opens Smart View. To use this option, you must install Smart View. See Working with Planning Data in Excel.
     - **Excel Grid**: Opens the exported report in Microsoft Excel, but without the Smart View connection. Under **Export To**, select:
       * **New Worksheet**: To open the exported report as a new sheet in an existing Excel workbook.
       * **New Workbook**: To open the exported report as sheet1 in a new Excel workbook.
     - **Disabled**: Hides the query-ready link when the report is displayed using HTML Preview.

   - Under **Export To**, select either:
     - **New Worksheet**: To open the exported report as a new sheet in an existing Excel workbook.
     - **New Workbook**: To open the exported report as sheet1 in a new Excel workbook.

5. Click **Save**.

### Setting Your Printing Preferences

You can set your preferences for how forms and their data are printed as PDF files.

When designing a form, your administrator sets the form's printing options, for example, whether to include Supporting Detail. You can accept these default settings or set your own preferences for printing PDF files.

**Note:**

To print to a PDF file, you must have Adobe Acrobat Reader installed.

1. On the Home page, click **Tools**
2. Click **Form Printing**.

3. Under **Page Settings**, set your preferences for paper size, layout, fit, and flow. You can also select whether to print in black and white.

4. Under **Options**, set whether to apply:
   - Formatting
   - Precision
   - Supporting Detail. If you include Supporting Detail, specify how to print it:
     - **Normal Order**: Print Supporting Detail in the same order as on the **Supporting Detail** page, with the parent on top.
     - **Reverse Order**: Print Supporting Detail in reverse order, with the parent on the bottom.
   - Comments (text notes associated with cells)
   - Attribute members, if they're selected in the form
   - Currency codes, if the form supports multiple currencies per entity
   - The form name
   - Repeated row and column headers across pages
   - The POV/Page
   - Grid lines
   - A footer

5. Click **Save**.
Predictive Planning Forecasting and Statistical Descriptions

This section describes the forecasting methods and error measures used in Predictive Planning.

Predictive Planning works with valid forms and ad hoc grids to predict performance based on historical data. It uses sophisticated time-series forecasting techniques to create new predictions or validate existing forecasts that were entered using other forecasting methods.

Predictive Planning is available in Planning and as an Oracle Smart View for Office extension.

Watch this overview video to learn more about Predictive Planning statistical forecasting methods.

Forecasting Basics

Most historical or time-based data contains an underlying trend or seasonal pattern. However, most historical data also contains random fluctuations (noise) that make it difficult to detect these trends and patterns without a computer. Predictive Planning uses sophisticated time-series methods to analyze the underlying structure of the data. It then projects the trends and patterns to predict future values.

Time-series forecasting breaks historical data into components: level, trend, seasonality, and error. Predictive Planning analyzes these components and then projects them into the future to predict likely results.

In Predictive Planning, a data series is a set of historical data for a single member. When you run a prediction, it tries each time-series method on each of the selected data series and calculates a mathematical measure of goodness-of-fit. Predictive Planning selects the method with the best goodness-of-fit as the method that will yield the most accurate forecast.

The final forecast shows the most likely continuation of the data. All of these methods assume that some aspects of the historical trend or pattern will continue into the future. However, the farther out you forecast, the greater the likelihood that events will diverge from past behavior, and the less confident you can be of the results. To help you gauge the reliability of the forecast, Predictive Planning provides a prediction interval indicating the degree of uncertainty surrounding the forecast.

Forecasting Use Cases

In a planning context, time-series forecasting has several uses. The most common use case is to compare the statistical predictions from Predictive Planning against your
own forecast. This generally takes place on a three, six, or twelve month time horizon, and can be performed once at the start of a planning cycle, or on a rolling basis as plans are adjusted based on incoming actuals.

In this example, you can see that the prediction is below the forecast for the coming fiscal year. You can also measure how the forecast lies within the prediction’s 95% confidence interval (orange band). Using this information, you can decide to adjust the forecast for the fiscal year, or take other actions that mitigate the forecasting gap.

If you haven’t supplied a forecast, or can’t generate one for the fiscal year, you can decide to use the prediction as your own forecast. You can copy and paste the prediction results into the form and save the results.

You can also compare the historical predictions against the historical forecasts to determine the accuracy of each, assuming that predictions have been saved in a separate scenario. By turning on the historical view in the chart, you can gauge how far the forecast (red line) and the predictions (blue line) have diverged from the actuals (green line) in the past. For this member, it appears that the prediction had smaller variance than the forecasts against the actuals.
Classic Time-series Forecasting

Two primary techniques of classic time-series forecasting are used in Predictive Planning:

- **Classic Nonseasonal Forecasting Methods** — Estimate a trend by removing extreme data and reducing data randomness
- **Classic Seasonal Forecasting Methods** — Combine forecasting data with an adjustment for seasonal behavior

For information about autoregressive integrated moving average (ARIMA) time-series forecasting, see ARIMA Time-series Forecasting Methods.

Classic Nonseasonal Forecasting Methods

Nonseasonal methods attempt to forecast by removing extreme changes in past data where repeating cycles of data values are not present.

**Single Moving Average (SMA)**

Smoothes historical data by averaging the last several periods and projecting the last average value forward.

This method is best for volatile data with no trend or seasonality. It results in a straight, flat-line forecast.
Double Moving Average (DMA)

Applies the moving average technique twice, once to the original data and then to the resulting single moving average data. This method then uses both sets of smoothed data to project forward.

This method is best for historical data with a trend but no seasonality. It results in a straight, sloped-line forecast.

Single Exponential Smoothing (SES)

Weights all of the past data with exponentially decreasing weights going into the past. In other words, usually the more recent data has greater weight. Weighting in this way largely overcomes the limitations of moving averages or percentage change methods.

This method, which results in a straight, flat-line forecast is best for volatile data with no trend or seasonality.
Double Exponential Smoothing (DES)

Applies SES twice, once to the original data and then to the resulting SES data. Predictive Planning uses Holt's method for double exponential smoothing, which can use a different parameter for the second application of the SES equation.

This method is best for data with a trend but no seasonality. It results in a straight, sloped-line forecast.

Damped Trend Smoothing (DTS) Nonseasonal Method

Applies exponential smoothing twice, similar to double exponential smoothing. However, the trend component curve is damped (flattens over time) instead of being linear. This method is best for data with a trend but no seasonality.
Classic Nonseasonal Forecasting Method Parameters

The classic nonseasonal methods use several forecasting parameters. For the moving average methods, the formulas use one parameter, period. When performing a moving average, Predictive Planning averages over a number of periods. For single moving average, the number of periods can be any whole number between 1 and half the number of data points. For double moving average, the number of periods can be any whole number between 2 and one-third the number of data points.

Single exponential smoothing has one parameter: alpha. Alpha (a) is the smoothing constant. The value of alpha can be any number between 0 and 1, not inclusive.

Double exponential smoothing has two parameters: alpha and beta. Alpha is the same smoothing constant as described above for single exponential smoothing. Beta (b) is also a smoothing constant exactly like alpha except that it is used during second smoothing. The value of beta can be any number between 0 and 1, not inclusive.

Damped trend smoothing has three parameters: alpha, beta, and phi (all between 0 and 1, not inclusive).

Classic Seasonal Forecasting Methods

Seasonal forecasting methods extend the nonseasonal forecasting methods by adding an additional component to capture the seasonal behavior of the data.

Seasonal Additive

Calculates a seasonal index for historical data that does not have a trend. The method produces exponentially smoothed values for the level of the forecast and the seasonal adjustment to the forecast. The seasonal adjustment is added to the forecasted level, producing the seasonal additive forecast.

This method is best for data without trend but with seasonality that does not increase over time. It results in a curved forecast that reproduces the seasonal changes in the data.
Seasonal Multiplicative

Calculates a seasonal index for historical data that does not have a trend. The method produces exponentially smoothed values for the level of the forecast and the seasonal adjustment to the forecast. The seasonal adjustment is multiplied by the forecasted level, producing the seasonal multiplicative forecast.

This method is best for data without trend but with seasonality that increases or decreases over time. It results in a curved forecast that reproduces the seasonal changes in the data.

Holt-Winters' Additive

Is an extension of Holt's exponential smoothing that captures seasonality. This method produces exponentially smoothed values for the level of the forecast, the trend of the forecast, and the seasonal adjustment to the forecast. This seasonal additive method adds the seasonality factor to the trended forecast, producing the Holt-Winters' additive forecast.

This method is best for data with trend and seasonality that does not increase over time. It results in a curved forecast that shows the seasonal changes in the data.
Holt-Winters’ Multiplicative

Is similar to the Holt-Winters’ additive method. Holt-Winters' Multiplicative method also calculates exponentially smoothed values for level, trend, and seasonal adjustment to the forecast. This seasonal multiplicative method multiplies the trended forecast by the seasonality, producing the Holt-Winters’ multiplicative forecast.

This method is best for data with trend and with seasonality that increases over time. It results in a curved forecast that reproduces the seasonal changes in the data.

Damped Trend Additive Seasonal Method

Separates a data series into seasonality, damped trend, and level; projects each forward; andreassembles them into a forecast in an additive manner.

This method is best for data with a trend and with seasonality. It results in a curved forecast that flattens over time and reproduces the seasonal cycles.
Damped Trend Multiplicative Seasonal Method

Separates a data series into seasonality, damped trend, and level; projects each forward; and reassembles them into a forecast in a multiplicative manner.

This method is best for data with a trend and with seasonality. It results in a curved forecast that flattens over time and reproduces the seasonal cycles.

Classic Seasonal Forecasting Method Parameters

The seasonal forecast methods use the following parameters:

- **alpha (α)** — Smoothing parameter for the level component of the forecast. The value of alpha can be any number between 0 and 1, not inclusive.
- **beta (β)** — Smoothing parameter for the trend component of the forecast. The value of beta can be any number between 0 and 1, not inclusive.
- **gamma (γ)** — Smoothing parameter for the seasonality component of the forecast. The value of gamma can be any number between 0 and 1, not inclusive.
- **phi (Φ)** — Damping parameter; any number between 0 and 1, not inclusive.
Each seasonal forecasting method uses some or all of these parameters, depending on the forecasting method. For example, the seasonal additive forecasting method does not account for trend, so it does not use the beta parameter.

The damped trend methods use phi in addition to the other three.

**ARIMA Time-series Forecasting Methods**

Autoregressive integrated moving average (ARIMA) forecasting methods were popularized by G. E. P. Box and G. M. Jenkins in the 1970s. These techniques, often called the Box-Jenkins forecasting methodology, have the following steps:

1. Model identification and selection
2. Estimation of autoregressive (AR), integration or differencing (I), and moving average (MA) parameters
3. Model checking

ARIMA is a univariate process. Current values of a data series are correlated with past values in the same series to produce the AR component, also known as \( p \). Current values of a random error term are correlated with past values to produce the MA component, \( q \). Mean and variance values of current and past data are assumed to be stationary, unchanged over time. If necessary, an I component (symbolized by \( d \)) is added to correct for a lack of stationarity through differencing.

In a nonseasonal ARIMA(\( p,d,q \)) model, \( p \) indicates the number or order of AR terms, \( d \) indicates the number or order of differences, and \( q \) indicates the number or order of MA terms. The \( p, d, \) and \( q \) parameters are integers equal to or greater than 0.

Cyclical or seasonal data values are indicated by a seasonal ARIMA model of the format:

\[
\text{SARIMA}(p,d,q)(P,D,Q)(t)
\]

The second group of parameters in parentheses are the seasonal values. Seasonal ARIMA models consider the number of time periods in a cycle. For a year, the number of time periods \( (t) \) is 12.

**Note:**

In Predictive Planning charts, tables, and reports, seasonal ARIMA models do not include the \( (t) \) component, although it is still used in calculations.

Predictive Planning ARIMA models do not fit to constant datasets or datasets that can be transformed to constant datasets by nonseasonal or seasonal differencing. Because of that feature, all constant series, or series with absolute regularity such as data representing a straight line or a saw-tooth plot, do not return an ARIMA model fit.

**Time-series Forecasting Error Measures**

One component of every time-series forecast is the data’s random error that is not explained by the forecast formula or by the trend and seasonal patterns. The error is
measured by fitting points for the time periods with historical data and then comparing the fitted points to the historical data.

RMSE

RMSE (root mean squared error) is an absolute error measure that squares the deviations to keep the positive and negative deviations from cancelling out one another. This measure also tends to exaggerate large errors, which can help eliminate methods with large errors.

Forecasting Method Selection and Technique

Predictive Planning uses the following process for forecasting method selection:

- All of the nonseasonal forecasting methods and the ARIMA method are run against the data.
- If the data is detected as being seasonal, the seasonal forecasting methods are run against the data.
- The forecasting method with the lowest error measure (for example, RMSE) is used to forecast the data.

Predictive Planning uses only standard forecasting for time-series forecasting to select the best method. Standard forecasting uses the error measure between the fit values and the historical data for the same period. (Other methods, such as simple lead, weighted lead, and holdout are not used.)