IBM Cognos TM1
Version 10.2.0

Web User Guide

IBM
Before using this information and the product it supports, read the information in "Notices" on page 105.

Product Information
This document applies to IBM Cognos TM1 Version 10.2.0 and may also apply to subsequent releases.

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Introduction

This document is intended for use with IBM® Cognos® TM1®.

TM1 Web is a Web-based product that extends the analytical power of IBM Cognos TM1 by allowing you to view, analyze, edit and chart your TM1 data in a Web browser. Administrators can also use TM1 Web to perform some TM1 administration tasks.

Finding information

To find IBM Cognos product documentation on the web, including all translated documentation, access one of the IBM Cognos Information Centers (http://pic.dhe.ibm.com/infocenter/cogic/v1r0m0/index.jsp). Release Notes are published directly to Information Centers, and include links to the latest technotes and APARs.

Samples disclaimer

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Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products.

This product does not currently support accessibility features that help users with a physical disability, such as restricted mobility or limited vision, to use this product.

Forward-looking statements

This documentation describes the current functionality of the product. References to items that are not currently available may be included. No implication of any future availability should be inferred. Any such references are not a commitment, promise, or legal obligation to deliver any material, code, or functionality. The development, release, and timing of features or functionality remain at the sole discretion of IBM.
Chapter 1. What's new

This section contains a list of new, changed, and removed features for this release.

It will help you plan your upgrade and application deployment strategies and the training requirements for your users.

To locate the most current product documentation, go to the IBM Cognos TM1 information center (http://pic.dhe.ibm.com/infocenter/ctm1/v10r2m0/index.jsp)

Cognos TM1 Web now uses a Java-based web application server

The IBM Cognos TM1 Web component now uses Java™.

IBM Cognos TM1 Web has been converted to run on a Java-based web application server such as Apache Tomcat. Cognos TM1 Web no longer runs on Microsoft Internet Information Services and the Microsoft .NET Framework. By default, the Cognos TM1 installation configures Cognos TM1 Web to use the Apache Tomcat web application server provided with the Cognos TM1 installation.

For more information, see the IBM Cognos TM1 Installation and Configuration Guide.

New .xlsx conversion tool

A new conversion tool is available to convert .xls worksheets into the .xlsx format that Cognos TM1 Web version 10.2 requires.

For more information, see "Microsoft Excel .xls worksheets” on page 86.

Cognos TM1 Web now includes Scorecarding

IBM Cognos TM1 version 10.2 integrates scorecarding cubes and diagrams into Cognos TM1 Web.

Using Scorecarding with Cognos TM1 Web you can:

• Visually monitor organizational strategy and goals
• Monitor your key performance indicators (KPIs) with traffic light status and trend icons
• View and interact with scorecard diagrams and data visualizations

For more information, see Chapter 8, “TM1 Web and Scorecarding,” on page 63.
Chapter 2. TM1 Web Overview

IBM Cognos TM1 Web extends the analytical power of TM1 Web by offering a number of tasks in a web browser.

- Analyze cube data
- View and edit data in formatted Excel reports
- Drill, pivot, select, and filter data
- Build charts from cube data
- Perform some TM1 server administration tasks

Starting TM1 Web

The following steps illustrate how to log in to IBM Cognos TM1 Web.

Procedure
1. Start an internet browser.
2. Enter the URL provided by your TM1 Web administrator, using the following example.
   
   http://machine_name:port_number/tm1web/
   
   For example: http://localhost:9510/tm1web/
   
   where:
   - `machine_name` is the name of the Web server used to deliver TM1 Web pages.
   - `port_number` is the port number of the Web server.

   The TM1 Web Login page opens.

3. Enter the login information.
   - **Admin Host** - The name of the TM1 Admin Host you use to locate an active TM1 server on your network.
   - **TM1 Server** - The name of the TM1 Server you want to access through TM1 Web. Click the down arrow to select one of the TM1 Servers available on your network. Click **Refresh** to update the list of servers available on your network.

   **Note:** If the AdminSvrSSLCertID parameter in the TM1 Web .config file is incorrectly configured, the server menu may be empty. See “Running TM1 in Secure Mode using SSL” chapter of the IBM Cognos TM1 Installation and Configuration Guide for details on this parameter.

   - **User Name** - Your user name on the selected TM1 Server.
   - **Password** - Your password on the selected TM1 Server.

4. Click **Login**.
   
   The TM1 Web Main page opens.

Using TM1 Web

The TM1 Web main page contains the Navigation pane on the left and a Content pane on the right.
Navigation Pane

The Navigation pane contains the following items:

- **Applications** - Displays a list of applications that you can access through TM1 Web. These applications can contain shortcuts to TM1 Websheets, cubes, and views.
- **Views** - Displays a list of cubes and views on the TM1 Server.
- **Administration** - Displays a list of server object properties. You can modify some of these properties directly from TM1 Web.

**Note:** The Administration module is visible only to users who are members of the ADMIN group on the TM1 Server.

TM1 Web does not support the use of Back and Forward buttons from your browser. Use the controls offered in the Navigation pane to maintain consistent data views.

Content Pane

The Content pane displays the cube views and Websheets that you open. Each object that you open displays on a separate tab.

Data Browsing and Analysis Tasks

TM1 Web provides tools for working with TM1 Websheets, cube views, charts and subsets.

For details, see the following sections:

- Working with Websheets - Describes how to view, edit and export Websheets.
- Working in the TM1 Web Cube Viewer - Describes how to view, edit, configure and export cube views, review and save data changes and create new views.
- Working with TM1 Web Charts - Provides details on using charts with TM1 Web Cube Views, changing chart properties, expanding and collapsing consolidations in a chart and drilling from a chart.
- Editing Subsets in TM1 Web - Describes how to use the TM1 Web Subset Editor to create and manage lists of elements that identify the data you want to analyze.

Administrator Tasks

As a TM1 Web administrator, you can perform administration and configuration tasks for the application.

For example:

- Change the password of the current user.
- Configure a custom homepage for TM1 Web.
- Modify TM1 Web configuration parameters.
- Use TM1 Web log files to monitor TM1 Web activity and errors.

For details, see “Administering IBM Cognos TM1 Web” in the IBM Cognos TM1 Web Guide or in the IBM Cognos TM1 Operation Guide.
Chapter 3. Working with Websheets

This section describes using Websheets.

Websheet Overview

A Websheet is a Microsoft Excel worksheet (.xls file) with IBM Cognos TM1 data that you can view in a web browser. By publishing an Excel worksheet from the IBM Cognos software to an application folder, other users can view your worksheet by using their Web browser.

With a Websheet, you can perform the following tasks.

• Enter data in cells to which you have Write access (see the IBM Cognos TM1 Operation Guide). The IBM Cognos web client does not identify which cells are writable, so you must have some familiarity with your data to successfully enter data into the Websheet. For details on entering data in cells, see “Editing Data in a Websheet” on page 7.
• Use data spreading to enter or modify many Websheet values at once. Spreading is frequently used for scenario testing and what-if analysis during a budgeting or financial planning process.
• Drill to relational tables or other cubes. If the slice that you publish to the Web contains a cell with a defined drill-through rule, that drill function is available from your Websheet.
• View Excel charts. If the slice you publish to the Web contains a chart, the chart will appear in your Websheet. If the slice from which you built the chart has a drill-through rule defined, you can drill through to related information from the Websheet chart.
• Manipulate title element subsets in the Subset Editor.

Note that at this time diagonal borders are not supported in TM1 Websheets.

Visual Differences Between Websheets and Excel Worksheets

This section describes some of the visual differences you may notice when using a TM1 Websheet as compared to an Excel worksheet.

Diagonal Borders

At this time, diagonal borders are not supported in TM1 Websheets.

Display of Gridlines in TM1 Websheets

If gridlines are enabled in an Excel worksheet, they also display in the associated TM1 Websheet except for the following scenarios involving background color (cell shading):
• If gridlines are enabled in Excel and a background color is applied to the entire worksheet, the gridlines do not display in either Excel or the associated Websheet.
• If gridlines are enabled in Excel and a background color is applied to only a range of cells in a worksheet, the gridlines for those cells are hidden in Excel but remain visible in the associated Websheet.
Viewing a Websheet

Any Excel worksheet that exists in a TM1 application is automatically available through TM1 Web. For details on creating and managing applications, see the IBM Cognos TM1 Developer Guide.

Procedure

1. From the browser, click an application in the left navigation pane.
   The Websheets in the application appear as links in the list.

   **Note:** Applications can contain references to various objects, such as cubes, dimensions, subsets, and views. Applications in TM1 Web display shortcuts to only Websheets, cubes, and views.

2. Click a worksheet link.
   The Websheet displays in the browser.

Using the Websheet Toolbar

The Websheet toolbar at the top of the TM1 Web page contains buttons for working with Websheets.

The following table describes the Websheet toolbar buttons.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Submit Data Changes" /></td>
<td>Submit Data Changes</td>
<td>Sends the Websheet data modifications to the TM1 server.</td>
</tr>
<tr>
<td><img src="image" alt="Review Data Changes" /></td>
<td>Review Data Changes</td>
<td>Displays the data modifications you made to the Websheet.</td>
</tr>
<tr>
<td><img src="image" alt="Export" /></td>
<td>Export</td>
<td>Exports the current Websheet to a Microsoft Excel slice, an Excel snapshot, or an Adobe PDF.</td>
</tr>
<tr>
<td><img src="image" alt="Recalculate current Websheet" /></td>
<td>Recalculate current Websheet</td>
<td>If you edited any data values in the Websheet, this option sends the data modifications to the TM1 server and then updates the data in the Websheet. If you did not edit any data values in the Websheet, this option retrieves the current values from the TM1 server and updates the data in the Websheet.</td>
</tr>
<tr>
<td><img src="image" alt="Rebuild Active Form" /></td>
<td>Rebuild Active Form</td>
<td>Rebuilds the current active form.</td>
</tr>
<tr>
<td><img src="image" alt="Auto Calculation On" /> <img src="image" alt="Auto Calculation Off" /></td>
<td>Auto Calculation On/Off</td>
<td>Turns the automatic calculation option on or off. When turned on, this option automatically recalculates Websheet values when you re-configure a Websheet.</td>
</tr>
</tbody>
</table>
Editing Data in a Websheet

You can edit data in a Websheet.
- Enter and edit values directly in the leaf cells of a Websheet
- Use data spreading to distribute numeric values in a Websheet

Editing Data in Websheet Cells

You can edit data in the leaf cells of a Websheet, providing you have Write access to those cells. The TM1 Web client does not identify which cells are writable, so you must have some familiarity with your data to successfully enter data into the Websheet.

Procedure

1. Edit a value in a cell in one of the following two ways.
   - **Replace the value** - Single-click a value in a cell. TM1 Web displays the current value in the cell as highlighted, which indicates that the cell is in Edit mode. You can then type directly over the existing value in the cell, replacing it completely.
   - **Edit the value** - Double-click a value in a cell. TM1 Web displays the current value in the cell with a blinking cursor. This indicates that you can selectively edit the existing value by using the left and right arrow keys on your keyboard to position the cursor within the value. You can also use the Backspace and Delete keys to remove single numbers from the value.

2. After entering a new number, press **Enter** or click on another cell.
   The new number displays in bold and italic, which indicates there is a new value in this cell. You must submit the data changes to the TM1 server for the change you made to persist.

   **Important:** If you log out of TM1 Web without submitting the new value, the change you made will be lost.

3. Click **Review Data Changes**.
   The Review Cell Value Changes dialog box opens.

---

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Auto Fit Selected Column Width</td>
<td>Adjusts the width of the currently selected column.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Zoom In</td>
<td>Increases the magnification factor of the Websheet.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Zoom Out</td>
<td>Decreases the magnification factor of the Websheet.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Normal View</td>
<td>Returns to the default magnification level of 100%.</td>
</tr>
<tr>
<td>![Icon]</td>
<td>Close Websheet</td>
<td>Closes the Websheet. TM1 Web displays either a blank page or the last open Websheet.</td>
</tr>
</tbody>
</table>
4. Make additional changes, as necessary.
5. Do one of the following:
   - Click **Submit** to save the changes to the TM1 server.
   - Click **Done** to keep the changes in the Websheet view, but not submit them to the TM1 server.

You can also click **Submit Data Changes** on the Websheet toolbar to submit your data changes without reviewing them.

After submitting the changes, the Websheet displays the updated values in a normal font, indicating that you saved the changes.

**Using Data Spreading in a Websheet**
You can use data spreading to enter or edit numeric data in a Websheet using a predefined distribution method, called a data spread method. For example, you can evenly distribute a value across a range of cells or increment all values in a range of cells by a percentage.

**Note**: TM1 Web saves the spread values to either the copy of an uploaded Excel file on the TM1 server or to the original location of an attached Excel file, depending on how the file was added to TM1 Web. You do not need to submit the data after TM1 Web completes the spread.

**Procedure**
1. To spread data in a Websheet, right-click on a cell and select **Data Spread**.
2. From the Spreading menu, select any data spread method.

**Excluding Cells from Data Spreading**
You can apply a hold to cells to prevent those cells from being affected by data spreading. You can still edit held cells. The holds apply only to the user initiating the feature; other users can edit held cells.

**Apply a Hold to a Single Cell or Range**
You can apply a hold to a single cell or range of cells.

**Procedure**
1. Select the cell or range.
2. Right-click the cell or range.
3. Click **Holds, Hold Leaves**.
   - Each held cell displays a red triangle in the lower left corner as a visual indication that you applied a hold to that cell or range. When you log off, TM1 Web releases all holds.

**Release a Hold on a Single Cell or Range**
You can release a hold on a single cell or range of cells.

**Procedure**
1. Select the cell or range of cells.
2. Right-click the cell or range.
3. Click **Holds, Release Leaf Holds**.
   - The released cells can accept values from data spreading operations.
Note: To release all holds you applied in a Websheet, right-click any cell in the Websheet and click Holds, Release All Holds.

Excluding Consolidations from Data Spreading
You can hold the value of a consolidation constant while adjusting the underlying leaf values. For example, you might want to hold a value constant while changing the values of the leaves to perform a what-if analysis.

When you apply a consolidation hold and change the value of its leaf elements, TM1 Web applies proportional spreading to the remaining leaf values so that the consolidation value remains unchanged.

Apply a Consolidation Hold to a Single Cell or Range
You can apply a consolidation hold to a single cell or range or cells.

Procedure
1. Select the cell or range.
2. Right-click the cell or range.
3. Click Holds, Hold Consolidate.
   Each held consolidation displays a red triangle in the lower left corner of a cell as a visual indication that you applied a hold to that cell or range. When you log off, TM1 Web releases all holds.

Release a Consolidation Hold on a Single Cell or Range
You can release a consolidation hold on a single cell or range of cells.

Procedure
1. Select the cell or range of cells.
2. Right-click the cell or range.
3. Click Holds, Release Consolidate.
   The consolidated value now can reflect any changes you make to the underlying leaf values.

Note: To release all holds you applied in a Websheet, right-click any cell in the Websheet and click Holds, Release All Holds.

Changing Websheet Properties
Websheet properties determine how an Excel file displays and behaves when viewed as a Websheet in TM1 Web. All users can view Websheet properties, but you must have Write access to an Excel file within an application to edit the Websheet properties.

Note: You can only manage Websheet properties using Server Explorer - the user interface where you add Excel files to TM1 applications. The ability to manage Websheet properties is not available directly in TM1 Web.

Procedure
1. In the Tree pane of Server Explorer, locate the TM1 application that contains the Excel file for the corresponding Websheet.
   Note: You can access Server Explorer from IBM Cognos TM1 Perspectives or TM1 Architect.
2. Right-click the Excel file and click Properties.
The TM1 Web Properties dialog box opens, with two tabs:

- General
- Display Properties

3. If necessary, click the General tab to change the general properties, as described in the following table.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM1 Admin Hosts</td>
<td>Shows the admin host(s) to which your server was registered when you generated an Excel slice. You can be connected to one or more admin hosts, and specify more than one admin host. Delimit each entry in the list with a semicolon (;).</td>
</tr>
<tr>
<td>Allow Write Back from Web</td>
<td>Allows users to modify TM1 data by entering values in the Websheet. Disable this option to make the Websheet read-only.</td>
</tr>
<tr>
<td>Print Properties</td>
<td>Sets a limit on the number of pages users can print from this Websheet. The system default is 100. You can set this number to any value that is appropriate for this Websheet. For example, to set the maximum number of pages users can print to 110, in the Print Properties section, enter 110 in the Limit Number of Sheets to box.</td>
</tr>
</tbody>
</table>

4. Click the Display Properties tab to change the display properties, as described in the following table.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Title Element Selectors</td>
<td>Enable this option to display the Subset Editor buttons for title dimensions in the Websheet. When this option is enabled, you can use the Display Selector option (described below) to selectively show/hide the Subset Editor button for individual title dimensions. Clear this option to hide the Subset Editor buttons for all title dimensions in the Websheet.</td>
</tr>
<tr>
<td>Option</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Title Dimensions</td>
<td>The Title Dimensions grid lists all title dimensions in the Websheet. There are three columns in the grid:</td>
</tr>
<tr>
<td></td>
<td><strong>Dimension</strong> - The name of the title dimension.</td>
</tr>
<tr>
<td></td>
<td><strong>Address</strong> - The cell address of the title dimension in the Websheet.</td>
</tr>
<tr>
<td></td>
<td><strong>Display Selector</strong> - When the Display Title Element Selectors option (see above) is enabled, this option lets you selectively show or hide the Subset Editor button for a given title dimension in the Websheet.</td>
</tr>
<tr>
<td></td>
<td>To show the Subset Editor button for a title dimension, select the corresponding checkbox in the Display Selector column.</td>
</tr>
<tr>
<td></td>
<td>To hide the Subset Editor button for a title dimension, clear the corresponding checkbox in the Display Selector column.</td>
</tr>
</tbody>
</table>

### Recognizing Inherited Excel Features in Websheets

A Websheet inherits the following Excel features:
- Hide columns
- Conditional formatting
- Supported hyperlinks
- Freeze panes
- Cell protection (but not password protection)

### Hide Columns

If you hide columns in your Excel worksheet, those columns are also hidden in the Websheet. TM1 Web calculates the data cells whether or not they are visible in the Websheet. If there are many hidden cells that contain calculations, your Websheet performance may be slower than you might expect.

### Conditional Formatting

TM1 Web supports Excel conditional formatting. The following image shows a worksheet with conditional formatting.
When you view this worksheet in TM1 Web, the conditional formatting displays in the Websheet, as shown in the following image:
Microsoft Excel supports many types of hyperlinks. The following Excel hyperlinks work in Websheets:

- Another cell in the current workbook
- Named range defined in the current workbook
- Bookmark in the current workbook
- URL to an FTP or web site
- Another Excel workbook. The target workbook can either be a file on your network or a file uploaded to the TM1 server.

If the target workbook is a file on your network, the hyperlink must contain the full network path to the target file using the Universal Naming Convention (UNC) format:
\\\ComputerName\SharedFolder\FileName

For example:
\\\system123\MyReports\hyperlink_target.xls

If the hyperlink points to a file uploaded to the TM1 server, the link must use the TM1 assigned name for the uploaded file. For more details, see the IBM Cognos TM1 Developer Guide.
Freeze Panes

If you freeze panes in your Excel worksheet, the Websheet inherits the frozen panes. When you scroll vertically or horizontally in the Websheet, the frozen rows or columns remain visible.

If you scroll vertically in this worksheet, the rows in the frozen pane remain in place, while the lower portion of the worksheet scrolls.

Using ClearType to Enhance Display and Rendering of Websheets

To enhance the display of Websheets, especially ones that include a combination of frozen and unfrozen panes with wrapped text within cells, check with your administrator about installing the Microsoft ClearType Tuner. This tool helps TM1 Web maintain the same row height between frozen and unfrozen panes in Websheets.

For details, see the section about administering TM1 Web in the IBM Cognos TM1 Operation Guide.

String measurement for wide columns in TM1 Web

StringMeasurement is a web.config parameter that determines the way the contents of a websheet cell are adjusted to fit in columns. When a column’s width results in a cell that is smaller than its contents can display, the content is adjusted to that cell based on this setting and the type of cell. A new method of calculating when to truncate cells was introduced in version 9.5.1 to work better with Microsoft Internet Explorer. If you have made edits to your websheet column widths, you may decide to set this parameter back to the 9.5.1 setting to preserve your pre-9.5.1 widths.

In all settings when the content is adjusted, digits are replaced with the ‘#’ characters such that the number would not be mistakenly read as a different number.

If a disproportionately small amount of content is shown in your websheet cells for the given space available, you will want to use the legacy calculation by setting StringMeasurement=0 in the web.config file.

If too much content is shown in your websheet for the space available, possibly causing misalignment, use the 1 through 3 settings, depending on the type of cell.

<table>
<thead>
<tr>
<th>StringMeasurement</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Determines where to truncates string and number type cell content as it did in pre- 9.5.1.</td>
</tr>
<tr>
<td>1</td>
<td>String cell measurement uses the newer calculation.</td>
</tr>
<tr>
<td>2</td>
<td>Number cell measurement use the newer calculation.</td>
</tr>
<tr>
<td>3</td>
<td>Both number and string content use the newer calculation.</td>
</tr>
</tbody>
</table>
Using Cell and Password Protection with Websheets

TM1 Websheets support cell protection using the Protect Sheet feature in Microsoft Excel, but do not support password protection. You can use Excel’s Protect Sheet feature to protect your Websheet from data entry, but do not enter a password.

Since a Websheet is a Web browser version of an Excel workbook, the integrity and layout of the workbook cannot be changed when the Websheet is accessed via a Web browser in TM1 Web. This type of access means that password protection is not typically needed in a Websheet.

Generating a Report from a Websheet

You can generate 'briefing book' - style reports in TM1 Web in two ways:

• **Websheet** - Select the title dimension subsets to include in the report.

• **Cube Viewer** - Select the title dimension subsets and the number of rows to include in the report. For details, see "Generating a Report from a Cube View" on page 37.

**Note:** If your installation of TM1 Web is configured to run without Microsoft Excel on the Web server, some limitations may apply when exporting Websheets. For details, see "Websheet Export Limitations" on page 16.

**Procedure**

1. Click **Export** .
2. Select an export format for the report.
   • **Slice to Excel** - Excel documents that retain a link to the TM1 server by way of functions. When you connect to the server with which the slice is associated, the slice displays the current cube values.
   • **Snapshot to Excel** - Excel documents that contain numeric values reflecting cube values at the moment the export occurred. Because snapshots do not retain a link to the TM1 server, the values are static, representing a 'snapshot' of cube values at the moment of export.
   • **Export to PDF** - PDF documents that display cube values at the moment the export occurred.

The Websheet Export dialog box opens. The dialog box reports the number of elements in each title dimension subset.

3. Select the title dimensions you want to include in the report.
   As you select dimensions, the dialog box indicates the number of sheets that will be generated. In the following example, where the actvsbud and region title dimensions are selected, the report will generate 96 sheets (3 elements x 32 elements).
Note: TM1 Web determines the number of elements for each title dimension by the number of elements in the current title dimension subset. If you edit a title dimension subset, the number of elements for the title dimension changes accordingly.

4. Click OK in the Websheet Export dialog box to create the report.

TM1 Web generates report sheets (or pages, for a PDF) by cycling through the selected title dimensions in the order they appear in the Websheet Export dialog box. In the example, TM1 Web generates the sheets as follows:

- For any title dimension not selected in the Websheet Export dialog box, TM1 Web uses the current title element in the Websheet in all report sheets. In the example, the model dimension is not selected, so TM1 Web uses the current title element in all report sheets.
- TM1 Web begins generating sheets using the first element from the current subset of the actvsbud title dimension.
- Keeping the actvsbud title element constant, TM1 Web then generates sheets by cycling through all elements of the current subset of the region title dimension.
- TM1 Web generates sheets using the second element from the actvsbud title dimension subset.
- Keeping the second element from the actvsbud title dimension subset constant, TM1 Web generates sheets by again cycling through all elements of the current subset of the region title dimension.
- Finally, keeping the third element from the actvsbud title dimension subset constant, TM1 Web again generates sheets by cycling through all elements of the current subset of the region title dimension.

After TM1 Web generates all sheets, you can open or save the report.

5. Do one of the following:
- Click Open to open the report in a new browser window.
- Click Save to save the report to your hard disk.

Note: By default, exporting a slice or snapshot report to Excel displays the report in a web browser window. For details on configuring your computer to open reports into the full, stand-alone version of Excel, see the Microsoft support web site.

Additionally, if you want to use TM1 functionality with a slice that you export to Excel, you must open the slice in the stand-alone version of Excel and have a local version of IBM Cognos TM1 Perspectives installed on your computer.

Note: If you are experiencing problems exporting Excel or PDF files from TM1 Web, and TM1 Web running on a WAN (Wide Area Network) server, you may need to re-configure the security settings in Internet Explorer. For details, see the IBM Cognos TM1 Operation Guide.

Websheet Export Limitations

When Microsoft Excel is not present on the TM1 Web server, the following limitations apply to exporting a Websheet.

Slice to Excel/Snapshot to Excel

- OLE controls present in the Websheet are converted to images
- Layout may be inconsistent between the Websheet and the resulting Excel worksheet/workbook.
- Headers and footer's in the Worksheet are not exported
• Form control states are not updated/displayed in the resulting worksheet

**Export to PDF**
• Images present in the Websheet are not exported
• Charts present in the Websheet are exported to a separate page in the resulting PDF file
• OLE and form controls are not exported
• Headers and footer's are not exported
Chapter 4. Working in the TM1 Web Cube Viewer

This section describes working with a cube in TM1 Web.

Opening a Cube View in TM1 Web

Follow these steps to open a cube view in TM1 Web.

Procedure
1. Log in to TM1 Web.
2. Open the Views node in the left Navigation pane.
   All cubes to which you have access appear in alphabetical order.
3. Click the Expand icon next to any cube to display the views available through TM1 Web.
4. Click a view in the list.
   The view opens in the Content pane on the right. The Cube Viewer toolbar displays directly above the view.

   **Note:** If you double-click a cube in the list to open a cube view, TM1 Web does not open the cube.
5. Click another view in the Navigation pane.
   The view opens in the Content pane and two View tabs appear above the Cube Viewer toolbar. Each View tab contains the name of an open view. The current view tab displays a border, indicating that the view is visible in the Content pane.
   The following example shows two view tabs: Price and Region. In this example, the Region tab displays with a border, indicating that the Region view is displayed in the Content pane.

<table>
<thead>
<tr>
<th>region</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>7906.3509</td>
<td>8834.11992</td>
<td>8664.4974</td>
<td>7190.5557</td>
<td>5921.4984</td>
<td>5660.74891</td>
</tr>
<tr>
<td>Belgium</td>
<td>3763.7257</td>
<td>4546.21552</td>
<td>4091.8297</td>
<td>3526.97278</td>
<td>2935.21745</td>
<td>2594.25643</td>
</tr>
<tr>
<td>Brazil</td>
<td>7603.23893</td>
<td>8782.45894</td>
<td>8313.9108</td>
<td>6913.02548</td>
<td>5615.10986</td>
<td>5272.11474</td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chile</td>
<td>1843.97499</td>
<td>2273.10683</td>
<td>2003.352</td>
<td>1791.33213</td>
<td>1531.4172</td>
<td>1382.01006</td>
</tr>
<tr>
<td>Denmark</td>
<td>1919.75608</td>
<td>2247.27399</td>
<td>2128.5615</td>
<td>1867.02148</td>
<td>1505.88417</td>
<td>1433.15624</td>
</tr>
<tr>
<td>France</td>
<td>35516.3013</td>
<td>39417.75976</td>
<td>39240.6572</td>
<td>32153.50545</td>
<td>26361.72075</td>
<td>26437.35207</td>
</tr>
<tr>
<td>Germany</td>
<td>39152.80215</td>
<td>42362.4464</td>
<td>43898.4507</td>
<td>36608.75902</td>
<td>30781.40778</td>
<td>29482.89409</td>
</tr>
<tr>
<td>Great Britain</td>
<td>20956.38414</td>
<td>21551.57676</td>
<td>20136.7295</td>
<td>17686.21402</td>
<td>15007.85444</td>
<td>14331.5624</td>
</tr>
</tbody>
</table>

Each time you open a view from the Navigation pane, TM1 Web displays a corresponding View tab above the Cube Viewer toolbar. When you open
multiple views, the View tabs are organized horizontally along a single row with a set of arrow buttons that scroll left and right through the open tabs. The following example shows multiple view tabs, with sales1qtr as the current view tab.

6. Use the View tabs to display and close views:
   - Click any View tab to display the corresponding view in the Content pane.
   - Click Close x on a View tab to close the corresponding view.
   - Click the Scroll Left and Scroll Right arrows | | in the View tab scrollbar to navigate through the open View tabs.

### Using the TM1 Web Cube Viewer Toolbar

The TM1 Web Cube Viewer toolbar buttons provide shortcuts to commonly used commands.

The following table describes each button in the toolbar.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Button Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Save View icon" /></td>
<td>Save View</td>
<td>Saves the current view to the TM1 server.</td>
</tr>
<tr>
<td><img src="image" alt="Save As icon" /></td>
<td>Save As</td>
<td>Saves the current cube view with a new name.</td>
</tr>
<tr>
<td><img src="image" alt="Reload View icon" /></td>
<td>Reload View</td>
<td>Refreshes the Cube Viewer data. You can save or discard any changes you make to the data.</td>
</tr>
</tbody>
</table>
| ![Export icon](image) | Export | Exports Cube Viewer data in the following formats:

   **Slice to Excel** - Exports Cube Viewer data and TM1 formulas (SUBNM and DBRW functions) to a new Excel spreadsheet. The spreadsheet maintains a connection with the TM1 server.

   **Snapshot to Excel** - Exports only Cube Viewer data to a new Excel spreadsheet, excluding the TM1 server formulas (SUBNM and DBRW functions). The spreadsheet does not maintain a connection with the TM1 server. |
<table>
<thead>
<tr>
<th>Icon</th>
<th>Button Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Export to PDF Icon" /></td>
<td>Export to PDF</td>
<td>Exports the Cube Viewer data to a PDF file. You must install a PostScript printer during the TM1 Web installation for the Export to PDF option to work. For details, see the <em>Installation Guide</em>. For details on generating reports from a TM1 Web Cube Viewer, see “Generating a Report from a Cube View” on page 37.</td>
</tr>
<tr>
<td><img src="image" alt="Submit Data Changes Icon" /></td>
<td>Submit Data Changes</td>
<td>Sends the changes you make to data in the Cube Viewer to the TM1 server.</td>
</tr>
<tr>
<td><img src="image" alt="Review Data Changes Icon" /></td>
<td>Review Data Changes</td>
<td>Lists the modifications you make to Cube Viewer data and allows you to make further modifications to the data in those cells. For details, see “Reviewing Data Changes” on page 23.</td>
</tr>
<tr>
<td><img src="image" alt="Recalculate Icon" /></td>
<td>Recalculate</td>
<td>Updates the Cube Viewer configuration and recalculates data in the view. If you have edited any cells, all edits are automatically submitted to the TM1 server.</td>
</tr>
<tr>
<td><img src="image" alt="Auto Calculation Icon" /></td>
<td>Auto Calculation</td>
<td>With the Auto Calculation option turned off, TM1 Web does not automatically recalculate the Cube Viewer when the view configuration changes. For example, if you edit a row subset or move a dimension from the titles to the columns, these changes are not immediately displayed in the Cube Viewer; you must click the Recalculate button to see your changes. With the Auto Calculation option turned on, TM1 Web automatically recalculates the Cube Viewer when the view configuration changes.</td>
</tr>
<tr>
<td><img src="image" alt="Suppress Zeros Icon" /></td>
<td>Suppress Zeros</td>
<td>There are three Suppress Zeros options: • Suppresses zeros in rows and columns • Suppresses zeros in rows • Suppresses zeros in columns</td>
</tr>
<tr>
<td><img src="image" alt="View Chart Icon" /></td>
<td>View Chart</td>
<td>Displays the Cube Viewer data in a chart format.</td>
</tr>
<tr>
<td><img src="image" alt="View Chart and Grid Icon" /></td>
<td>View Chart and Grid</td>
<td>Displays the Cube Viewer data in both grid and chart formats.</td>
</tr>
<tr>
<td><img src="image" alt="View Grid Icon" /></td>
<td>View Grid</td>
<td>Displays the Cube Viewer data in a grid format.</td>
</tr>
<tr>
<td><img src="image" alt="Chart Properties Icon" /></td>
<td>Chart Properties</td>
<td>Displays the Chart Properties menu options: • Chart Type • Color Palette • Toggle Chart Legend • Toggle 3D View • Chart Properties</td>
</tr>
</tbody>
</table>
Navigating Pages

You can move from one part of a large cube view to another by navigating the pages.

A Paging toolbar is provided with navigation buttons and a Page indicator. In the cube view, the visible portion of the grid is the first of seven pages.

The following table contains the Paging toolbar buttons and indicator with their descriptions.

<table>
<thead>
<tr>
<th>Button or Indicator</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon] Close View</td>
<td>Close View</td>
<td>Closes the Cube Viewer.</td>
</tr>
<tr>
<td>![Icon] Display Pages</td>
<td>Display Pages</td>
<td>Displays the TM1 View Page Layout dialog box with a layout of all pages. Click a page, and click Goto Page to navigate to a specific page. For example, click Page 4, and click Goto Page to navigate to page 4.</td>
</tr>
<tr>
<td>![Icon] Previous Page (Rows)</td>
<td>Previous Page (Rows)</td>
<td>Shows the previous page of rows.</td>
</tr>
<tr>
<td>![Icon] Next Page (Rows)</td>
<td>Next Page (Rows)</td>
<td>Show the next page of rows.</td>
</tr>
</tbody>
</table>
### Reviewing Data Changes

You can review the changes you make to data in the Cube Viewer and make further changes to the data in those cells.

If you are working in a sandbox, data changes display in a different color until the changes are committed.

**Procedure**

1. Click **Review Data Changes**.
   
   The Review Cell Value Changes dialog box opens, showing all cell values that you have edited.

2. Do any of the following:
   - Type new values in the **New Value** column.
   - Click **Undo** to undo any individual edit.
     
     TM1 Web reverts the new value to the old value. For example, if you click Undo for cell R2:C1 that contains a value of .55, TM1 Web changes the value in the New Value cell to .54, which is the old value.
   - If you click **Undo**, you can click **Redo**, to cancel the undo operation.
     
     For example, if you click Redo for cell R2:C1 that contains a value of .54, TM1 Web reverts to the original new value of .55.

3. When you finish reviewing the data changes, do one of the following:
   - Click **Submit** to recalculate the Cube Viewer data and send the changes to the server.
   - Click **Done** to update the Cube Viewer data. TM1 Web does not send the new values to the server.
   - Click **Cancel** to discard any changes you made to the cell values, and return to the Cube Viewer.

### Saving Data in a Cube View

You can save data changes from TM1 Web to the server.

**Procedure**

1. Click **Save View** or **Recalculate** to save the changes to the data.
   
   If you click **Save View**, TM1 Web displays a message asking if you want to save the changes to the Cube Viewer data.
2. Click one of the following:
   - **Yes** - Submits the data change(s) to the server, recalculates the view, and returns to the Cube Viewer. If you have changed the view configuration, the configuration is saved as well.
   - **No** - Discards the data changes and returns to the Cube Viewer.
   - **Cancel** - Returns to the Cube Viewer. The data changes remain visible in the Cube Viewer.

3. Click **Submit Data Changes** to save the changes.

---

**Configuring a Cube View**

You can re-configure the Cube Viewer in various ways to arrive at a view that satisfies your reporting or analysis needs.

- Expand and collapse consolidations
- Pivot dimensions
- Hide dimensions
- Filter view data
- Edit subsets
- Drill through to associated data

---

**Expanding and Collapsing Consolidations**

You can click the control next to an element name to expand or collapse a consolidation in the Cube Viewer.

**Expand** - A plus sign next to an element name identifies the element as a consolidation. To drill down on consolidations in a dimension and view the underlying detail, click the plus sign. The plus sign changes to a minus sign.

**Collapse** - A minus sign next to an element name indicates an expanded consolidation. To roll up the leaf elements in a dimension, click the minus sign. The minus sign changes to a plus sign.

---

**Pivoting Dimensions**

You can pivot the dimensions in your Cube Viewer to change the presentation of cube data. To pivot dimensions, use the drag-and-drop operation.

- Drag a dimension to the column position.
- Drag a dimension to the row position.
- Drag a dimension to the title position.

You can also drag a dimension to the hidden position, as described in “Hiding Dimensions” on page 25.

When you drag a dimension to a new position, three possible options are available when you drop the dimension. The options vary by the position of your cursor. The following examples use dimensions named Dimension1 and Dimension2.

- When you drag Dimension1 and position your cursor in the center of Dimension2, dropping the dimension will swap the positions of the two dimensions.
Swap dimension Dimension1 with Dimension2

- When you drag Dimension1 and position your cursor on the left side of Dimension2, Dimension1 is dropped immediately to the left of Dimension2.

Drop Dimension1 before dimension Dimension2

- When you drag Dimension1 and position your cursor on the right side of Dimension2, Dimension1 is dropped immediately to the right of Dimension2.

Drop Dimension1 after dimension Dimension2

If you drag a dimension and drop it immediately to the left or right of an existing column or row dimension, you can see more detail along the columns or rows of a view. For instance, you could drag the plan_time dimension to before the plan_department dimension in the columns of a view to see the detail for time and departments in the columns.

<table>
<thead>
<tr>
<th>budget</th>
<th>Total Business Unit</th>
<th>actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>plan_time</td>
<td>plan_department</td>
</tr>
<tr>
<td>Default</td>
<td>2003</td>
<td>plan_time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenue</th>
<th>PSO</th>
<th>Marketing</th>
<th>Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>610,334,590</td>
<td>286,208,285</td>
<td>579,173,443</td>
<td></td>
</tr>
<tr>
<td>COS</td>
<td>137,096,199</td>
<td>401,091,050</td>
<td>140,730,601</td>
</tr>
<tr>
<td>Operating Expense</td>
<td>148,807,766</td>
<td>333,214,541</td>
<td>154,310,605</td>
</tr>
<tr>
<td>Net Operating Income</td>
<td>324,536,635</td>
<td>526,098,114</td>
<td>283,632,237</td>
</tr>
</tbody>
</table>

Hiding Dimensions

To save valuable screen space, use the Hidden tab to hide dimensions from the column, row, and title positions in the Cube Viewer.

Hidden dimensions still apply to the data displayed in the view, but do not occupy screen space.

The Hidden tab is displayed at the bottom of the Cube Viewer, in either a closed or opened mode.
You can use drag-and-drop operations to move dimensions from the current view to the Hidden tab.

After a dimension is moved to the Hidden tab, it is only visible when the Hidden tab is opened, as shown in following figure.

You can perform the following tasks with the Hidden tab:

- **Open and close the Hidden tab** - Click the Hidden tab to open the tab and display the dimensions that are currently hidden. Click the Hidden tab again to close the tab.

- **Move dimensions to and from the Hidden tab** - Use a drag-and-drop operation to move dimensions to or from the Hidden tab.

  When dragging a dimension to the Hidden tab, the tab can be either opened or closed.

  To drag a dimension from the Hidden tab back into the view, the tab must first be opened. When moving dimensions from the Hidden tab, you can swap a hidden dimension with the position of a displayed dimension, or drop the hidden dimension to the left or right of a displayed dimension.

  **Note**: If the Hidden tab is open when you drag a dimension to or from it, the tab closes automatically after you finish the drag-and-drop operation.

- **Edit a hidden dimension** - You can use the Subset Editor with a hidden dimension to select a new dimension element or define a new dimension subset.
Click the **Open Subset Editor** button next to a dimension name in the Hidden tab to open the Subset Editor. After editing a hidden dimension with the Subset Editor, the dimension remains hidden and the changes are applied to the current view. For details on the Subset Editor, see “Filtering a Cube View.”

**Filtering a Cube View**

You can filter data in a cube view that contains a single row dimension and one or more column dimensions. When you have two or more dimensions along the columns, you can filter only from the innermost dimension, that is the dimension closest to the view grid.

**Procedure**

1. Click the column element that contains the values that you want to filter.
2. Select a filter.
   - **Pre-defined filter** - Top 10, Bottom 10, Top 10 Percent, Bottom 10 Percent. The filter is immediately applied to the view.
   - **Advanced** - You can define a custom filter by setting filter parameters in the Filter dialog box, as described in the following steps.
3. Select a **Filter** type.

<table>
<thead>
<tr>
<th>Filter Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TopCount</td>
<td>Filters the view to display only the largest n elements, where n is a number specified in the Value option.</td>
</tr>
<tr>
<td>BottomCount</td>
<td>Filters the view to display only the smallest n elements, where n is a number specified in the Value option.</td>
</tr>
<tr>
<td>TopSum</td>
<td>Filters the view to display only the largest elements whose sum is greater than or equal to n, where n is a number specified in the Value option.</td>
</tr>
<tr>
<td>BottomSum</td>
<td>Filters the view to display only the smallest elements whose sum is greater than or equal to n, where n is a number specified in the Value option.</td>
</tr>
<tr>
<td>TopPercent</td>
<td>Filters the view to display only the largest elements whose sum is greater than or equal to n, where n is a percentage of the dimension total specified in the Value option.</td>
</tr>
<tr>
<td>BottomPercent</td>
<td>Filters the view to display only the smallest elements whose sum is greater than or equal to n, where n is a percentage of the dimension total specified in the Value option.</td>
</tr>
</tbody>
</table>

4. Enter a numeric value in the **Value** box.
5. Select a **Sort** order to display the dimension elements in the Cube Viewer in ascending or descending order.
6. Click **OK**.
Results

A small funnel icon displays next to the column element for which you created a filter.

Note: To remove a filter, click the column element for which you created the filter, and click Remove Filter.

Selecting Elements from a Subset

You can select one or more elements from a subset and view the elements, along with associated data, in the Cube Viewer.

Procedure

1. Click the Open Subset Editor button next to any subset. The Subset Editor window opens in your browser.
2. Select the element(s) you want to see in the Cube Viewer.
3. Click OK.

Drilling from a Cube View

In Perspectives and Architect, you can set up drill processes and drill assignments to access related information in your cube views.

Once these drill processes and rules are in place, they are available in TM1 Web. You can use these drill processes and rules to drill to another cube view or to a relational database.

Procedure

1. To drill to another cube view, right-click a cell and click Drill. The target cube view containing information related to the cell opens.
2. To drill through from one cube view to another, right-click a cell and click Drill. The target Cube Viewer opens on a new tab.

Editing Data in a Cube View

You can edit data in the TM1 Web Cube Viewer.

- Enter and edit values directly in the leaf cells of a cube view
- Use data spreading to distribute numeric values in a cube view

Editing Data in Cube View Cells

You can edit data in leaf cells, providing you have Write access to those cells.

Leaf cells appear with a white background in the Cube Viewer.

If you are working in a sandbox, you can save the sandbox to store your values across sessions. See the "Writeback and Sandbox" chapter of the IBM Cognos TM1 User Guide for more information about working with sandboxes.

Procedure

1. Edit a value in a white cell in one of the following two ways.
• **Replace the value** - Single-click a value in a white cell. TM1 Web displays the current value in the cell as highlighted, which indicates that the cell is in Edit mode. You can then type directly over the existing value in the cell, replacing it completely.

• **Edit the value** - Double-click a value in a white cell. TM1 Web displays the current value in the cell with a border, a white background, and a blinking cursor. This indicates that you can selectively edit the existing value by using the left and right arrow keys on your keyboard to position the cursor within the value. You can also use the Backspace and Delete keys to remove single numbers from the value.

2. After entering a new number, press **Enter** or click on another cell.

**Note:** When you enter a number into a consolidated cell in the web Cube Viewer, the value is proportionally spread across the consolidation. For example, if you enter 50 into a consolidated cell in the web cube viewer, the value is spread across the consolidation as if you had entered spreading code of 50p. This behavior occurs only in the web Cube Viewer. In Architect/Server Explorer Cube Viewer and in slices from Perspectives and Websheets, you must enter the spreading code to get the value to spread proportionally across the consolidated cells.

The new number displays in bold and italic, which indicates there is a new value in this cell. You must submit the view to the server for the change you made to persist.

**Important:** If you log out of TM1 Web without submitting the new value, the change you made will be lost.

3. Make additional changes, as necessary.

4. Click **Review Data Changes**.
   The Review Cell Value Changes dialog box opens.

5. Do one of the following:
   • Click **Submit** to save the changes to the server.
   • Click **Done** to save the changes in the Cube Viewer, but not submit them to the server.

You can also click **Submit Data Changes** on the Cube Viewer toolbar to submit your data changes without reviewing them.

The Cube Viewer displays the updated values. All values appear in a normal font, indicating that you saved the changes.

**Using Data Spreading**
You can use data spreading to enter or edit numeric data using a predefined distribution method, called a data spread method.

For example, you can evenly distribute a value across a range of cells, or increment all values in a range of cells by a percentage. For details on data spread methods, see “Using Data Spreading” in the IBM Cognos TM1 User Guide.

**Procedure**
1. To spread data, right-click a cell and click **Data Spread**.
2. From the Spreading menu, select any data spread method.
**Note:** TM1 Web saves the spread values to the server. You do not need to submit the data after TM1 Web completes the spread.

**Quick Data Entry Commands**

Typing a data entry command in a cell performs an action on the cell value.

Data entry commands are processed when you press Enter. These commands only apply to the current grid.

These commands are not case-sensitive.

You can use commands across two dimensions, but not across pages.

The following table lists the quick data entry commands.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>Enters the value in thousands.</td>
<td>Example: 5K Enters 5,000</td>
</tr>
<tr>
<td>M</td>
<td>Enters the value in millions.</td>
<td>Example: 10M Enters 10,000,000</td>
</tr>
<tr>
<td>Add, +</td>
<td>Adds a number to the cell value.</td>
<td>Example: Add50 Adds 50 from the cell value</td>
</tr>
<tr>
<td>Subtract, Sub, ~</td>
<td>Subtracts a number from the cell value.</td>
<td>Example: sub8 Subtracts 8 from the cell value</td>
</tr>
<tr>
<td>Percent, per</td>
<td>Multiplies the cell value by a number added as a percentage.</td>
<td>Example: per5 Gives 5% of the original cell value</td>
</tr>
<tr>
<td>Increase, Inc</td>
<td>Increases the cell value by a number added as a percentage.</td>
<td></td>
</tr>
<tr>
<td>Decrease, Dec</td>
<td>Decreases the cell value by a number added as a percentage.</td>
<td>Example: decrease6 Decreases the cell value by 6%</td>
</tr>
<tr>
<td>GR</td>
<td>Grows cells by a percentage.</td>
<td>Example: GR&gt;150:10 Increases the value by 10 percent starting with a value of 150.</td>
</tr>
<tr>
<td>Hold, Hol, H, HC</td>
<td>Holds the cell value from breakback calculations. HC holds the consolidated level.</td>
<td></td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
<td>Action</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Release, Rel, RH, RC</td>
<td>Releases held cells.</td>
<td></td>
</tr>
<tr>
<td>RA</td>
<td>Release all held cells.</td>
<td></td>
</tr>
</tbody>
</table>

**Using Shortcuts in Different Clients**

There are shortcut keys available in the IBM Cognos TM1 Application Web client.

The following table shows the shortcut keys available in the IBM Cognos TM1 Application Web client and in Cognos TM1. Note that not all shortcuts available in IBM Cognos Business Intelligence Planning Contributor are also available in Cognos TM1. See also the notes at the end of the table for important information about using shortcut keys.

<table>
<thead>
<tr>
<th>Cognos Application Web</th>
<th>Cognos TM1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add10</td>
<td>P+10</td>
</tr>
<tr>
<td>Sub10</td>
<td>P~10</td>
</tr>
<tr>
<td>Increase10</td>
<td>P%+10</td>
</tr>
<tr>
<td>Decrease10</td>
<td>P%~10</td>
</tr>
<tr>
<td>Percent10</td>
<td>P%10</td>
</tr>
<tr>
<td>Add10&gt; or &gt;Add10</td>
<td>R+&gt;10</td>
</tr>
<tr>
<td>Sub10&gt; or &gt;Sub10</td>
<td>R~&gt;10</td>
</tr>
<tr>
<td>Increase10&gt; or &gt;Increase10</td>
<td>P%&gt;&lt;10</td>
</tr>
<tr>
<td>Decrease10&gt; or &lt;Decrease10</td>
<td>P%&lt;&gt;10</td>
</tr>
<tr>
<td>Percent10&gt; or &gt;Percent10</td>
<td>P%&gt;10</td>
</tr>
<tr>
<td>&gt;10</td>
<td>R&gt;10</td>
</tr>
<tr>
<td>10&gt;</td>
<td>R&gt;10</td>
</tr>
<tr>
<td>&gt;10K</td>
<td>R&gt;10000</td>
</tr>
<tr>
<td>&gt;10M</td>
<td>R&gt;10000000</td>
</tr>
<tr>
<td>10Grow100Compound&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Grow100Linear&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Gro100Com-&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>Cognos Application Web</td>
<td>Cognos TM1</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>10Gro100Lin&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10G100C&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10G100L&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Grow100&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>1K</td>
<td>1000 (The number ending in K is multiplied by 1000 at the client end and returned to the server)</td>
</tr>
<tr>
<td>1M</td>
<td>1000000 (The number ending in M is multiplied by 1000000 at the client end and returned to the server)</td>
</tr>
</tbody>
</table>

- When a shortcut such as 10K is entered, the numbers are multiplied by 1000, or 1000000 at the client end and then the shortcut is converted to the equivalent spreadcode.
- The Cognos TM1 spreadcodes cannot be used in combination with Cognos Business Intelligence Planning Contributor shortcuts. For example, P%Add10 or RPAdd10 are not allowed. Also, Cognos Planning Contributor shortcuts cannot be used in combination with Cognos TM1 shortcuts. For example, Add10Sub20 is an invalid entry.
- The Cognos Business Intelligence Planning Contributor shortcuts of Multiply, Divide, Power and Reset are not available in TM1.
- All Grow commands whether Compound or Linear, are converted to the Cognos TM1 GR spreadcode command. GR command can only do a Linear Growth
- The direction of spread can be entered at the start or the end of the shortcut. Shortcut strings with the direction in the middle are invalid. For example, Add10> or >Add10 are correct, but Add>10 or Add1>0 are invalid.
- All shortcut codes are not case sensitive. For example, add10, Add10, or add10 produce the same result.

**Entering Data into Consolidated Cells on the Web Cube Viewer**

When you enter a number into a consolidated cell in the web Cube Viewer, the value is proportionally spread across the consolidation.

For example, if you enter 50 into a consolidated cell in the web Cube Viewer, the value is spread across the consolidation as if you had entered the spreading code of 50p. This behavior occurs only in the web Cube Viewer. In the Architect/Server Explorer Cube Viewer and in slices from Perspectives and in Websheets, you must enter the spreading code to get the value to spread proportionally across the consolidated cells.

**Excluding Cells from Data Spreading**

You can apply a hold to cells to prevent those cells from being affected by data spreading. You can still edit held cells.
The holds apply only to the user initiating the feature; other users can edit held cells.

**Apply a hold to a single cell or range**
You can apply a hold to a single cell or range.

**Procedure**
1. Select the cell or range.
2. Right-click the cell or range.
3. Click Holds, Hold Leaves.

**Results**
Each held cell displays a red triangle in the lower-left corner as a visual indication that you applied a hold to that cell or range. When you log off, all holds are released.

**Release a hold on a single cell or range**
You can release a hold on a single cell or range.

**Procedure**
1. Select the cell or range of cells.
2. Right-click the cell or range.
3. Click Holds, Release Leaf Holds.

**Results**
The released cells can accept values from data spreading operations.

**Note:** To release all holds that you applied to all cubes, right-click any cell in any cube, click Holds, Release All Holds.

**Excluding Consolidations from Data Spreading**
You can hold the value of a consolidation constant while adjusting the underlying leaf values. For example, when performing a what-if analysis you might want to hold a value constant while changing the values of the leaves.

When you apply a consolidation hold and change the value of its leaf elements, proportional spreading is applied to the remaining leaf values so that the consolidation value remains unchanged.

**Apply a consolidation hold to a single cell or range**
You can apply a consolidation hold to a single cell or range.

**Procedure**
1. Select the cell or range.
2. Right-click the cell or range.
3. Click Holds, Hold Consolidate.
Results

Each held consolidation displays a red triangle in the lower-left corner of a cell as a visual indication that you applied a hold to that cell or range. When you log off, all holds are released.

Release a consolidation hold on a single cell or range

You can release a consolidation hold on a single cell or range.

Procedure

1. Select the cell or range of cells.
2. Right-click the cell or range.
3. Click Holds, Release Consolidate.

Results

The consolidated value can now reflect any changes that you make to the underlying leaf values.

Note: To release all holds that you applied to all cubes, right-click any cell in any cube, click Holds, Release All Holds.

Creating a New Cube View

If the views for a cube do not satisfy your analysis requirements, you can create a new view by using the View Builder Wizard. The wizard takes you through the following steps to create a new view:

- Define the location of dimensions in the view
- Select the elements to be used in the view
- Save the view as a private view on the server to which you are connected

Procedure

1. Click New View beneath the cube from which you want to build a view.

   TM1 Web displays the View Builder Wizard with your default view in the Content pane. TM1 Web determines the default view, as follows:

   - If you have a private named default view of the cube, TM1 Web displays it in the View Builder.
   - If you do not have a private named default view of the cube, but a public named default view exists, TM1 Web displays the public view in the View Builder.
   - If you have neither a private named default view nor a public named default view of the cube, TM1 Web displays the system default view in the View Builder. In the system default view, the last dimension in the cube definition is the column dimension, the next-to-last dimension in the cube definition is the row dimension, and all other dimensions are title dimensions.
2. Set the location of dimensions in the new view. There are four possible dimension locations in a view:
   - **Titles** - Click the button at the intersection of the dimension name and the Titles column in the dimension location panel.
   - **Rows** - Click the button at the intersection of the dimension name and the Rows column.
   - **Columns** - Click the button at the intersection of the dimension name and the Columns column.
   - **Hide** - Click the button at the intersection of the dimension name and the Hide column.
As you set dimension locations, TM1 Web inserts the dimensions in the appropriate location in the View Depiction section of the View Builder.

**Note:** You can place multiple dimensions in any single location in the view. When you place multiple dimensions in a location, TM1 Web places the dimensions in the order you select them.

The following example shows two row dimensions: model was selected first, account1 was selected second.

3. For each dimension in the view, click the **Open Subset Editor** button to open the Subset Editor.

4. Click **Subset All** to reveal all elements in the dimension.

5. Select the elements you want to use in the new view.
   - **Title and hidden dimensions** - Select a single element.
   - **Row and column dimensions** - Select any combination of elements.
     To select multiple adjacent elements, click the first element and SHIFT-click the last element. To select multiple non-adjacent elements, CTRL-click each element.

6. Click **OK** to save your element selections and close the Subset Editor.

7. Do one of the following to finish creating a view:
   - To simultaneously save and open the new view, enter a name in the View Name field and click **Save & View**.
     TM1 Web saves the new view as a private view on the server to which you are connected, and enables the Automatic Recalculation and Suppress Zeroes options for the view.
   - To open the new view in TM1 Web without saving the view, click **View**.
     The view opens as an unnamed and unsaved view in TM1 Web. You must click **Save View** to save the view for later access.

8. If you save the view now, you can also set the following options:
   - **Private** - Save the view as either a private or public view.
   - **Default** - Save the view as either the Default view or a named view.
Important: If you do not save the view, TM1 Web discards the view when you close the view or end your TM1 Web session.

Generating a Report from a Cube View

You can generate 'briefing book' style reports in two ways:

- **Cube Viewer** - Select the title dimension subsets and the number of rows to include in the report.
- **Websheet** - Select the title dimension subsets to include in the report. For details, see Chapter 3, “Working with Websheets,” on page 5.

Note: If your installation of TM1 Web is configured to run without Microsoft Excel on the Web server, some limitations may apply when exporting from a Cube Viewer. For details, see “Cube Viewer Export Limitation” on page 38.

Procedure

1. Click **Export**.
2. Select an export format for the report:
   - **Slice to Excel** - Excel documents that retain a link to the server through TM1 functions. When you open the slice and connect to the server with which the slice is associated, the slice displays the current cube values, provided you are running Excel with the Perspectives add-in enabled.
   - **Snapshot to Excel** - Excel documents that contain numeric values reflecting the cube values at the moment the export occurred. Because snapshots do not retain a link to the server, the values are static, representing a snapshot of cube values at the moment of export.
   - **Export to PDF** - PDF documents that display cube values at the moment the export occurred.

   The Export dialog box opens.
3. Select the number of rows to export:
   - **Export rows in current page** - Exports all rows in the current page.
   - **Export rows from beginning to current page** - Exports the first row in the first page through the last row in the current page.
   - **Export all rows in the view** - Exports all rows from all pages.
4. Select the title dimensions that you want to include in the report.
5. Click **OK** to create the report.

   The report sheets are generated and prompts you to either open or save the report.
6. Do one of the following:
   - Click **Open** to open the report in a new browser window.
   - Click **Save** to save the report to disk.

   **Note:** By default, exporting a slice or snapshot report to Excel displays the report in a web browser window.

   For details on configuring your computer to open reports into the full, stand-alone version of Excel, see the Microsoft support web site.

   Additionally, if you want to use TM1 functionality with a slice that you export to Excel, you must open the slice in the stand-alone version of Excel and have a local version of Perspectives or Client installed on your computer.
Note: If you are experiencing problems exporting Excel or PDF files and you are using a WAN (Wide Area Network) server, you may need to re-configure the security settings in Internet Explorer. For details, see the "Administrating TM1 Web" chapter in the IBM Cognos TM1 Web Guide.

Cube Viewer Export Limitation

When Microsoft Excel is not present on the TM1 Web server, and you export a Cube Viewer using either the Slice to Excel or Snapshot to Excel options, any charts present in the Cube Viewer are not exported to the resulting worksheet.
Chapter 5. Working with Charts

This section illustrates how to view a chart in Cognos TM1 Web.

Procedure
1. Open a view.
2. Do one of the following to view a chart:
   • Click View Chart to view cube data in chart format only.
     A column chart, the default chart type, is displayed.
   • Click View Chart and Grid to view cube data in both chart and grid format.
     A grid is displayed at the top, and a column chart, the default chart type, is displayed at the bottom.
   • Click View Grid to view cube data in grid format only.

Changing the Chart Type

You can change the chart type from the Chart Properties menu.

Follow the steps below to change the chart type.

Procedure
1. On the toolbar, click Chart Properties > Chart Type.
2. Select one of the available chart types, such as Point, Line, Column, or Pie.

Drilling from a Chart

If your administrator has defined drill-through processes and rules for cube cells represented in a chart, you can drill through to associated data from the chart.

For details on creating drill-through processes and rules, see the IBM Cognos TM1 Developer Guide.

If a chart component is associated with a single source of associated data, the data immediately opens on a new View tab. If the chart component is associated with a multiple sources of associated data, you are prompted to select a single source.

For example, this section illustrates how to execute a drill.

Procedure
1. Click View Chart to display the chart.
2. Right-click a column in the chart and click Drill Through.
   If the cell is linked with two or more sources of associated data, the Drill dialog box opens, listing the data sources associated with the chart component.
3. Select the source you want to view and click Select.

Results

The selected data opens on a new View tab.
Chapter 6. Editing Subsets in TM1 Web

This section describes how to use the IBM Cognos TM1 Web Subset Editor to create and manage lists of elements that identify the data you want to analyze.

Subset Editing Overview

The Subset Editor tool lets you define a subset for any dimension to limit the number of elements used in a view.

A dimension can have thousands of elements. It is unlikely, however, that any view will require all elements from all dimensions. In most cases, you should limit the elements used in a view to those that are required for a specific analysis of your data.

For best results, limit the number of elements that appear as title elements. That way, if you view the data over slower Internet connections, your data displays more efficiently.

Subset Editor Types

You can run the Subset Editor in two modes:

Simple - Lets you limit the number of elements in a subset.

Advanced - Lets you perform advanced tasks such as filtering and sorting elements. For details, see “Displaying the Advanced Subset Editor” on page 43.

Dynamic versus Static Subsets

When you open a dynamic subset in TM1 Web, a warning message displays informing you that the dynamic subset will be converted into a static subset: “This Subset was created using an expression. Modifying this subset will delete the expression and convert the subset into a static subset.”

After you make changes to the subset, and save the subset, TM1 Web replaces the dynamic subset with a static subset.

To edit a dynamic subset without converting it to a static subset, use the Server Explorer Subset Editor.

Opening the Subset Editor

You can open a Subset Editor from a Websheet or Cube Viewer.

Procedure

1. From a Websheet, click Open Subset Editor at the far right end of a title dimension.

2. From a Cube Viewer, click Open Subset Editor at the far right end of a subset.
Building a Simple Subset

Use the Subset Editor simple mode to change the elements in a subset, and to view those elements immediately.

Procedure

1. Click **Open Subset Editor** next to any dimension.
   
   The simple Subset Editor opens.
   
   The following buttons are available in the Subset Editor.

<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Subset All" /></td>
<td>Subset All</td>
<td>Displays all elements in the dimension. The list of all elements in a dimension is known as the All subset.</td>
</tr>
<tr>
<td>![Keep Selected Element(s)]</td>
<td>Keep Selected Element(s)</td>
<td>Displays only the elements that you select, and removes all other elements from the current subset. However, the removed elements still exist in the dimension.</td>
</tr>
<tr>
<td>![Delete Selected Element(s)]</td>
<td>Delete Selected Element(s)</td>
<td>Removes the elements that you select from the current subset.</td>
</tr>
<tr>
<td><img src="image" alt="Find in Subset" /></td>
<td>Find in Subset</td>
<td>Enables you to search for elements in the current subset based on the search text that you enter.</td>
</tr>
<tr>
<td><img src="image" alt="Subset" /></td>
<td>Subset</td>
<td>Displays a list of subsets, and displays the subset that you select with elements of that subset.</td>
</tr>
</tbody>
</table>

2. In the Subset list, do one of the following:
   
   * Select a named subset.
   
   * Click **Subset All** to view all elements in the dimension. The elements that are members of the selected subset are displayed.

3. Select one or more elements, and click **Keep Selected Element(s)**. The elements that you selected remain in the list, all other elements are removed.

4. Select one or more elements, and click **Delete Selected Element(s)** to remove elements from the list.

5. To search for elements in the current subset, click **Find in Subset** and type your search phrase. For details on using Find in Subset, see “Finding Elements” on page 48.

6. Click **OK**.
Results

Your view is updated to include only the elements that you selected in your subset.

Displaying the Advanced Subset Editor

If you want to perform advanced editing tasks on a subset, you must use the advanced Subset Editor instead of the simple Subset Editor.

Procedure

1. Click Subset Editor next to any dimension.
   The simple Subset Editor opens.
2. Click Advanced at the bottom of the simple Subset Editor.

Results

The advanced Subset Editor contains two panes.
- Available Elements (left pane) - Displays all the elements that are available to be added to your subset.
- Subset (right pane) - Displays only the actual members of the subset. When you save a subset, only the elements in the Subset pane are saved to the subset.

Using the Advanced Subset Editor Toolbar

The editing tasks available in the Advanced Subset Editor are accessed from its toolbar buttons.

The following table describes the Subset Editor toolbar buttons:

<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![icon]</td>
<td>Save Subset</td>
<td>Saves only the elements that appear in the Subset list to the subset.</td>
</tr>
<tr>
<td>![icon]</td>
<td>Save Subset As</td>
<td>Saves only the elements that appear in the Subset list to the subset with a different name.</td>
</tr>
<tr>
<td>![icon]</td>
<td>Reload Subset</td>
<td>Reloads the original subset.</td>
</tr>
<tr>
<td>![icon]</td>
<td>Subset All</td>
<td>Displays all the elements in the parent dimension.</td>
</tr>
<tr>
<td>![icon]</td>
<td>Cut, Copy and Paste</td>
<td>Cuts, copies, and pastes the selected elements of a subset.</td>
</tr>
<tr>
<td>![icon]</td>
<td>Keep Selected Elements</td>
<td>Keeps elements that you select for the subset.</td>
</tr>
<tr>
<td>![icon]</td>
<td>Delete Selected Elements</td>
<td>Removes elements that you select from the subset.</td>
</tr>
<tr>
<td>Button</td>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| ![Filter Subset](image) | Filter Subset | Allows you to select a group of elements in a subset that have related characteristics. You can filter elements in these ways:  
- Filter by Level  
- Filter by Attribute  
- Filter by Expression |
| ![Sort Subset](image) | Sort Subset | Lets you sort a subset in several ways:  
- Sort Ascending  
- Sort Descending  
- Sort Hierarchically  
- Sort by Index Ascending  
- Sort by Index Descending |
| ![Tree Expand](image) | Tree Expand | Expands the tree in several ways:  
- Drill Down Selected Consolidations - Expands the selected consolidation one level.  
- Expand Selected Consolidations - Expands the selected consolidation, showing all descendents.  
- Expand Tree Fully - Expands the entire hierarchy, showing all children of all parents. |
| ![Tree Collapse](image) | Tree Collapse | Collapses the tree in two ways:  
- Collapse Selected Consolidations - Collapses the expanded consolidation, hiding all descendents.  
- Collapse Tree Fully - Collapses the entire hierarchy. |
| ![Insert Parents of Selected Elements](image) | Insert Parents of Selected Elements | Inserts the parent of the selected element immediately above that element in the hierarchy tree. |
| ![Expand Above](image) | Expand Above | Displays consolidations at the bottom of the list of children, in both the Available Elements and Subset lists. The children of the consolidation expand above the consolidation. |
| ![Create Custom Consolidation](image) | Create Custom Consolidation | Allows you to build consolidated elements on the fly when working with a view.  
For details, see "Creating Custom Consolidations" on page 51 |
| ![Find in Subset](image) | Find in Subset | Enables you to search for elements in the current subset based on the search text you enter. |
Moving Elements

You can move elements from the Available Elements pane to the Subset pane using a drag-and-drop operation.

In this example, if you click Other Revenue in the Available Elements pane, you could drag the element to beneath Sales in the Subset pane.

Moving Consolidations

You can move a consolidation from the Available Elements pane to the Subset pane using a drag-and-drop operation.

When you move a consolidated element, the children of the consolidation also move.

For this example, suppose you have a consolidation element named Revenue.

If you select Revenue, and drag it to the Subset pane, a collapsed consolidation is added to the Subset pane.

If you expand Revenue in the Available Elements pane, and select the consolidation and its children, you can drag the consolidation to the Subset pane. The expanded consolidation is added to the Subset pane.
In both of the examples, the Revenue consolidation and its children are added to the Subset list. However, the state of the consolidation in the Subset list reflects the way the consolidation displays. In the first example, Revenue displays as a collapsed consolidation. In the second example, Revenue displays as an expanded consolidation and its children will be visible.

**Keeping Elements**

You can reduce the list of elements in the Subset pane to only those elements you want to keep in your subset.

In this case all other elements are removed from the subset.

*Note:* You can reduce the size of the Available Elements list to narrow your search for elements to add to your subset, but this has no effect on the elements in the Subset list.

**Procedure**

1. Select the elements that you want to keep in the Subset list.

2. Click **Keep Selected Element(s)**.

   Only the elements that you selected to keep remain visible in the Subset list.

3. Click **Save Subset** to save the subset.

**Deleting Elements**

You can remove selected elements from the Subset pane.

**Procedure**

1. Select one or more elements in the Subset pane.

2. Click **Delete Selected Element(s)**.

**Results**

The selected elements are removed from the Subset pane. The removed elements still exist in the dimension.

*Note:* To display all subset elements that you removed, click **Subset All**.

**Filtering Elements**

You can filter elements in either the Available Elements pane or Subset pane.

Use these options:

- **Filter by Attribute** - Displays only the elements that match an attribute that you specify.
- **Filter by Level** - Displays only the elements that match a level in the element hierarchy.
- **Filter by Expression** - Displays only the elements that match a pattern.

**Filtering by Attribute**

The Subset Editor lets you filter elements by attribute value.
Procedure

1. Click Filter Subset, and click Filter by Attribute.
2. In the Select Attribute list, select an attribute.
3. In the Select value to match list, select a value.
4. Click OK.

Results

All subset elements whose selected attribute matches this value remain in the element list. All subset elements whose selected attribute does not match the value are removed from the element list.

Filtering by Level
The Subset Editor lets you filter elements so that only elements belonging to one or more specified hierarchy levels remain.

Consider the following example of a three-level hierarchy.

In this example, you start with the subset shown in the figure, and then eliminate all elements from the subset except those at Level 1.

Procedure

1. Click Filter Subset, and click Filter by Level.
2. Click a level in the list, and click OK.
   For example, if you filtered by Level 1, the following level 1 subset elements remain in the Subset list:
   - Revenue
   - COS

Filtering by Expression
The Subset Editor lets you filter elements so that only elements matching a specified search pattern remain.

For example, suppose you have the following list of elements in either the Available Elements pane or Subset pane.
- Sales
- Other Revenue
- Direct Cost
- Other Costs
- Bank Charges
Now suppose you want to reduce this list to those elements that contain the word 'cost'.

**Procedure**

1. Click **Filter Subset** and click **Filter by Wildcard**.
2. Enter a pattern of alphanumeric characters in the Enter Expression box.
   
   You can use the following two wildcard characters in the Enter Expression box:
   
   - **Question mark (?)** - Placeholder for a single character
   - **Asterisk (*)** - Placeholder for one or more characters

   To isolate all elements whose names contain the string pattern `cost`, type the expression `*cost` in the dialog box that opens.
3. Click **OK**.

**Results**

The element list is trimmed to include only those elements that match the pattern.

---

**Finding Elements**

You can search for elements in either the Available Elements pane or Subset pane by using the Find in Subset toolbar.

This feature performs a simple text search for elements that match a spelling pattern that you enter. This is especially useful when you want to find a specific element within a large list of elements.

**Note:** The Find in Subset feature does not support wildcard characters, such as the question mark (?) or asterisk (*), in your search text. Instead, an asterisk (*) wildcard character is inserted at the beginning and end of the spelling pattern that you enter so that it searches for any occurrence of the pattern in the element list.

For example, if you enter the spelling pattern `ost`, this converts to `*ost*` and matches such as Cost and Boston are found.
Procedure

1. Click Find in Subset or press CTRL+F.
   The Find in Subset toolbar opens in the Subset Editor.
2. Type a spelling pattern in the search box.
   A spelling pattern can include one or more alphanumeric characters, but should not include wildcard characters.
   The list of elements is searched as you type a spelling pattern.
   • If one or more matching elements are found, the first matching element is located and highlighted in the list.
   • If a matching element is not found, the search box temporarily displays a red background.
   You can also start your search at any location within the element list by clicking on an element in that section of the list. The search begins from this new start point when you continue your search.
3. Click Find Next or Find Previous to navigate through the element list when more than one matching element is found.
   You can also use the following keyboard commands to navigate:
   • Press F3 or press ENTER to find the next matching element.
   • Press SHIFT+F3 or press SHIFT+ENTER to find the previous element.
   If a next or previous matching element is not found, the search box temporarily displays a red background, and the search cycles through the list again.
4. Click Close the Findbar to close the Find in Subset toolbar.

Sorting Elements

You can sort all elements in either the Available Elements pane or Subset pane.

Procedure

To sort subset elements, click Sort Subset and select a sort option.

<table>
<thead>
<tr>
<th>Sort Option</th>
<th>Sort Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sort Ascending</td>
<td>Ascending order from A to Z, 0-9.</td>
</tr>
<tr>
<td>Sort Descending</td>
<td>Descending order from Z to A, 9-0.</td>
</tr>
<tr>
<td>Sort Hierarchically</td>
<td>All children appear beneath their parents.</td>
</tr>
<tr>
<td>Sort by Index Ascending</td>
<td>Dimension index, starting at 1.</td>
</tr>
<tr>
<td>Sort by Index Descending</td>
<td>Dimension index, starting at the highest index in the dimension.</td>
</tr>
</tbody>
</table>

Expanding and Collapsing Consolidations

You can expand a consolidation in the Subset Editor to display the immediate children or all descendents of the consolidation.
You can apply the following procedures to elements in either the Available Elements pane or the Subset pane of the Subset Editor.

**Expanding a Consolidation**
You can expand a consolidation.

**Procedure**
1. Select the consolidations you want to expand.
2. Click **Tree Expand**.
3. Select one of the following:
   - Click **Drill Down Selected Consolidations** to view the immediate children of a consolidation. The following figure shows the result of drilling down on the Total Business Unit consolidation.
   - Click **Expand Selected Consolidations** to view all descendents of a consolidation. The following figure shows the result of expanding the Total Business Unit consolidation.
   - Click **Expand Tree Fully** to view all descendents of all parents in the dimension hierarchy.

**Collapsing a Consolidation**
You can collapse expanded consolidations using either a selected consolidation or you can close all expanded consolidations in the subset.

**Procedure**
1. Select the expanded consolidations you want to collapse.
2. Click **Tree Collapse**.
3. Click **Collapse Selected Consolidations**.

   **Note:** To close all expanded consolidations in the subset, click **Tree Collapse**, and click **Collapse Tree Fully**.
Inserting Parents

You can insert the immediate parent of a selected element directly above that element in the Subset Editor.

For example, consider the following example showing several leaf elements.

If you select all elements, and click Insert Parents of Selected Elements, the immediate parents of all selected elements are inserted, as shown in the following example.

Creating Custom Consolidations

When working with a view, you can create custom consolidations from existing subsets or from selected subset elements.

Creating a Custom Consolidation from an Existing Subset

You can create a custom consolidation by inserting an existing subset into the current subset.

The existing subset then becomes a custom consolidation within the current subset.

Procedure

1. Open the Subset Editor for a dimension.
2. In the simple Subset Editor window, click Advanced to open the advanced Subset Editor.
3. Define a subset in the Subset pane.
4. Click Create Custom Consolidation and click Create Consolidation from Subset.
5. Select the existing subset that you want to insert into the current subset as a custom consolidation.
   The selected subset is inserted into the current subset as a custom consolidation.
6. If necessary, click Save Subset or Save Subset As to save the current subset.
7. Click OK.

Results

The subset with the new custom consolidation opens.

Creating a Custom Consolidation from Selected Elements

You can create a custom consolidation from selected elements in the Subset Editor.

Procedure

1. Open the Subset Editor for a dimension.
2. In the simple Subset Editor window, click Advanced to open the advanced Subset Editor.
3. In the Subset pane, select the elements that you want to include in the custom consolidation.
4. Click Create Custom Consolidation and click Create Consolidation from Selected Elements.
   You have now created a custom consolidation that contains the elements that you selected in step 2.
   The custom consolidation the name ]ROLLUP_# is assigned, where # starts at zero and increases by one for each custom consolidation that you create during a server session.
5. Click OK to view the new custom consolidation.
Chapter 7. Writeback Modes and Sandboxes

IBM Cognos TM1 offers different ways to work with data changes.

The Writeback mode in combination with the type of Sandbox determines how changes to the server data are managed. These different options allow the administrator to mix and match a variety of capabilities so that every installation and every usergroup can work in the way that is best for them. TM1 also offers Job Queuing to more efficiently process data change submissions to the server.

If you do not understand TM1 sandboxes, see Using a Personal Workspace or Sandboxes for complete details.

Writeback Modes

In IBM Cognos TM1 you can hold changes in a private area so that you can decide manually when to write the data changes back to the server and thereby make your changes available to others. This private area is called a Personal Workspace or a sandbox, depending on the extent of its capabilities. When you commit the data changes that were in your private area to the base data, the changed values are written to the server.

If you prefer to work directly with the base data without a private workspace, you can choose a direct writeback method. Another option your administrator can offer is the ability to name and store data changes in a named sandbox.

When you work in a sandbox or Personal Workspace, TM1 uses a change in cell coloring to remind you when your data is not yet merged with the base. Once you commit the sandbox or Personal Workspace, the cell color is restored to black. See Understanding cell coloring for changed data values for more information.

Your Administrator assigns the capabilities for each usergroup. Since you could be a member of more than one group, your workspace options can be different depending on your login, the client you use, and the combination of settings. Only Administrators have access to the Capability Assignments.

Ask your administrator for details about how your system is designed to operate. See Understanding different toolbar options to learn how to determine your writeback mode and sandbox setting using the toolbar. See the IBM Cognos TM1 Operation Guide for details about Capability Assignments.

Setting the writeback mode

The Writeback Mode Capability determines how data is write back to the server. Writeback mode is determined by whether a user has the Personal Workspace capability on or off.

<table>
<thead>
<tr>
<th>Description</th>
<th>Personal Workspace Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes are made directly to the base.</td>
<td>Off</td>
</tr>
</tbody>
</table>
Changes are held in a temporary area and are manually written to the base using the Commit button or option. Cell coloring changes when data is changed but not yet committed. You can process using the Job Queue.

### Sandbox Capability

The Sandbox Capability determines if you can name sandboxes or if you have one default sandbox:

<table>
<thead>
<tr>
<th>Description</th>
<th>Personal Workspace Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>You can name the sandbox and manage multiple sandboxes.</td>
<td>On</td>
</tr>
<tr>
<td>Only one default sandbox is available.</td>
<td>Off</td>
</tr>
</tbody>
</table>

The combination of these settings determines how your data changes are stored and processed.

For example, your usergroup may offer direct writeback with named sandboxes. This is the default work design used by TM1. It means you do not have a Personal Workspace (instead you have direct writeback to the server, but you also have the option of naming a set of changes and manually submitting them. With this setting, when you first open a view, you are in the base and any changes you make are written directly to the base. But, if you decide to save your changes in a named sandbox, you can use the Commit button when you are ready to manually send those changes to update the base.

Consider the case where you usually want to send the data directly to the server. Then you have a set of changes that you want to gather in a group before you update the server. You can use the Create Sandbox options to save the current data changes in a private sandbox called Best Case. When you are in the Best Case sandbox, you need to use Commit to send the changes to the base and make the changes available to others. After Best Case is committed, those changes merge with the base so others can see the changes and you are now in the newly updated base. If you are working in a sandbox, it is important to remember that you must manually Commit the sandbox for others to see your changes. Be sure you are ready to make those changes public and that those changes should be merged into the base.

If you move back to the base, you are back to using direct writeback. This setting offers a great deal of flexibility. Users with this setting need to remember when they are updating the base and when the Commit button is needed to make changes available to others.

Or, your administrator may decide that you would like the flexibility to work in a Personal Workspace writeback mode, but you do not want the complexity of creating named sandboxes. In this case, your Administrator can grant you the Personal Workspace writeback mode but deny the Sandbox capability.
Understanding different toolbar options

You can determine how your usergroup is designed to operate based on the options presented on the toolbar. For example, if you have Sandbox granted, you have access to the Create and Delete Sandbox options. When you do not see a sandbox list, you have Personal Workspace Writeback Mode.

Using direct writeback and named sandboxes

By default, IBM Cognos TM1 is set to use a direct writeback with named sandboxes. Your Administrator may have set your work options to something different.

<table>
<thead>
<tr>
<th>You want to</th>
<th>Personal Workspace Mode</th>
<th>Sandbox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have data changes update the server immediately. Occasionally, you want</td>
<td>Off</td>
<td>On</td>
</tr>
<tr>
<td>to save a set of changes and name them before committing them to the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>server.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When you have direct writeback and named sandboxes the toolbar starts out with the Commit and reset Data buttons grayed, the Sandbox button available, and the sandbox list area displays [Base]:

The Sandbox button indicates that you can create and delete sandboxes. The Commit button is grayed but is present because there is nothing to commit yet. If you made a data change and decided to save it in a named sandbox, Commit and Reset Data would become available. Cell coloring would only change when you named a sandbox. Until you name a sandbox, you are operating in the base.

If Job Queuing is turned on, submitting the sandbox to the server is subject to queue processing before the data changes are committed.

Using a Personal Workspace and named sandboxes

The Personal Workspace provides a private work area where users can evaluate data changes before committing the changes to the base. Once data is committed, it is merged with the base and becomes available to other users.

Using a Personal Workspace typically offers a performance improvement over Direct Writeback as users can evaluate their data changes before making a Commit, so in most cases there is less server processing. When Job Queuing is turned on, your Personal Workspace is subject to processing in the queue before committed changes are merged with the base.

In Personal Workspace, you begin with the base data. As you make data entry changes, the content that changes, including dependent cells such as consolidations or rule-generated values, change color to blue to remind you that these changes have not yet been merged with the base model. When you Commit the Personal Workspace and processing is complete, the color changes back to black and you are once again working on the Base. See Understanding cell coloring for changed data values.
When you have Personal Workspace granted and the ability to name sandboxes also granted, the starting point for sandbox data is identified in the toolbar as [Default].

You have access to the Commit and Reset Data buttons when you work in Personal Workspace.

<table>
<thead>
<tr>
<th>You want to</th>
<th>Personal Workspace Mode</th>
<th>Sandbox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always work in a private area and decide when to commit your changes to the server manually. Occasionally, you want to save a set of changes and name them something such as &quot;Best Case&quot; before committing them to the server.</td>
<td>On</td>
<td>On</td>
</tr>
</tbody>
</table>

When you have Personal Workspace and named sandboxes, the toolbar includes Commit, Reset Data, Sandbox buttons and the sandbox starting point is called [Default]:

You have the Commit and Reset Data buttons because you are working in a Personal Workspace. The [Default] sandbox is the way to identify the starting sandbox until you name a sandbox.

**Personal Workspace without named sandboxes**

If you have access to a Personal Workspace but do not have the ability to name a sandbox, you do not see the Create and Delete Sandbox buttons and there is no area to list sandboxes since you always work in the same (and single) Personal Workspace.

<table>
<thead>
<tr>
<th>You want to</th>
<th>Personal Workspace Mode</th>
<th>Sandbox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always work in a private area and decide when to commit your changes to the server manually. You do not want to allow the naming of multiple sandboxes.</td>
<td>On</td>
<td>Off</td>
</tr>
</tbody>
</table>

When you have a Personal Workspace but do not have the ability to create named sandboxes, the toolbar offers Commit and Reset Data but no sandbox listing area:

Since you always work in the same Personal Workspace, there are no sandbox names to list but you have access to Commit and Reset Data.

**Direct writeback without sandboxes**

This is the classic, direct writeback mode for IBM Cognos TM1. In this mode you do not have access to named sandboxes or a Personal Workspace. You do not have access to the Commit or Reset Data buttons, or have the ability to use Job.
Queuing. Data changes are not identified by color changes in this option. Data changes in this mode immediately update the server.

To use direct writeback across the entire installation, you can use the DisableSandboxing=T setting in the server configuration file. When sandboxing is disabled across the server with this configuration setting, the Capability Assignments are ignored.

<table>
<thead>
<tr>
<th>You want to</th>
<th>Personal Workspace Mode</th>
<th>Sandbox</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have your changes take effect immediately in the server. All changes are immediately available to other users.</td>
<td>Off</td>
<td>Off</td>
</tr>
</tbody>
</table>

The toolbar in this case does not have any of the sandbox buttons, Commit, or Reset Data:

You have no access to any kind of sandbox. The only way to take back data changes in this mode is using Undo/Redo.

**Using a Personal Workspace or Sandboxes**

It is helpful to understand how IBM Cognos TM1 implements the sandbox concept. This section describes sandboxes and Personal Workspace's in detail.

The sandbox feature lets you create your own personal workspace or sandbox where you can enter and store data value changes separate from base data. A sandbox is not a copy of the base data, but a separate overlay or layer of your own data values that you have entered on top of the base data. This distinction provides a significant performance improvement and is important to understand as you make changes to your data.

- **Base data** is the data that all users can access. Any edits made to base data are written directly back to the database.
- **Sandbox data** is your own personal work area where you can edit the data values as many times as you want and keep the changed data separate from the base data. Sandboxes and Personal Workspace's are private to each user and cannot be seen by other users. Your data values are viewable to others only when you commit them back to the base data. A Personal Workspace is a special, default sandbox that is unnamed and always where you work if that capability is turned on.

Sandboxes are not stored on the client. They consist of a separate and private area of the server. When you work in a sandbox, think of the base model data shining through to the sandbox. When you make a change to data in the sandbox, it is as if the base model data value is temporarily blocked by the value you entered in the sandbox. In order to make the base model take on the values in the sandbox, you must Commit the sandbox. Once the sandbox data values are committed, they are merged with the base so that the changed values then update and become the base values.
Features of Sandboxes and Personal Workspace's include:

- Private data changes.
  Sandboxes and Personal Workspace's let you try out different changes to the data before making those changes public to other users and before committing those changes to the base data.

- Cell Coloring.
  Changes to cell values in a sandbox or Personal Workspace are identified by a change in cell content colors. The cells change color to remind you that the change has not yet been merged to the base data. Once data is committed and processing has completed, the cell coloring turns to black again.
  Cell coloring is also applied to any dependent cells, such as consolidated or rule calculated cells, that your edits affect. For details, see “Understanding cell coloring for changed data values” on page 59.

- Queuing.
  Sandbox and Personal Workspace submissions can be processed using Job Queuing so jobs waiting for resources do not hold up jobs that can be processed right away. The Job Queue also allows you to cancel a submission. See Canceling a job in the queue.

- Manual Commit.
  When working in a sandbox or Personal Workspace, the Commit button becomes available so you can decide when to commit changes to the base. When you commit the data, your changes become available to other users.

- Reset Data.
  In a sandbox or Personal Workspace, the Reset Data button becomes available and lets you return to the status of your sandbox since the last time it was committed.

- Named sandboxes let you create "on-the-fly, what-if Scenarios."
  Depending on your configuration settings, you can name multiple sandboxes, such as "Best Case" or "Worst Case" and then compare the impact of your edits by switching between them.

**Remember:** Your administrator may have disabled sandboxes for your environment or have changed the writeback mode for your usergroup.

To work in a sandbox, you must first open a view and then either create a new sandbox or select an existing sandbox. When working in a sandbox, the selected sandbox applies to all the other views in your current user session.

### Data values for leaf and consolidated cells in a sandbox

The data values for leaf and consolidated cells in a sandbox are calculated.

- Leaf cell values in a sandbox are a combination of the values in the base and sandbox cells. The user-entered values in sandbox leaf cells over-ride the values in the base. Any leaf cell that has not been changed in a sandbox still shows the base data.
- Consolidated cells in a sandbox contain values that are the sum of the leaf cells displayed in sandbox.

### Resetting data values in a sandbox or Personal Workspace

Resetting a Personal Workspace or Sandbox or clears all the changed data values that you have entered up to that point and resets all the data values back to the current values in the base data.
Procedure

Depending on which TM1 component you are using:

- In TM1 Web and Server Explorer / Architect, click the Sandbox list and select **Reset Sandbox**.

- In TM1 Perspectives/Microsoft Excel, click the Reset Sandbox button 🔄 on the Sandbox toolbar.

Results

All data values in the sandbox are set to the current values in the base data. Any cell coloring is cleared and set to black.

Understanding cell coloring for changed data values

When you enter a new value in a Personal Workspace or Sandbox, a visual indicator is applied to the cell to remind you that the new value is different from the base values. The color of the data changes from black to either blue or green, or the appearance of the cell changes, depending on which TM1 component you are using. Any dependent cells, such as consolidated or rule calculated cells, also change in appearance if your edits cause them to be recalculated.

The following table summarizes the cell coloring that is applied in the different TM1 user interfaces when you enter new data values in a sandbox or Personal Workspace.

<table>
<thead>
<tr>
<th>Cell Color</th>
<th>TM1 Component</th>
<th>Writeback Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>TM1 Perspectives / Microsoft Excel / Architect</td>
<td>When you input a new value there is no color change. All values display in black.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Committed Personal Workspace or Sandbox data.</td>
</tr>
<tr>
<td>Blue</td>
<td>Server Explorer</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Newly input data. Edits, dependent or consolidated calls, recalculated cells</td>
</tr>
<tr>
<td>Left bottom corner of cell displays in blue</td>
<td>TM1 Perspectives / Microsoft Excel</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Newly input data. Edits, dependent or consolidated calls, recalculated cells</td>
</tr>
<tr>
<td>Green</td>
<td>TM1 Web Cubeviewer and Websheets</td>
<td>New values</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New values</td>
</tr>
</tbody>
</table>
Committing changed data from a Personal Workspace or sandbox to base

The Commit command or button merges all of the changed data values in your Personal Workspace or Sandbox to the base data. You cannot use the undo command to undo a commit action.

**Note:** When you have multiple sandboxes and commit one of them to base, the new base values are automatically applied to all the unchanged cells in your other sandboxes. If you entered new data values in any other sandbox, those data values remain and do not show the new values that were committed to the base data.

The following figure shows an example of committing sandbox values to the base data when you are working with multiple sandboxes. In this figure, the new values in Sandbox 3 are committed to base data and then the new base values are applied to all the unchanged cells in the other sandboxes. The figure shows how sandbox cells that contain changed data are not updated.

**Procedure**

Depending on which TM1 component you are using:

- In TM1 Web and Server Explorer / Architect, click the Sandbox list and select **Commit Sandbox**.

- In TM1 Perspectives/Microsoft Excel, click the Commit Sandbox button on the Sandbox toolbar.

TM1 performs the following actions:

- The changed data values in the current sandbox are saved to the base data.
- The cell coloring for any changed data in the current sandbox is cleared and set to black.
- The new base data values are applied to all the unchanged cells in your other sandboxes.

When you have multiple sandboxes, you can use the menu bar pull-down options to create, delete and select the different sandboxes available to you. Some interfaces offer a Delete Sandbox button.
Job Queuing

To maximize processing speed and reduce "traffic jams" when writing back data, Personal Workspace and Sandbox submissions can be processed using a job queue.

To turn on job queuing, your administrator sets the JobQueuing=T parameter in the server configuration file. If this parameter is set to F or not present, Sandbox or Personal Workspace submissions do not use a job queue. In Direct Writeback mode there is no job queuing regardless of this setting. IBM Cognos TM1 Contributor does not use the job queue.

The benefits of using submission queuing include:

- Performance improvements.  
  Use of the queue prevents data that is waiting for resources to hold up other jobs that are ready to process.
- Concurrent work.  
  The queue allows users to continue working on other jobs while waiting for resources to be freed up on a particular job.
- Transparency of processing.  
  The queue lets users monitor the activity level in the queue.
- Efficient use of processing resources.  
  The queue allows users to cancel jobs if necessary.

When the Job Queue is enabled and a Personal Workspace or sandbox is submitted using a Commit or Submit button, the changed data enters the queue as a job and is processed only when the resources needed to complete the calculations specified by the cubes become available. If other sandboxes or Personal Workspace's are submitted while the original sandbox waits for resources, the second submitted sandbox can proceed without waiting for the first one to resolve its resources.

When job queuing is enabled, the job queue button displays on the toolbar. You can press this button to display the contents of the job queue. You can use the Job Queue and Refresh buttons proactively to see how many jobs are waiting to be submitted or to monitor the progress of a particular submission. Administrators can see all the jobs waiting to be processed in the queue. Users without Admin rights see only their own sandbox submissions.

Queuing progress is based on whether resources are available, not on the amount of data being processed. A submission with a large amount of data that resolves its resources will be processed before a submission with a small amount of data that needs a resource that is in contention.

In many cases sandbox submission will be instantaneous. At times of high concurrent submissions, a user can display the queue and decide to cancel a job. Users can cancel only their own jobs. Administrators can cancel any job in the queue.

When you have submitted a Personal Workspace or sandbox to the job queue:

- In the data, any changed cells remain blue. When the sandbox completes processing, those cells turn black.
- If you have Sandbox turned on, you can create a new sandbox or select an existing one and work as usual, including performing a read, write, or submit. Those submissions will also become subject to the queue. You can even create a
new sandbox based on the queued data and work with those values in the new sandbox before the queue processes the transactions.

- You can freely query any data in or out of a sandbox or Personal Workspace, but if you try to update the data, the following message displays so you can indicate your intentions:

  You are attempting to perform Data Entry while previously committed data changes reside in the queue. Click Yes to remove your submission from the Queue and continue with data entry, or click No to defer your current data entry until the system completes processing of your currently queued job.

  - To remove your submission from the queue and retain the data changes you just entered, click **Yes**.
  - When you cancel the job, the data entry is appended to the current sandbox so you can continue working with it and possibly submit it at a later time.
  - To wait until the current job completes processing, click **No**.

  When you click No, the data entry that is not part of the job is disregarded and the submission continues uninterrupted. Be sure you are willing to lose that data when you click **No** in this situation.

**Viewing the Queue**

Click the Job Queue button to display the current state of the queue. You can select all jobs or select individual jobs to take action on using the Select check boxes.

There are two tabs in the Job Queue: Active Jobs and Processed Jobs.

Before a job completed processing, it displays in the Active Jobs tab. Everyone can see all active jobs in the queue, not just their own. The information available for each job includes: a selection check box, the relative position in the queue (No.); the user that submitted the job (Client ID); the date and time of the submission (Submission Time); the length of time the job spent in the queue (Duration); and the current status (Pending, for example).

When a job is Pending, you can click the Cancel Job button to cancel the job.

Once a job completes processing, the Processed tab is populated with the job information including the addition of Completion time if the job completed or was canceled. A user can only see their own processed jobs.

Use the Refresh Queue button to update the job submission listing, if necessary.

You can also use Recalc or Refresh and watch for the blue cell coloring to change to black in the sandbox to indicate that the data has been written to the server.

**Cancelling a job in the queue**

Use the Selection check boxes to indicate which job submission to cancel. You can select individual jobs by selecting their individual check box or click the Select All check box to select all jobs currently shown on the Active tab. Click the Cancel job button after you have selected the jobs to remove from the queue.
Chapter 8. TM1 Web and Scorecarding

As of IBM Cognos TM1 Web version 10.2, scorecarding features are integrated into Cognos TM1 Web. You can view and interact with scorecarding cubes and diagrams directly within Cognos TM1 Web.

Using Cognos TM1 Scorecarding, you can:

• Visually monitor organizational strategy and goals
• Monitor your key performance indicators (KPIs) with traffic light status and trend icons
• View and interact with scorecard diagrams and data visualizations

What is Scorecarding?

Scorecarding is a collection of performance metrics designed to reflect the strategic goals of a business unit or organization. Scorecard information tells you how well the objectives are being met by comparing planned to actual results. Scorecards can also show information for the different organizations in your business. By using visual status indicators such as traffic light and trend icons, scorecards can help you to quickly evaluate business performance.

Scorecarding uses metric dimensions and metric indicator dimensions.

Metric
A measure or key performance indicator (KPI) that conveys the performance of an important area of the business. Examples include Profit, Revenue and Expenses.

Metric indicator
A measure of performance, status, or trend for a key area (metric) of a business. A metric indicator compares current results to target values. For example, Score, Status, and Trend.

Working with Scorecard objects in Cognos TM1 Web

You can view and interact with the following Scorecarding objects in Cognos TM1 Web:

Metrics Cubes
A metrics cube is a special type of Cognos TM1 cube that provides the basis for scorecard diagrams. This type of cube combines a metrics dimension and a metric indicator dimension with other regular TM1 dimensions, such as time, geography, or products. You can view and analyze scorecard information in a metrics cube using the traffic light status and trend indicator icons that display directly in the cells of the cube.

Impact Diagrams
Impact diagrams visualize the positive and negative relationships between the metrics in your metrics cube. This type of diagram shows how one metric impacts another metric.

Strategy Map Diagrams
A Strategy Map is an industry standard visualization diagram that combines perspectives, objectives, and metrics with traffic light status and trend indicators icons in one diagram.

**Scorecarding Modeling**

Scorecarding objects are created in IBM Cognos TM1 Performance Modeler. For more information contact your administrator or see the *IBM Cognos TM1 Performance Modeler Guide*.

**Scorecarding Samples**

The Cognos TM1 installation provides a scorecarding database sample called *GO_scorecards*. For more information about using this sample, contact your administrator or see the *IBM Cognos TM1 Installation and Configuration Guide*.

**Scorecarding objects in TM1 Web**

You can display and interact with Metrics Cubes, Impact Diagrams, and Strategy Map Diagrams in Cognos TM1 Web.

**Metrics Cubes in TM1 Web**

IBM Cognos TM1 Web displays metrics cubes so you can view and analyze scorecard information. A metrics cubes is a special type of Cognos TM1 cube that provides the basis for scorecard diagrams. This type of cube combines a metrics dimension and a metric indicator dimension with other regular TM1 dimensions, such as time, geography, or products.

The main difference between a metrics cube and a standard cube, is that the metrics cube displays traffic light status and trend indicator icons directly in the cells of the cube. These metric indicator icons show the status and trend of each metric in the cube.

A standard scorecard layout for a metrics cube is:

- **Row title dimension**: Metrics dimension
- **Column title dimension**: Metric Indicator dimension
- **Required context dimension**: Time
- **Optional context dimensions**: Geography, products, or other data context dimensions.
Metric indicators

The metric indicators in a metrics cube measure the performance, status, and trends in key areas of a business by comparing current results to target values. For example, the Actual, Target, and Tolerance indicators for a metric are typically used to calculate the related Score, Status, and Trend indicators.

Metric indicators can be shown as numeric values or visually as traffic light and trend icons. The Metric Indicator dimension is typically shown in the column dimension title of a scorecard cube view.

Traffic light status indicator

A traffic light or status indicator is an icon that shows the status of a Metric indicator. The status is indicated by the color and the shape of the icon as described in the following table.

<table>
<thead>
<tr>
<th>Traffic light icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🟢</td>
<td>A green circle icon indicates a satisfactory status for the associated Metric indicator.</td>
</tr>
<tr>
<td>🟠</td>
<td>A yellow diamond icon indicates caution about the status for the associated Metric indicator.</td>
</tr>
<tr>
<td>🔴</td>
<td>A red square icon indicates a warning about the status for the associated Metric indicator.</td>
</tr>
<tr>
<td>📷</td>
<td>This image represents an incomplete status for when there is no data for the Actual or Target Metric indicators. A score or status cannot be calculated when one of these values is missing.</td>
</tr>
</tbody>
</table>

Trend indicator

A trend indicator shows how the value of one column compares to the value of another column. The trend indicator shows if the value is greater than, unchanged, or less than the other value.
Table 2. Metric indicator trend icons

<table>
<thead>
<tr>
<th>Trend icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🟢</td>
<td>A green upward facing triangle icon indicates that the trend value is greater than the previous period. For example, the value is greater than the previous month or quarter.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>⚪</td>
<td>A gray dash icon indicates that the trend value is unchanged.</td>
</tr>
<tr>
<td>⬇</td>
<td>A red downward facing triangle indicates that the trend value is less than the previous period. For example, the value is less than the previous month or quarter.</td>
</tr>
<tr>
<td>Blank cell</td>
<td>Indicates that the trend is incomplete for that period. A trend cannot be displayed when there is an incomplete status. For example, a trend cannot be displayed for the first time period, such as Q1 (quarter one) since previous data does not exist, even if the metric has a value for Actual, Target, Score, and Status.</td>
</tr>
</tbody>
</table>

Impact Diagrams in TM1 Web

Impact diagrams visualize the positive and negative relationships between the metrics in your metrics cube. This type of diagram shows how one metric impacts another metric.

Note: By default, only one impact diagram can exist for a metrics cube.

Impact diagrams organize your metrics into three categories:

- **Impacting Metrics**
- **Focused Metrics**
- **Impacted Metrics**

For example, an impact diagram might show how Revenue and Expenses impact Profit, which then impacts Bonuses and Research Funding.
The lines in the diagram show the impact relationships between the metrics in the diagram. These lines show if a metric has a positive or negative impact in relation to the focused metric.

- **Solid line** - represents a positive impact from one metric to another metric.
- **Dashed line** - represents a negative impact from one metric to another metric.

Impact diagrams also display traffic light and trend indicator icons to show the status and the trend of each metric in the diagram.

**Strategy Maps in TM1 Web**

A Strategy Map is an industry standard visualization diagram that tracks business performance by *perspectives*, *objectives* and *metrics*.

A Strategy Map organizes perspectives, objectives, and metrics into the following hierarchy:

- A Strategy Map can have multiple perspectives.
- Each perspective can have multiple objectives.
- Each objective can have multiple metrics.

**Perspectives**

The standard perspectives for a Strategy Map include:

- Financial
- Customer
- Internal Processes
- Learning and Innovation
Status and trend indicators

A Strategy Map combines perspectives, objectives, and metrics with traffic light status and trend indicators icons into one diagram. When you hover your mouse over an objective, a detailed list of the status and trend for the related metric indicators is displayed. Hovering your mouse over the indicator icons for a perspective shows the name of the diagram and perspective.

Connections

A Strategy Map can also display directional arrows called connections to show a visual relationship or flow between the objectives in the diagram.

Viewing Metrics Cubes in TM1 Web

You can view a scorecarding metrics cube in IBM Cognos TM1 Web just like any other TM1 cube or view. Metrics cubes are listed in the Cognos TM1 Web Navigation pane along with all the other TM1 cubes and views in the server you have logged into.

Procedure

1. In the TM1 Web Navigation pane, locate the metrics cube that you want to open and do one of the following:
   - Double-click the cube to open the default view.
   - Expand the node for that cube and click a specific view.
The metrics cube opens and displays traffic light and trend indicator icons in the cell values to show the status and trend of each metric in the cube.

2. Use the View Chart and Chart Properties > Metric Diagram icons in the toolbar to view the related scorecarding diagrams for the metrics cube.
   For more information, see “Viewing Impact Diagrams in TM1 Web” and “Viewing Strategy Maps in TM1 Web.”

Viewing Impact Diagrams in TM1 Web

You can view scorecarding impact diagrams in IBM Cognos TM1 Web.

Before you begin

The Cognos TM1 server that you are using must contain at least one scorecard metrics cube in order to display this type of diagram.

Procedure

1. Open a metrics cube view.
   For more information, see “Viewing Metrics Cubes in TM1 Web” on page 68.
2. Change the TM1 Web layout to display a chart.
   In the toolbar, click either the View Chart or View Chart and Grid icon.
   The impact diagram for the current metrics cube view displays.
   
   Note: By default, a metrics cube can have only one impact diagram so there is only one to select.
4. In the diagram, hover the mouse cursor over a metric to see information about the metric indicators for that metric.
5. Click the plus (+) and minus (-) icons next to a metric to expand and collapse sections of the diagram.
6. Use the TM1 Web Subset Editor to change the focussed metric in the diagram to a different metric.
   a. In the cube view, click Open Subset Editor next to the metrics title dimension. The Subset Editor opens.
   b. Drag the metric that you want to use as the focussed metric into the Subset pane.
   c. In the Subset pane, click the metric that you want to use.
   d. Click OK.
   The impact diagram updates to show the selected metric as the focussed metric.

Viewing Strategy Maps in TM1 Web

You can view scorecarding Strategy Map diagrams in IBM Cognos TM1 Web.

Before you begin

The Cognos TM1 server that you are using must contain at least one scorecard metrics cube which must also contain one or more Strategy Map diagrams for that cube.
Procedure

1. Open a metrics cube view.
   For more information, see “Viewing Metrics Cubes in TM1 Web” on page 68.
2. Change TM1 Web layout to display a chart.
   In the toolbar, click either the View Chart or View Chart and Grid icon.
3. Click the Chart Properties > Metric Diagram and select one of the Strategy Map diagrams.

   Note: A metrics cube can contain one or more Strategy Map diagrams.
4. In the toolbar, click the View Chart icon to display the diagram in full-size mode.
5. Hover the mouse over the perspectives and objectives in the diagram to see more details.
Chapter 9. Administering IBM Cognos TM1 Web

You can configure IBM Cognos TM1 to work over the Web.

Changing Your Password in Cognos TM1 Web

Users can change their own IBM Cognos TM1 Web passwords on the login screen.

Procedure

1. On the Cognos TM1 Web login screen, enter your user name and existing password.
2. Click the Change Password check box.
3. Click Login.
   The Change User Password page opens.
4. Enter your new password in the New Password box.
5. Enter your new password a second time in the Confirm New Password box.
6. Click OK to save your new password and continue with the login procedure.

Modifying Cognos TM1 Web Configuration Parameters

The tm1web_config.xml file is an XML file that contains configuration parameters for IBM Cognos TM1 Web.

As of Cognos TM1 Web version 10.2, the new tm1web_config.xml file replaces the web.config file from previous Cognos TM1 Web versions.

The parameters in this file control the following IBM Cognos TM1 Web features.

- View node
- Cube Viewer page size
- Number of sheets to export from a Cube Viewer
- IBM Cognos TM1 Web startup and appearance settings

Cognos TM1 Web Configuration Parameters

The configuration parameters for IBM Cognos TM1 Web are stored in the tm1web_config.xml file.

The tm1web_config.xml file is located in the following location:

<TM1 install location>/webapps/tm1web/WEB-INF/configuration/

The following parameters are available.

**CubeViewerPageSize**

Specifies the number of rows to fetch in a page of cubeviewer.

See “Changing the Cube Viewer Page Size” on page 82.

**CubeViewerColumnPageSize**

Specifies the number of columns to fetch in a page of cubeviewer.

See “Changing the Cube Viewer Page Size” on page 82.
GzipCompressionEnabled
Determines if the web server responses will be compressed. Valid values are true/false.

IntegratedSecurityModuleName
Specifies the name of the login module in the file pointed to by the java.security login configuration file.

NavTreeDisplayServerView
Specifies whether to display the Server View node in the navigation tree. Valid values are Y and N.
See “Displaying or Hiding the Views Node in the Navigation Pane” on page 82.

NavTreeHidden
Determines if the navigation panel will be displayed after a user logs in.
See “NavTreeHidden Parameter” on page 80.

NavTreeCollapsedOnStart
Determines if the navigation panel will be collapsed or expanded after a user logs in.
See “NavTreeCollapsedOnStart Parameter” on page 80.

HideTabBar
If set to true, multiple tabs will not be displayed.
See “HideTabBar Parameter” on page 81.

HideWebsheetToolBar
If set to true, all websheet toolbars will not be displayed.
See “HideWebsheetToolBar Parameter” on page 81.

HideCubeviewerToolBar
If set to true, all Cubeviewer toolbars will not be displayed.
See “HideCubeviewerToolBar Parameter” on page 81.

HomePageObject
If set, the object of type of Websheet, Cubeviewer or URL will be displayed after a user logs in.
See “Configuring a Global Homepage for All Users” on page 76.

MaximumSheetsForExport
Maximum number of sheets allowed to Export.
See “Setting the Maximum Number of Sheets to Export from a Cube Viewer” on page 82.

AdminHostName
If set, users will not be asked to enter a value for Admin Host during login.
See “Configuring the Cognos TM1 Web Login Page using AdminHostName and TM1ServerName parameters” on page 74.

AdminHostPort
If set, the client will try to use this port instead of the default Admin Host port.
AdminHostSSLPort
If set, the client will try to use this port instead of the default Admin SSL Host port.

TM1ServerName
If set, users will not be asked to select a TM1 Server to connect to during login.

See "Configuring the Cognos TM1 Web Login Page using AdminHostName and TM1ServerName parameters" on page 74.

CubeviewerStringWrap
Settings for string cell wrapping in the cubeviewer.

See "Wrapping string values in cube views" on page 83.

RecalcOnDataValidationChange
Specifies whether the default recalculation behavior will be overridden when changing the value of a data validation list.
If set to true, a recalculation will be triggered when a value in a data validation list is changed.
If set to false, a recalculation will not be triggered when a value in a data validation list is changed.

RecalcOnPicklistChange
Specifies whether the default recalculation behavior will be overridden when changing the value of a picklist.
If set to true, a recalculation will be triggered when a value in a picklist is changed.
If set to false, a recalculation will not be triggered when a value in a picklist is changed.

Editing the Cognos TM1 Web configuration file
You can edit the IBM Cognos TM1 Web configuration file to configure different parameters.

The Cognos TM1 Web configuration file is an xml file and should be opened only with an XML-type editor. Opening it using a regular text editor such as Microsoft Wordpad can result in incorrect characters being added that may corrupt the file.

As of Cognos TM1 Web version 10.2, the new tm1web_config.xml file replaces the web.config file from previous Cognos TM1 Web versions.

Procedure
1. Locate and open the tm1web_config.xml file in the following location:
   <TM1 install location>\webapps\tm1web\WEB-INF\configuration\

   Note: The tm1web_config.xml file is an xml file and should be opened only with an XML-type editor. Opening it using a regular text editor such as Microsoft Word Pad can result in incorrect characters being added that may corrupt the file.
2. Edit the parameters and save your changes.
3. Log in to IBM Cognos TM1 Web to see the result of your edits.
Configuring the Cognos TM1 Web Login Page using AdminHostName and TM1ServerName parameters

The AdminHostName and TM1ServerName parameters control whether or not the IBM Cognos TM1 Web login page prompts the user to enter values for the TM1 Admin Host and TM1 server.

If you set a value for either of these parameters in the tm1web_config.xml file, then the login process uses the specified value and does not prompt the user for this information.

AdminHostName Parameter

This parameter specifies the name of the Admin Host on which a TM1 Admin Server is running. Edit the AdminHostName parameter in the tm1web_config.xml file using the following format:

```xml
<add key="AdminHostName" value="HostName"/>
```

where HostName can be one of the following values:

- If HostName is blank (default value), then the login page displays the Admin Host prompt.
- If HostName is set to the name of a valid TM1 Admin Host, then IBM Cognos TM1 Web uses that Admin Host for the login process and does not prompt the user.

TM1ServerName Parameter

This parameter sets the name of the TM1 server. Edit the TM1ServerName parameter in the tm1web_config.xml file using the following format:

```xml
<add key="TM1ServerName" value="ServerName"/>
```

where ServerName can be one of the following values:

- If ServerName is blank (default value), then the TM1 server prompt is displayed on the IBM Cognos TM1 Web login page.
- If ServerName is set to a valid TM1 server name, then the login page does not display a prompt for either the Admin Host or the TM1 server.

After the user enters a valid User Name and Password, IBM Cognos TM1 Web will login to the TM1 server specified by the TM1ServerName parameter in the tm1web_config.xml file.

For example, the TM1ServerName parameter could be set to planning sample, as shown in the following code.

```xml
<add key="TM1ServerName" value="planning sample"/>
```

Configuring a Custom Homepage for IBM Cognos TM1 Web

You can configure a custom homepage for IBM Cognos TM1 Web to display a Websheet, cube view, or a URL after users have successfully logged into IBM Cognos TM1 Web. This homepage can provide users with a starting point for accessing and working with TM1 data.

A homepage can be configured globally for all IBM Cognos TM1 Web users or assigned individually for different users or sets of users. For example, if you...
configure the homepage option to display an HTML file or other type of web page, then you can provide users with instructions, tasks, links, or any other content that can be displayed in a web page.

If a homepage is configured, it displays on the first tab in IBM Cognos TM1 Web and cannot be closed by users. When configured, a Home link is displayed in the header area of IBM Cognos TM1 Web that allows users to easily return to the homepage.

An IBM Cognos TM1 Web homepage can be configured in one of the following two ways:

- **Different homepage for different IBM Cognos TM1 Web users** - Use the Client Settings dialog in TM1 Architect and Server Explorer to configure a startup homepage for different clients (users) of IBM Cognos TM1 Web.
- **Global homepage for all IBM Cognos TM1 Web users** - Use the HomePageObject parameter in the tm1web_config.xml file to configure a homepage that applies globally to all IBM Cognos TM1 Web users.

**Note:** Any homepage assignment you make with the Client Settings dialog can override the global setting in the tm1web_config.xml file if you set AllowOverwrite=true in the HomePageObject parameter of the tm1web_config.xml file.

### Configuring Different Homepages for Individual Users

The Client Settings dialog, in Architect and Server Explorer, configures a startup homepage for different IBM Cognos TM1 Web clients (users).

For example, you can assign one homepage for IBM Cognos TM1 Web users in the Sales department and another homepage for users in the Finance department.

**Note:** You can use the Client Settings dialog to assign homepages for specific users, over-riding the global homepage setting for the HomePageObject parameter in the tm1web_config.xml file.

**Procedure**

1. In Architect or Server Explorer, right click on the server and select **Security, Clients/Groups**.
   The Clients/Groups dialog opens.
2. Click **Settings**.
   The Client Settings dialog opens.
3. Select the client from the **Current Client** list for which the homepage setting will apply.
4. Enter a Websheet, cube view, or URL for the homepage as follows:
   - To display a URL, type the URL address, including the http:// protocol, into the Homepage box. You can enter a URL for either a website or an individual file.
   - To select a Websheet or cube view as the homepage, click **Browse**. The Select an IBM Cognos TM1 Web Homepage dialog opens where you can select a reference to a Websheet or cube view from the Application tree.
     After selecting a Websheet or cube view reference, click **OK** to return to the Client Settings dialog.
5. Select the settings that control the appearance of the Navigation pane.
Note: The Navigation pane settings you set here will only apply if the corresponding parameter in the tm1web_config.xml file is set to AllowOverwrite=true. For details, see “Configuring IBM Cognos TM1 Web Startup and Appearance Settings” on page 79.

The available settings for controlling the appearance of the Navigation pane include:

- **Include the Navigation Pane** - Determines if the Navigation pane is displayed or not displayed when the selected client logs in to IBM Cognos TM1 Web.
- **Open pane on Login** - Sets the Navigation pane to display in the expanded mode when the selected client logs in to IBM Cognos TM1 Web.
- **Close pane on Login** - Sets the Navigation pane to display in its minimized mode when the selected client logs in to IBM Cognos TM1 Web.
- **Save Client's Navigation Pane Settings** - Determines if the personal settings for the Navigation pane are saved when the client logs out of IBM Cognos TM1 Web.

6. Select one of the options from the Apply To list to configure which client or clients will be able to view the homepage.
   - **Current Client** - Applies the homepage setting for only the client selected in the current Client list.
   - **Selected Clients** - Enables the Select button so you can open the Subset Editor to select a collection of clients that will use the same homepage setting.
   - **All Clients** - Applies the same homepage setting to all TM1 clients.

If you choose **Selected Clients**, and then click **Select**, the Subset Editor opens so you can select a subset of TM1 clients that can use the homepage.

Use the Subset Editor to select a subset of clients and then click **OK** to return to the Client Settings dialog. The number of clients selected in the Subset Editor is summarized in the Client Settings dialog.

7. Click **Apply Settings** to configure the homepage for the client or clients that you selected in the Apply To list.

8. Repeat steps 4, 5, 6, and 7 to configure a homepage for a different set of TM1 clients.

9. Click **OK** to close the Client Settings dialog.

   You have now configured a homepage for IBM Cognos TM1 Web. The selected IBM Cognos TM1 Web clients will see the assigned homepage the next time they successfully log in to IBM Cognos TM1 Web.

### Configuring a Global Homepage for All Users

The **HomePageObject** parameter, in the tm1web_config.xml file, enables a global homepage that displays for all IBM Cognos TM1 Web users.

**Note:** You can override the global **HomePageObject** parameter by using the Client Settings dialog to assign different homepage's for individual Cognos TM1 users. For details, see “Configuring Different Homepages for Individual Users” on page 75.

The **HomePageObject** parameter works for three types of objects:

- Cubeviewer
- Websheet
- URL
The homepage object displays after the user successfully logs in to IBM Cognos TM1 Web.

**Using the HomePageObject Parameter:**

How to use the HomePageObject parameter.

The **HomePageObject** parameter uses the following format:

```xml
<add key="HomePageObject" value="ObjectPath ;Type=ObjectType ;Description=ObjectTitle ; AllowOverwrite =true" />
```

where:

- **ObjectPath** is the path to the Websheet, cube view, or URL object that you want to open. The exact format of the path depends on the type of object.
- **ObjectType** is the keyword for the object you want to open; websheet, cubeviewer, or URL.
- **ObjectTitle** is a brief title you assign to the object that displays in the title bar of the web browser and on the homepage tab in IBM Cognos TM1 Web.
- **AllowOverwrite** can be set to a value of true or false as follows:

If you set AllowOverwrite=true then the HomePageObject parameter can be overridden by setting a different homepage for individual clients using the Client Settings dialog in Architect and Server Explorer.

If you set AllowOverwrite=false then the HomePageObject parameter applies globally to all TM1 users and can not be individually configured with the Client Settings dialog in Architect and Server Explorer.

The following sections describe using the HomePageObject parameter for Websheets, cube views, and URLs.

**Setting a Global IBM Cognos TM1 Web Homepage to a Cube View:**

Use the following format to set a cube view as the homepage for IBM Cognos TM1 Web.

```xml
value=CubeName$$ViewName$$Status
```

where the following arguments are separated by $$ characters:

- **CubeName** is the name of cube to which the view belongs.
- **ViewName** is the name of the cube view to display.
- **Status** is the public or private status of the cube view.

**Note:** You must include a value of either PUBLIC or PRIVATE to correctly identify the specific cube view that you want to open.

For example, to open a public view named Price from the SalesCube:

```xml
&lt;add key="HomePageObject" value="SalesCube$$Price$$Public;Type=cubeviewer;Description=MyStartCube;AllowOverwrite=true" />
```
Setting a Global IBM Cognos TM1 Web Homepage to a Websheet:

You can assign a Websheet as the IBM Cognos TM1 Web homepage, depending on how the Excel file was added to TM1.

Opening a Websheet that references an Excel file outside of TM1:

You can open a Websheet that references an Excel file.

Procedure

Use the format:

```value=“WebsheetPath```

where WebsheetPath is the location and name of the Excel file. This can be either a path for a local file, or a UNC path for a file located on a network.

For example, to set a UNC network path for Websheet:

```value=//MySystem/Samples/classic_slice.xls```

Results

The complete HomePageObject parameter looks like this:

```<add key="HomePageObject" value="//MySystem/Samples/classic_slice.xls;Type=websheet;Description=MyWebsheet;AllowOverwrite=true"/>
```

Opening a Websheet object that was uploaded to the TM1 server:

You can open a Websheet object that was uploaded.

Procedure

1. In Server Explorer, use the Properties pane to find the TM1 assigned name for the uploaded Excel file.

2. Set the value parameter using the following format:

```value=TM1://ServerName/blob/PUBLIC/\{\}Externals\ TM1_filename```

   where:

   - `ServerName` is the name of the TM1 sever where the Excel file is located.
   - `TM1_filename` is the name that TM1 assigned to the uploaded Excel file.
For example:
value="TM1://sdata/blob/PUBLIC/.\Externals\Report_2006.xls_20070123212746.xls"

The complete HomePageObject parameter line looks like this:
<add key="HomePageObject" value="TM1://sdata/blob/PUBLIC/.\Externals\Report_2006.xls_20070123212746.xls;Type=websheet;Description=My Uploaded Websheet;AllowOverwrite=true" />

Setting a Global IBM Cognos TM1 Web Homepage to a URL:

You can set the HomePageObject parameter to a URL.

Use this format:
value="URL Path"

Where URL Path can point to a web site or an individual web page file.

For example:
• To set the homepage to a URL that points to a file:
  <add key="HomePageObject" value="homepage.html;Type=URL;
  Description=MyStart Page;AllowOverwrite=true" />
• To set the homepage to a URL that points to a web site:
  <add key="HomePageObject" value="http://www.ibm.com;Type=URL;
  Description=IBM;AllowOverwrite=true" />

Displaying reminders to save data

Use the SupressPleaseSaveDialog parameter to suppress or display the reminders to save data prior to performing an action such as data spreading or changes in pick-lists that trigger a recalculation.

When the parameter is set to 1 in the web.config file, the dialog boxes reminding you to save your data do not display and any changed data is automatically submitted prior to performing an action such as data spreading or changes in pick-lists that trigger a recalculation. If the SupressPleaseSaveDialog parameter is not present in web.config the reminder dialog boxes do not display.

To restore the display of those dialog boxes when data is changed but not yet saved, you can manually set the SupressPleaseSaveDialog parameter to 0.
• 0 - Indicates that the dialog boxes will not be suppressed
• 1 - Indicates that the dialog boxes will be suppressed

Note: The web.config file that ships with Cognos TM1 9.5.2 FP2 has the SupressPleaseSaveDialog parameter set to 0 to maintain behavior consistent with previous 9.5.2 releases.

Configuring IBM Cognos TM1 Web Startup and Appearance Settings

You can control the appearance of the Navigation pane, tab bar, and Websheet and Cubeviewer toolbars when users log in to IBM Cognos TM1 Web.

These parameters are located in the tm1_web_config.xml file and apply globally to all users of IBM Cognos TM1 Web.
Note: For details on using the HomePageObject parameter to set a custom homepage, see “Configuring a Custom Homepage for IBM Cognos TM1 Web” on page 74.

NavTreeHidden Parameter
The NavTreeHidden parameter determines if the Navigation pane displays when users log in to IBM Cognos TM1 Web.

This can be helpful if you are displaying a custom homepage for users and you want to completely hide the Navigation pane.

The NavTreeHidden parameter uses the following format in the tm1web_config.xml file:

```xml
<add key="NavTreeHidden" value="false;AllowOverwrite=true" />
```

where:

- **value** can be either true or false
  - If set to false, the Navigation pane will be displayed when user's log in to IBM Cognos TM1 Web.
  - If set to true, the Navigation pane will not be displayed when user's log in to IBM Cognos TM1 Web.

**AllowOverwrite** can be set to true or false as follows:

- If you set `AllowOverwrite=true`, the NavTreeHidden parameter is assigned globally to all users, but can be overridden for individual clients using the Client Settings dialog in Architect and Server Explorer.
- If you set `AllowOverwrite=false`, the NavTreeHidden parameter applies globally to all TM1 users and can not be overridden for individual clients using the Client Settings dialog in Architect and Server Explorer.

NavTreeCollapsedOnStart Parameter
The NavTreeCollapsedOnStart parameter determines if the Navigation pane will be minimized or expanded when users log in. If collapsed, a small vertical bar displays to provide the user with a way to restore the pane.

The NavTreeCollapsedOnStart parameter uses the following format in the tm1web_config.xml file:

```xml
<add key="NavTreeCollapsedOnStart" value="false;AllowOverwrite=true" />
```

where:

- **value** can be either true or false.
  - If value is set to false, the Navigation pane will be expanded and display in its default mode when user's log in to IBM Cognos TM1 Web.
  - If value is set to true, the Navigation pane will be collapsed when user's log in to IBM Cognos TM1 Web.

**AllowOverwrite** can be set to true or false as follows:

- If you set `AllowOverwrite=true`, the NavTreeCollapsedOnStart parameter is assigned globally to all users, but can be overridden for individual clients using the Client Settings dialog in TM1 Architect and Server Explorer.
If you set AllowOverwrite=false, the NavTreeCollapsedOnStart parameter applies globally to all TM1 users and cannot be overridden for individual clients using the Client Settings dialog in TM1 Architect and Server Explorer.

**HideTabBar Parameter**
The HideTabBar parameter determines if IBM Cognos TM1 Web can display multiple tabs when a user opens multiple IBM Cognos TM1 Web objects, or if only one view is displayed.

This can be useful if you want to limit users to one view at a time.

The HideTabBar parameter uses the following format in the tm1web_config.xml file:

```xml
<add key="HideTabBar" value="false;AllowOverwrite=true" />
```

where value can be either true or false.

- If value is set to false, multiple tabs can be displayed. This is the default behavior of IBM Cognos TM1 Web.
- If value is set to true, multiple tabs are not displayed and only one object can be opened at a time.

The AllowOverwrite option is not currently used for this parameter.

**HideWebsheetToolBar Parameter**
The HideWebsheetToolBar parameter determines if the Websheet toolbar is displayed when users open a Websheet.

The HideWebsheetToolBar parameter uses the following format in the tm1web_config.xml file:

```xml
<add key="HideWebsheetToolBar" value="false;AllowOverwrite=true" />
```

where value can be either true or false.

- If value is set to false, the Websheet toolbar will display in IBM Cognos TM1 Web.
- If value is set to true, the Websheet toolbar will not display in IBM Cognos TM1 Web.

The AllowOverwrite option is not currently used for this parameter.

**HideCubeviewerToolBar Parameter**
The HideCubeviewerToolBar parameter determines if the Cubeviewer toolbar is displayed when users open a cube view.

The HideCubeviewerToolBar parameter uses the following format in the tm1web_config.xml file:
<add key="HideCubeviewerToolBar" value="false;AllowOverwrite=true" />

where value can be either true or false.

- If value is set to false, the Websheet toolbar will display in IBM Cognos TM1 Web.
- If value is set to true, the Websheet toolbar will not display in IBM Cognos TM1 Web.

The AllowOverwrite option is not currently used for this parameter.

**Displaying or Hiding the Views Node in the Navigation Pane**

You can display or hide the Views node in the Navigation pane.

**Procedure**

1. Edit `tm1web_config.xml` in the IBM Cognos TM1 Web virtual directory.
2. Locate the `NavTreeDisplayServerView`, which controls the display of the Server View node. The default value, Y, displays the Views node in the Navigation pane.
   ```xml
   <!--NavTreeDisplayServerView: Y/N - Wether to display "Server View" node in navigation tree -->
   <add key="NavTreeDisplayServerView" value="Y" />
   ```
3. To hide the Views node, change the `NavTreeDisplayServerView` value to N.
4. Save `tm1web_config.xml`.
5. Log in to IBM Cognos TM1 Web.
   Now the Navigation pane displays without the View node.

**Changing the Cube Viewer Page Size**

You can change the number of rows and columns displayed in the Cube Viewer of TM1 the IBM Cognos TM1.

By default, Web Cube Viewer displays pages of TM1 data with 20 columns and 100 rows, and includes the dimensions list in the row count.

**Procedure**

1. Edit `tm1web_config.xml`.
2. Locate the following code:
   ```xml
   CubeViewerRowPageSize
   CubeViewerColumnPageSize
   ```
3. Change the value for the row and/or column page size.
4. Save `tm1web_config.xml`.
5. Log in to IBM Cognos TM1 Web.
   For example, if you set the row page size to 10, the Cube Viewer displays nine rows of data, plus the row of dimensions.

**Setting the Maximum Number of Sheets to Export from a Cube Viewer**

By default, the maximum number of sheets you can export from a Cube Viewer to a printer is 100. You can configure IBM Cognos TM1 Web to export more sheets.
Procedure
1. Edit tm1web_config.xml.
2. Locate the following code:
   MaximumSheetsForExport
3. Change the value for the maximum number of sheets to export.
4. Save tm1web_config.xml.
5. Log in to IBM Cognos TM1 Web.

Wrapping string values in cube views
Use CubeviewerStringWrap to set the parameters used when viewing string element cells in a Web Cube View.

To control the way a view is displayed and wrapped, set the values using the CubeviewerStringWrap parameter and save the web configuration file. Cells that are not displayed are still editable in a scrollable area by clicking in the wrapped region.

Enabled
   Turn wrapping of string cells in this view on or off. When set to "False" the column width is as wide as the longest string for any row in the current view. Set to "True" by default to turn on wrapping using these default parameters.

MinCharactersToWrap
   Set the minimum number of characters needed before wrapping. For instance, string values with less than 50 characters will not wrap within a cell. Set to 50 by default.

MaxDisplayCharacters
   Set the maximum number of characters to display within the string cell. The cell may contain more than this number of characters, but they will only be displayed when double-clicking on the cell. If the MinCharactersToWrap is 50 and the MaxDisplayCharacters is 200, string cells containing 200 or more characters will consume approximately 4 lines. Set to 200 by default.

WidthOfWrapCell
   Set the number of characters used in the wrapped portion of the display. Set to 240 by default.

Use the following format in the tm1web_config.xml file (the following listing has a return in it for clarity but you should not enter a return).

<add key="CubeviewerStringWrap" value="Enabled=true;MinCharactersToWrap=50;MaxDisplayCharacters=200;WidthOfWrapCell=240" />

Remember: CubeviewerStringWrap does not apply to Websheets.

Using IBM Cognos TM1 Web Logging
IBM Cognos TM1 Web administrators can use the tm1web.log file for status and troubleshooting of Cognos TM1 Web. The severity levels in the log file help organize messages.
IBM Cognos TM1 Web log file

The logging process for IBM Cognos TM1 Web records activity and error messages for the program into the tm1web.log file.

Administrators can use this log file for status and troubleshooting of IBM Cognos TM1 Web. The severity levels in the log files help organize messages.

The tm1web.log file is an ASCII text file that you can open in any text editor, such as Microsoft Windows Notepad.

Log file name and location

Log files are stored in the following location:

<TM1 installation location>/webapps/tm1web/WEB-INF/logs

The current or most recent file is named tm1web.log.

Older files are saved and time-stamped with the following name and date format:

tm1web.log.<yyyy-mm-dd>.

For example:

tm1web.log.2013-03-21.

Message Severity Levels for IBM Cognos TM1 Web Logging

The logging process for IBM Cognos TM1 Web categorizes log messages into three severity levels.

These levels are also used in the logging properties file to configure logging to a specific level.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEBUG</td>
<td>Detailed, technical messages that are useful when TM1 customer support or development engineering need to debug the application. When logging is configured to this level, DEBUG, INFO, and ERROR messages are logged.</td>
</tr>
<tr>
<td>INFO</td>
<td>Informational messages that highlight the progress of the application and report normal transitions within the application. When logging is configured to this level, INFO and ERROR messages are logged.</td>
</tr>
<tr>
<td>ERROR</td>
<td>An error condition of which you should be aware. Action should be taken to fix or report the issue to TM1 customer support. When logging is configured to this level, only ERROR messages are logged.</td>
</tr>
</tbody>
</table>
Configuring and enabling IBM Cognos TM1 Web logging

You can change the logging message level for IBM Cognos TM1 Web logging.

Logging properties are stored in the log4j.properties file in the following location:

<TM1 install location>\webapps\tm1web\WEB-INF\configuration

Logging for Cognos TM1 Web is configured and enabled by default when the program is installed.

Attention: The default web logging configuration is intended for everyday use and does not typically require adjustment. For assistance if you need to configure the logging properties for troubleshooting purposes, contact IBM Cognos Customer Support.

The following is a sample of the logging properties file.

# System logging settings
log4j.rootLogger=ERROR, TextFile
log4j.logger.com.ibm.cognos=ERROR
log4j.logger.com.cognos=ERROR
log4j.logger.com.cognos.org=ERROR
log4j.logger.com.ibm.cognos.perf=ERROR
log4j.logger.com.ibm.cognos.tml=ERROR

log4j.appender.Console=org.apache.log4j.ConsoleAppender
log4j.appender.Console.layout.ConversionPattern=%d [%t] %-5p (%x) %c - %m%n

log4j.appender.TextFile=org.apache.log4j.DailyRollingFileAppender
log4j.appender.TextFile.File=logs/tm1web.log
log4j.appender.TextFile.DatePattern=.yyyy-MM-dd
log4j.appender.TextFile.layout=org.apache.log4j.PatternLayout
log4j.appender.TextFile.layout.ConversionPattern=%d [%t] %-5p (%x) %c - %m%n

log4j.appender.XMLFile=org.apache.log4j.DailyRollingFileAppender
log4j.appender.XMLFile.File=logs/tm1web_log.xml
log4j.appender.XMLFile.DatePattern=.yyyy-MM-dd
log4j.appender.XMLFile.layout=org.apache.log4j.xml.XMLLayout

You can adjust various logging level and output options in this file.

The message level is indicated by:

log4j.logger.logger_name=message_level

The log file name is indicated by:

log4j.appender.appender_name.File=location

Attention: By default, the log file is created beneath the root of your web server. As such, it could be accessible by unauthorized individuals. Consider setting the File parameter to write the log file to a secure location. The parameter can accept a relative or literal path.

Procedure

1. Open the log4j.properties file in a text editor, such as Microsoft Windows Notepad.
2. Locate and edit the line you want to adjust.
   For example, change the message level to one of the valid values; DEBUG,
   INFO, or ERROR.
3. Save and close the file.

**Viewing the IBM Cognos TM1 Web Log File**

The IBM Cognos TM1 Web installation configures IBM Cognos TM1 Web logging
to write messages to the tm1web.log file in the `<TM1 Web_install>\WEB-INF\logs`
directory. You can open and view the file with a standard text editor.

**About this task**

If you installed IBM Cognos TM1 Web to the default installation location, then the
tm1web.log file is located in the following directory:

```
C:\Program Files\IBM\cognos\tm1_64\webapps\tm1web\WEB-INF\logs
```

For backup purposes, a copy of the tm1web.log file is renamed and saved on a
daily basis using the following naming convention:

```
tm1web.log.<year>-<mm>-<dd>
```

For example, `tm1web.log.2013-10-17`.

**Procedure**

1. Locate the tm1web.log file in the `<TM1 Web_install>\WEB-INF\logs` directory.
2. Open and view the file with a text editor, such as Microsoft Windows Notepad.

**Results**

Error messages are arranged in the following format:

```
Date Time Error_level Logger_name Error_message
```

Where:

- **Date Time** - Date and time in format `yyyy-mm-dd hh:mm:ss`.
  For example `2013-05-02 16:48:57,439`
- **Error_level** - message level (DEBUG, INFO, ERROR)
- **Logger_name** - the sub component name. Example:
  Cognos.TM1.Web.PageTM1WebpageUtils
- **Error_message** - the message text.

**Microsoft Excel .xls worksheets**

IBM Cognos TM1 Web version 10.2 uses the Open XML file formats for Microsoft
Excel worksheets created using Excel 2007 or later.

If you are using existing Microsoft Excel files in the older .xls format, use the
Cognos TM1 conversion tool to convert the files. If your original file contained
macros, the Cognos TM1 conversion tool converts the original file into a
macro-enabled .xlsm file, otherwise it is converted into a standard .xlsx file.
The Convert Excel files to OpenXML Excel format option in Cognos TM1 Architect Server Explorer converts a single .xls worksheet or all worksheets in a folder. Only administrative users have this option available. The conversion renames the files to preserve as many links as possible after the conversion. Some links and action buttons need to be updated depending on permissions that may have changed as a result of the move to cell-based security that occurred in version 10.2.0.

In some cases, the Named Ranges from the original file could be renamed in the converted file during the conversion process.

By default a backup of the pre-converted worksheets is saved. By default a log file is also generated.

**Converting a .xls worksheet to .xlsx**

The one-time conversion of .xls worksheets results in an Open XML format Excel file that can be used in TM1 Web.

**Procedure**

1. In IBM Cognos TM1 Architect Server Explorer, right-click the worksheet or folder you want to convert. Only Microsoft Excel .xls files will be converted regardless of other files that may be in the folder.
2. Select Convert Excel file to OpenXML format.
3. By default a backup of the pre-converted .xls file and a log is created in the directory locations displayed. You can browse to identify new locations for these files, if you prefer.
4. When the conversion is completed, the window lists the number of files found and completed and the location of the log text file that was generated.
5. You may need to re-establish links to some files or action buttons. The change to cell-based security means some files may not have the correct permissions to work without some manual adjustments.
IBM Cognos TM1 Web supports many Excel worksheet functions.

Supported Functions

This appendix lists the supported Excel functions by category and in alphabetical order, and describes any differences in performance between the Excel functions and TM1 Web functions.

Date and Time Functions

The following table lists date and time functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
<td>Returns the serial number of a particular date.</td>
</tr>
<tr>
<td>DATEVALUE</td>
<td>Converts a date in the form of text to a serial number.</td>
</tr>
<tr>
<td>DAY</td>
<td>Converts a serial number to a day of the month.</td>
</tr>
<tr>
<td>DAYS360</td>
<td>Calculates the number of days between two dates based on a 360-day year.</td>
</tr>
<tr>
<td>HOUR</td>
<td>Converts a serial number to an hour.</td>
</tr>
<tr>
<td>MINUTE</td>
<td>Converts a serial number to a minute.</td>
</tr>
<tr>
<td>MONTH</td>
<td>Converts a serial number to a month.</td>
</tr>
<tr>
<td>NOW</td>
<td>Returns the serial number of the current date and time.</td>
</tr>
<tr>
<td>SECOND</td>
<td>Converts a serial number to a second.</td>
</tr>
<tr>
<td>TIME</td>
<td>Returns the serial number of a particular time.</td>
</tr>
<tr>
<td>TIMEVALUE</td>
<td>Converts a time in the form of text to a serial number.</td>
</tr>
<tr>
<td>TODAY</td>
<td>Returns the serial number of today's date.</td>
</tr>
<tr>
<td>WEEKDAY</td>
<td>Converts a serial number to a day of the week.</td>
</tr>
<tr>
<td>YEAR</td>
<td>Converts a serial number to a year.</td>
</tr>
</tbody>
</table>
### Financial Functions

The following table lists financial functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB</td>
<td>Returns the depreciation of an asset for a specified period using the fixed-declining balance method.</td>
</tr>
<tr>
<td>DDB</td>
<td>Returns the depreciation of an asset for a specified period using the double-declining balance method or some other method you specify.</td>
</tr>
<tr>
<td>FV</td>
<td>Returns the future value of an investment.</td>
</tr>
<tr>
<td>IPMT</td>
<td>Returns the interest payment for an investment for a given period.</td>
</tr>
<tr>
<td>IRR</td>
<td>Returns the internal rate of return for a series of cash flows.</td>
</tr>
<tr>
<td>ISPMT</td>
<td>Calculates the interest paid during a specific period of an investment.</td>
</tr>
<tr>
<td>MIRR</td>
<td>Returns the internal rate of return where positive and negative cash flows are financed at different rates.</td>
</tr>
<tr>
<td>NPER</td>
<td>Returns the number of periods for an investment.</td>
</tr>
<tr>
<td>NPV</td>
<td>Returns the net present value of an investment based on a series of periodic cash flows and a discount rate.</td>
</tr>
<tr>
<td>PMT</td>
<td>Returns the periodic payment for an annuity.</td>
</tr>
<tr>
<td>PPMT</td>
<td>Returns the payment on the principal for an investment for a given period.</td>
</tr>
<tr>
<td>PV</td>
<td>Returns the present value of an investment.</td>
</tr>
<tr>
<td>RATE</td>
<td>Returns the interest rate per period of an annuity.</td>
</tr>
<tr>
<td>SLN</td>
<td>Returns the straight-line depreciation of an asset for one period.</td>
</tr>
<tr>
<td>SYD</td>
<td>Returns the sum-of-years' digits depreciation of an asset for a specified period.</td>
</tr>
</tbody>
</table>

### Information Functions

The following table lists information functions that are supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CELL</td>
<td>Returns information about the formatting, location, or contents of a cell.</td>
</tr>
<tr>
<td></td>
<td>Support for the Cell function is limited to the following info_types: address, col, row, protect, contents, type.</td>
</tr>
</tbody>
</table>
### Logical Functions

The following table lists logical functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>Returns TRUE if all its arguments are TRUE.</td>
</tr>
<tr>
<td>FALSE</td>
<td>Returns the logical value FALSE.</td>
</tr>
<tr>
<td>IF</td>
<td>Specifies a logical test to perform.</td>
</tr>
<tr>
<td>NOT</td>
<td>Reverses the logic of its argument.</td>
</tr>
<tr>
<td>OR</td>
<td>Returns TRUE if any argument is TRUE.</td>
</tr>
<tr>
<td>TRUE</td>
<td>Returns the logical value TRUE.</td>
</tr>
</tbody>
</table>

### Lookup and Reference Functions

The following table lists lookup and reference functions.

**Note:** Certain functions, such as LOOKUP and ROWS, may accept two dimensional arrays as arguments. TM1 Web does not support two dimensional arrays. Depending on the data organization and requirements, these functions can still obtain correct values, for example, when the data being retrieved falls in the initial portions of the array. To ensure correct values when working with these functions on TM1 Web you may need to reorganize the input data into repeated functions using one dimensional arrays or you may need to use direct cell references.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS</td>
<td>Returns a reference as text to a single cell in a worksheet.</td>
</tr>
<tr>
<td>CHOOSE</td>
<td>Chooses a value from a list of values.</td>
</tr>
<tr>
<td>COLUMN</td>
<td>Returns the column number of a reference.</td>
</tr>
<tr>
<td>COLUMNS</td>
<td>Returns the number of columns in a reference.</td>
</tr>
</tbody>
</table>
## Function Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HLOOKUP</td>
<td>Looks in the top row of an array and returns the value of the indicated cell.</td>
</tr>
<tr>
<td>HYPERLINK</td>
<td>Creates a shortcut or jump that opens a document stored on a network server, an intranet, or the Internet.</td>
</tr>
<tr>
<td>INDEX</td>
<td>Uses an index to choose a value from a reference or array.</td>
</tr>
<tr>
<td>LOOKUP</td>
<td>Looks up values in a vector or array.</td>
</tr>
<tr>
<td>OFFSET</td>
<td>Returns a reference offset from a given reference.</td>
</tr>
<tr>
<td>ROW</td>
<td>Returns the row number of a reference.</td>
</tr>
<tr>
<td>ROWS</td>
<td>Returns the number of rows in a reference.</td>
</tr>
<tr>
<td>VLOOKUP</td>
<td>Looks in the first column of an array and moves across the row to return the value of a cell.</td>
</tr>
</tbody>
</table>

### Math and Trigonometric Functions

The following table lists math and trigonometric functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>Returns the absolute value of a number.</td>
</tr>
<tr>
<td>ACOS</td>
<td>Returns the arccosine of a number.</td>
</tr>
<tr>
<td>ACOSH</td>
<td>Returns the inverse hyperbolic cosine of a number.</td>
</tr>
<tr>
<td>ASIN</td>
<td>Returns the arcsine of a number.</td>
</tr>
<tr>
<td>ASINH</td>
<td>Returns the inverse hyperbolic sine of a number.</td>
</tr>
<tr>
<td>ATAN</td>
<td>Returns the arctangent of a number.</td>
</tr>
<tr>
<td>ATAN2</td>
<td>Returns the arctangent from x- and y-coordinates.</td>
</tr>
<tr>
<td>ATANH</td>
<td>Returns the inverse hyperbolic tangent of a number.</td>
</tr>
<tr>
<td>CEILING</td>
<td>Rounds a number to the nearest integer or to the nearest multiple of significance.</td>
</tr>
<tr>
<td>COMBIN</td>
<td>Returns the number of combinations for a given number of objects.</td>
</tr>
<tr>
<td>COS</td>
<td>Returns the cosine of a number.</td>
</tr>
<tr>
<td>COSH</td>
<td>Returns the hyperbolic cosine of a number.</td>
</tr>
<tr>
<td>Function</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>DEGREES</td>
<td>Converts radians to degrees.</td>
</tr>
<tr>
<td>EVEN</td>
<td>Rounds a number up to the nearest even integer.</td>
</tr>
<tr>
<td>EXP</td>
<td>Returns e raised to the power of a given number.</td>
</tr>
<tr>
<td>FACT</td>
<td>Returns the factorial of a number.</td>
</tr>
<tr>
<td>FLOOR</td>
<td>Rounds a number down, toward zero.</td>
</tr>
<tr>
<td>INT</td>
<td>Rounds a number down to the nearest integer.</td>
</tr>
<tr>
<td>LN</td>
<td>Returns the natural logarithm of a number.</td>
</tr>
<tr>
<td>LOG</td>
<td>Returns the logarithm of a number to a specified base.</td>
</tr>
<tr>
<td>LOG10</td>
<td>Returns the base-10 logarithm of a number.</td>
</tr>
<tr>
<td>MOD</td>
<td>Returns the remainder from division.</td>
</tr>
<tr>
<td>ODD</td>
<td>Rounds a number up to the nearest odd integer.</td>
</tr>
<tr>
<td>PI</td>
<td>Returns the value of pi.</td>
</tr>
<tr>
<td>POWER</td>
<td>Returns the result of a number raised to a power.</td>
</tr>
<tr>
<td>PRODUCT</td>
<td>Multiplies its arguments.</td>
</tr>
<tr>
<td>RADIANS</td>
<td>Converts degrees to radians.</td>
</tr>
<tr>
<td>RAND</td>
<td>Returns a random number between 0 and 1.</td>
</tr>
<tr>
<td>ROMAN</td>
<td>Converts an arabic numeral to roman, as text.</td>
</tr>
<tr>
<td>ROUND</td>
<td>Rounds a number to a specified number of digits.</td>
</tr>
<tr>
<td>ROUNDDOWN</td>
<td>Rounds a number down, toward zero.</td>
</tr>
<tr>
<td>ROUNDUP</td>
<td>Rounds a number up, away from zero.</td>
</tr>
<tr>
<td>SIGN</td>
<td>Returns the sign of a number.</td>
</tr>
<tr>
<td>SIN</td>
<td>Returns the sine of the given angle.</td>
</tr>
<tr>
<td>SINH</td>
<td>Returns the hyperbolic sine of a number.</td>
</tr>
<tr>
<td>SQRT</td>
<td>Returns a positive square root.</td>
</tr>
<tr>
<td>SUM</td>
<td>Adds its arguments.</td>
</tr>
</tbody>
</table>
Function | Description
--- | ---
SUMIF | Adds the cells specified by a given criteria.
TAN | Returns the tangent of a number.
TANH | Returns the hyperbolic tangent of a number.

**Text and Data Functions**
The following table lists text and data functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAR</td>
<td>Returns the character specified by the code number.</td>
</tr>
<tr>
<td>CLEAN</td>
<td>Removes all nonprintable characters from text.</td>
</tr>
<tr>
<td>CODE</td>
<td>Returns a numeric code for the first character in a text string.</td>
</tr>
<tr>
<td>CONCATENATE</td>
<td>Joins several text items into one text item.</td>
</tr>
<tr>
<td>DOLLAR</td>
<td>Converts a number to text, using the $ (dollar) currency format.</td>
</tr>
<tr>
<td>EXACT</td>
<td>Checks to see if two text values are identical.</td>
</tr>
<tr>
<td>FIND</td>
<td>Finds one text value within another (case-sensitive).</td>
</tr>
<tr>
<td>FIXED</td>
<td>Formats a number as text with a fixed number of decimals.</td>
</tr>
<tr>
<td>LEFT</td>
<td>Returns the leftmost characters from a text value.</td>
</tr>
<tr>
<td>LEN</td>
<td>Returns the number of characters in a text string.</td>
</tr>
<tr>
<td>LOWER</td>
<td>Converts text to lowercase.</td>
</tr>
<tr>
<td>MID</td>
<td>Returns a specific number of characters from a text string starting at the position you specify.</td>
</tr>
<tr>
<td>PROPER</td>
<td>Capitalizes the first letter in each word of a text value.</td>
</tr>
<tr>
<td>REPLACE</td>
<td>Replaces characters within text.</td>
</tr>
<tr>
<td>REPT</td>
<td>Repeats text a given number of times.</td>
</tr>
<tr>
<td>RIGHT</td>
<td>Returns the rightmost characters from a text value.</td>
</tr>
<tr>
<td>SEARCH</td>
<td>Finds one text value within another (not case-sensitive).</td>
</tr>
<tr>
<td>SUBSTITUTE</td>
<td>Substitutes new text for old text in a text string.</td>
</tr>
<tr>
<td>T</td>
<td>Converts its arguments to text.</td>
</tr>
</tbody>
</table>
**Function** | **Description**
---|---
TEXT | Formats a number and converts it to text.
TRIM | Removes spaces from text.
UPPER | Converts text to uppercase.
VALUE | Converts a text argument to a number.

**Statistical Functions**

The following table lists statistical functions.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVEDEV</td>
<td>Returns the average of the absolute deviations of data points from their mean.</td>
</tr>
<tr>
<td>AVERAGE</td>
<td>Returns the average of its arguments.</td>
</tr>
<tr>
<td>AVERAGEA</td>
<td>Returns the average of its arguments, including numbers, text, and logical values.</td>
</tr>
<tr>
<td>BINOMDIST</td>
<td>Returns the individual term binomial distribution probability.</td>
</tr>
<tr>
<td>CONFIDENCE</td>
<td>Returns the confidence interval for a population mean.</td>
</tr>
<tr>
<td>CORREL</td>
<td>Returns the correlation coefficient between two data sets.</td>
</tr>
<tr>
<td>COUNT</td>
<td>Counts how many numbers are in the list of arguments.</td>
</tr>
<tr>
<td>COUNTA</td>
<td>Counts how many values are in the list of arguments.</td>
</tr>
<tr>
<td>COUNTIF</td>
<td>Counts the number of nonblank cells within a range that meet the given criteria.</td>
</tr>
<tr>
<td>COVAR</td>
<td>Returns covariance, the average of the products of paired deviations.</td>
</tr>
<tr>
<td>DEVSQ</td>
<td>Returns the sum of squares of deviations.</td>
</tr>
<tr>
<td>EXPONDIST</td>
<td>Returns the exponential distribution.</td>
</tr>
<tr>
<td>FISHER</td>
<td>Returns the Fisher transformation.</td>
</tr>
<tr>
<td>FISHERINV</td>
<td>Returns the inverse of the Fisher transformation.</td>
</tr>
<tr>
<td>FORECAST</td>
<td>Returns a value along a linear trend.</td>
</tr>
<tr>
<td>GEOMEAN</td>
<td>Returns the geometric mean.</td>
</tr>
<tr>
<td>Function</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>GROWTH</td>
<td>Returns values along an exponential trend.</td>
</tr>
<tr>
<td>HARMEAN</td>
<td>Returns the harmonic mean.</td>
</tr>
<tr>
<td>INTERCEPT</td>
<td>Returns the intercept of the linear regression line.</td>
</tr>
<tr>
<td>KURT</td>
<td>Returns the kurtosis of a data set.</td>
</tr>
<tr>
<td>LARGE</td>
<td>Returns the k-th largest value in a data set.</td>
</tr>
<tr>
<td>LINEST</td>
<td>Returns the parameters of a linear trend.</td>
</tr>
<tr>
<td>LOGEST</td>
<td>Returns the parameters of an exponential trend.</td>
</tr>
<tr>
<td>MAX</td>
<td>Returns the maximum value in a list of arguments.</td>
</tr>
<tr>
<td>MATCH</td>
<td>Returns the relative position of an item in an array that matches a specified value in a specified order.</td>
</tr>
<tr>
<td>MAXA</td>
<td>Returns the maximum value in a list of arguments, including numbers, text, and logical values.</td>
</tr>
<tr>
<td>MEDIAN</td>
<td>Returns the median of the given numbers.</td>
</tr>
<tr>
<td>MIN</td>
<td>Returns the minimum value in a list of arguments.</td>
</tr>
<tr>
<td>MINA</td>
<td>Returns the smallest value in a list of arguments, including numbers, text, and logical values.</td>
</tr>
<tr>
<td>NEGBINOMDIST</td>
<td>Returns the negative binomial distribution, the probability that there will be Number_f failures before the Number_s-th success, with Probability_f probability of a success.</td>
</tr>
<tr>
<td>MODE</td>
<td>Returns the most common value in a data set.</td>
</tr>
<tr>
<td>NORMDIST</td>
<td>Returns the normal cumulative distribution.</td>
</tr>
<tr>
<td>NORMINV</td>
<td>Returns the inverse of the normal cumulative distribution.</td>
</tr>
<tr>
<td>NORMSDIST</td>
<td>Returns the standard normal cumulative distribution.</td>
</tr>
<tr>
<td>NORMSINV</td>
<td>Returns the inverse of the standard normal cumulative distribution.</td>
</tr>
<tr>
<td>PEARSON</td>
<td>Returns the Pearson product moment correlation coefficient.</td>
</tr>
<tr>
<td>PERMUT</td>
<td>Returns the number of permutations for a given number of objects.</td>
</tr>
<tr>
<td>RSQ</td>
<td>Returns the square of the Pearson product moment correlation coefficient.</td>
</tr>
<tr>
<td>SKEW</td>
<td>Returns the skewness of a distribution.</td>
</tr>
<tr>
<td>Function</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>SLOPE</td>
<td>Returns the slope of the linear regression line.</td>
</tr>
<tr>
<td>SMALL</td>
<td>Returns the k-th smallest value in a data set.</td>
</tr>
<tr>
<td>STANDARDIZE</td>
<td>Returns a normalized value.</td>
</tr>
<tr>
<td>STDEV</td>
<td>Estimates standard deviation based on a sample.</td>
</tr>
<tr>
<td>STDEVA</td>
<td>Estimates standard deviation based on a sample, including numbers, text, and logical values.</td>
</tr>
<tr>
<td>STDEVVP</td>
<td>Calculates standard deviation based on the entire population.</td>
</tr>
<tr>
<td>STDEVPA</td>
<td>Calculates standard deviation based on the entire population, including numbers, text, and logical values.</td>
</tr>
<tr>
<td>STEYX</td>
<td>Returns the standard error of the predicted y-value for each x in the regression.</td>
</tr>
<tr>
<td>TREND</td>
<td>Returns values along a linear trend.</td>
</tr>
<tr>
<td>VAR</td>
<td>Estimates variance based on a sample.</td>
</tr>
<tr>
<td>VARA</td>
<td>Estimates variance based on a sample, including numbers, text, and logical values.</td>
</tr>
<tr>
<td>VARP</td>
<td>Calculates variance based on the entire population.</td>
</tr>
<tr>
<td>VARPA</td>
<td>Calculates variance based on the entire population, including numbers, text, and logical values.</td>
</tr>
<tr>
<td>WEIBULL</td>
<td>Returns the Weibull distribution.</td>
</tr>
</tbody>
</table>
Appendix B. Unsupported Microsoft Excel Functions - TM1 Web

IBM Cognos TM1 Web supports many Excel worksheet functions. This appendix lists the Excel functions, by category and in alphabetical order, that are not supported in TM1 Web.

**Database and List Management Functions**

This table lists the management functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAVERAGE</td>
<td>Returns the average of selected database entries.</td>
</tr>
<tr>
<td>DCOUNT</td>
<td>Counts the cells that contain numbers in a database.</td>
</tr>
<tr>
<td>DCOUNTA</td>
<td>Counts nonblank cells in a database.</td>
</tr>
<tr>
<td>DGET</td>
<td>Extracts from a database a single record that matches the specified criteria.</td>
</tr>
<tr>
<td>DMAX</td>
<td>Returns the maximum value from selected database entries.</td>
</tr>
<tr>
<td>DMIN</td>
<td>Returns the minimum value from selected database entries.</td>
</tr>
<tr>
<td>DPRESSURE</td>
<td>Multiplies the values in a particular field of records that match the criteria in a database.</td>
</tr>
<tr>
<td>DSTDEV</td>
<td>Estimates the standard deviation based on a sample of selected database entries.</td>
</tr>
<tr>
<td>DSTDEVBP</td>
<td>Calculates the standard deviation based on the entire population of selected database entries.</td>
</tr>
<tr>
<td>DSUM</td>
<td>Adds the numbers in the field column of records in the database that match the criteria.</td>
</tr>
<tr>
<td>DVAR</td>
<td>Estimates variance based on a sample from selected database entries.</td>
</tr>
<tr>
<td>DVARP</td>
<td>Calculates variance based on the entire population of selected database entries.</td>
</tr>
</tbody>
</table>

**Date and Time Functions**

This table lists the date and time functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDATE</td>
<td>Returns the serial number of the date that is the indicated number of months before or after the start date.</td>
</tr>
<tr>
<td>EOMONTH</td>
<td>Returns the serial number of the last day of the month before or after a specified number of months.</td>
</tr>
<tr>
<td>NETWORKDAYS</td>
<td>Returns the number of whole workdays between two dates.</td>
</tr>
<tr>
<td>WEEKNUM</td>
<td>Converts a serial number to a number representing where the week falls numerically with a year.</td>
</tr>
<tr>
<td>WORKDAY</td>
<td>Returns the serial number of the date before or after a specified number of workdays.</td>
</tr>
</tbody>
</table>
### Function Description

**YEARFRAC** Returns the year fraction representing the number of whole days between start_date and end_date.

### Financial Functions

This table lists the financial functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCRINT</td>
<td>Returns the accrued interest for a security that pays periodic interest.</td>
</tr>
<tr>
<td>ACCRINTM</td>
<td>Returns the accrued interest for a security that pays interest at maturity.</td>
</tr>
<tr>
<td>AMORDEGRC</td>
<td>Returns the depreciation for each accounting period by using a depreciation coefficient.</td>
</tr>
<tr>
<td>AMORLINC</td>
<td>Returns the depreciation for each accounting period.</td>
</tr>
<tr>
<td>COUPDAYBS</td>
<td>Returns the number of days from the beginning of the coupon period to the settlement date.</td>
</tr>
<tr>
<td>COUPDAYS</td>
<td>Returns the number of days in the coupon period that contains the settlement date.</td>
</tr>
<tr>
<td>COUPDAYSNC</td>
<td>Returns the number of days from the settlement date to the next coupon date.</td>
</tr>
<tr>
<td>COUPNCD</td>
<td>Returns the next coupon date after the settlement date.</td>
</tr>
<tr>
<td>COUPNUM</td>
<td>Returns the number of coupons payable between the settlement date and maturity date.</td>
</tr>
<tr>
<td>COUPPCD</td>
<td>Returns the previous coupon date before the settlement date.</td>
</tr>
<tr>
<td>CUMIPMT</td>
<td>Returns the cumulative interest paid between two periods.</td>
</tr>
<tr>
<td>CUMPRINC</td>
<td>Returns the cumulative principal paid on a loan between two periods.</td>
</tr>
<tr>
<td>DISC</td>
<td>Returns the discount rate for a security.</td>
</tr>
<tr>
<td>DOLLARDE</td>
<td>Converts a dollar price, expressed as a fraction, into a dollar price, expressed as a decimal number.</td>
</tr>
<tr>
<td>DOLLARFR</td>
<td>Converts a dollar price, expressed as a decimal number, into a dollar price, expressed as a fraction.</td>
</tr>
<tr>
<td>DURATION</td>
<td>Returns the annual duration of a security with periodic interest payments.</td>
</tr>
<tr>
<td>EFFECT</td>
<td>Returns the effective annual interest rate.</td>
</tr>
<tr>
<td>FVSCHEDULE</td>
<td>Returns the future value of an initial principal after applying a series of compound interest rates.</td>
</tr>
<tr>
<td>INTRATE</td>
<td>Returns the interest rate for a fully invested security.</td>
</tr>
<tr>
<td>MDURATION</td>
<td>Returns the Macauley modified duration for a security with an assumed par value of $100.</td>
</tr>
<tr>
<td>NOMINAL</td>
<td>Returns the annual nominal interest rate.</td>
</tr>
<tr>
<td>ODDFPRICE</td>
<td>Returns the price per $100 face value of a security with an odd first period.</td>
</tr>
<tr>
<td>ODDFYIELD</td>
<td>Returns the yield of a security with an odd first period.</td>
</tr>
<tr>
<td>ODDLPRICE</td>
<td>Returns the price per $100 face value of a security with an odd last period.</td>
</tr>
</tbody>
</table>
### Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ODDYIELD</td>
<td>Returns the yield of a security with an odd last period.</td>
</tr>
<tr>
<td>PRICE</td>
<td>Returns the price per $100 face value of a security that pays periodic interest.</td>
</tr>
<tr>
<td>PRICEDISC</td>
<td>Returns the price per $100 face value of a discounted security.</td>
</tr>
<tr>
<td>PRICEMAT</td>
<td>Returns the price per $100 face value of a security that pays interest at maturity.</td>
</tr>
<tr>
<td>RECEIVED</td>
<td>Returns the amount received at maturity for a fully invested security.</td>
</tr>
<tr>
<td>TBILLEQ</td>
<td>Returns the bond-equivalent yield for a Treasury bill.</td>
</tr>
<tr>
<td>TBILLPRICE</td>
<td>Returns the price per $100 face value for a Treasury bill.</td>
</tr>
<tr>
<td>TBILLYIELD</td>
<td>Returns the yield for a Treasury bill.</td>
</tr>
<tr>
<td>VDB</td>
<td>Returns the depreciation of an asset for a specified or partial period using a declining balance method.</td>
</tr>
<tr>
<td>XIRR</td>
<td>Returns the internal rate of return for a schedule of cash flows that is not necessarily periodic.</td>
</tr>
<tr>
<td>XNPV</td>
<td>Returns the net present value for a schedule of cash flows that is not necessarily periodic.</td>
</tr>
<tr>
<td>YIELD</td>
<td>Returns the yield on a security that pays periodic interest.</td>
</tr>
<tr>
<td>YIELDDISC</td>
<td>Returns the annual yield for a discounted security; for example, a Treasury bill.</td>
</tr>
<tr>
<td>YIELDMAT</td>
<td>Returns the annual yield of a security that pays interest at maturity.</td>
</tr>
</tbody>
</table>

### Information Functions

This table lists the information functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERROR.TYPE</td>
<td>Returns a number corresponding to an error type.</td>
</tr>
<tr>
<td>INFO</td>
<td>Returns information about the current operating environment.</td>
</tr>
<tr>
<td>ISBLANK</td>
<td>Returns TRUE if the value is blank.</td>
</tr>
<tr>
<td>ISEVEN</td>
<td>Returns TRUE if the number is even.</td>
</tr>
<tr>
<td>ISLOGICAL</td>
<td>Returns TRUE if the value is a logical value.</td>
</tr>
<tr>
<td>ISNONTEXT</td>
<td>Returns TRUE if the value is not text.</td>
</tr>
<tr>
<td>ISNUMBER</td>
<td>Returns TRUE if the value is a number.</td>
</tr>
<tr>
<td>ISODD</td>
<td>Returns TRUE if the number is odd.</td>
</tr>
<tr>
<td>ISREF</td>
<td>Returns TRUE if the value is a reference.</td>
</tr>
<tr>
<td>ISTEXT</td>
<td>Returns TRUE if the value is text.</td>
</tr>
</tbody>
</table>
### Function Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Returns a value converted to a number.</td>
</tr>
<tr>
<td>TYPE</td>
<td>Returns a number indicating the data type of a value.</td>
</tr>
</tbody>
</table>

### Lookup and Reference Functions

This table lists the lookup and reference functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREAS</td>
<td>Returns the number of areas in a reference.</td>
</tr>
<tr>
<td>INDIRECT</td>
<td>Returns a reference indicated by a text value.</td>
</tr>
<tr>
<td>MATCH</td>
<td>Looks up values in a reference or array.</td>
</tr>
<tr>
<td>RTD</td>
<td>Retrieves real-time data from a program that supports COM automation.</td>
</tr>
<tr>
<td>TRANSPOSE</td>
<td>Returns the transpose of an array.</td>
</tr>
</tbody>
</table>

### Math and Trigonometric Functions

This table lists the math and trigonometric functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FACTDOUBLE</td>
<td>Returns the double factorial of a number.</td>
</tr>
<tr>
<td>GCD</td>
<td>Returns the greatest common divisor.</td>
</tr>
<tr>
<td>LCM</td>
<td>Returns the least common multiple.</td>
</tr>
<tr>
<td>MDETERM</td>
<td>Returns the matrix determinant of an array.</td>
</tr>
<tr>
<td>MINVERSE</td>
<td>Returns the matrix inverse of an array.</td>
</tr>
<tr>
<td>MMULT</td>
<td>Returns the matrix product of two arrays.</td>
</tr>
<tr>
<td>MROUND</td>
<td>Returns a number rounded to the desired multiple.</td>
</tr>
<tr>
<td>MULTINOMIAL</td>
<td>Returns the multinomial of a set of numbers.</td>
</tr>
<tr>
<td>QUOTIENT</td>
<td>Returns the integer portion of a division.</td>
</tr>
<tr>
<td>RANDBETWEEN</td>
<td>Returns a random number between the numbers you specify.</td>
</tr>
<tr>
<td>SERIESUM</td>
<td>Returns the sum of a power series based on the formula.</td>
</tr>
<tr>
<td>SQRTP1</td>
<td>Returns the square root of (number * pi).</td>
</tr>
<tr>
<td>SUBTOTAL</td>
<td>Returns a subtotal in a list or database.</td>
</tr>
<tr>
<td>SUMPRODUCT</td>
<td>Returns the sum of the products of corresponding array components.</td>
</tr>
<tr>
<td>SUMSQ</td>
<td>Returns the sum of the squares of the arguments.</td>
</tr>
<tr>
<td>SUMX2MY2</td>
<td>Returns the sum of the difference of squares of corresponding values in two arrays.</td>
</tr>
<tr>
<td>SUMX2PY2</td>
<td>Returns the sum of the sum of squares of corresponding values in two arrays.</td>
</tr>
</tbody>
</table>
Function Description

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMXMY2</td>
<td>Returns the sum of squares of differences of corresponding values in two arrays.</td>
</tr>
<tr>
<td>TRUNC</td>
<td>Truncates a number to an integer.</td>
</tr>
</tbody>
</table>

### Statistical Functions

This table lists the statistical functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BETADIST</td>
<td>Returns the beta cumulative distribution function.</td>
</tr>
<tr>
<td>BETAINV</td>
<td>Returns the inverse of the cumulative distribution function for a specified beta distribution.</td>
</tr>
<tr>
<td>CHIDIST</td>
<td>Returns the one-tailed probability of the chi-squared distribution.</td>
</tr>
<tr>
<td>CHIINV</td>
<td>Returns the inverse of the one-tailed probability of the chi-squared distribution.</td>
</tr>
<tr>
<td>CHITEST</td>
<td>Returns the test for independence.</td>
</tr>
<tr>
<td>COUNTBLANK</td>
<td>Counts the number of blank cells within a range.</td>
</tr>
<tr>
<td>CRITBINOM</td>
<td>Returns the smallest value for which the cumulative binomial distribution is less than or equal to a criterion value.</td>
</tr>
<tr>
<td>FDIST</td>
<td>Returns the F probability distribution.</td>
</tr>
<tr>
<td>FINV</td>
<td>Returns the inverse of the F probability distribution.</td>
</tr>
<tr>
<td>FREQUENCY</td>
<td>Returns a frequency distribution as a vertical array.</td>
</tr>
<tr>
<td>FTEST</td>
<td>Returns the result of an F-test.</td>
</tr>
<tr>
<td>GAMMADIST</td>
<td>Returns the gamma distribution.</td>
</tr>
<tr>
<td>GAMMAINV</td>
<td>Returns the inverse of the gamma cumulative distribution.</td>
</tr>
<tr>
<td>GAMMALN</td>
<td>Returns the natural logarithm of the gamma function, G(x).</td>
</tr>
<tr>
<td>HYPGEOMDIST</td>
<td>Returns the hyper geometric distribution.</td>
</tr>
<tr>
<td>LOGINV</td>
<td>Returns the inverse of the lognormal distribution.</td>
</tr>
<tr>
<td>LOGNORMDIST</td>
<td>Returns the cumulative lognormal distribution.</td>
</tr>
<tr>
<td>NEGBINOMDIST</td>
<td>Returns the negative binomial distribution.</td>
</tr>
<tr>
<td>PERCENTILE</td>
<td>Returns the k-th percentile of values in a range.</td>
</tr>
<tr>
<td>PERCENTRANK</td>
<td>Returns the percentage rank of a value in a data set.</td>
</tr>
<tr>
<td>POISSON</td>
<td>Returns the Poisson distribution.</td>
</tr>
<tr>
<td>PROB</td>
<td>Returns the probability that values in a range are between two limits.</td>
</tr>
<tr>
<td>QUARTILE</td>
<td>Returns the quartile of a data set.</td>
</tr>
<tr>
<td>RANK</td>
<td>Returns the rank of a number in a list of numbers.</td>
</tr>
<tr>
<td>TDIST</td>
<td>Returns the Student’s t-distribution.</td>
</tr>
<tr>
<td>TINV</td>
<td>Returns the inverse of the Student’s t-distribution.</td>
</tr>
<tr>
<td>TRIMMEAN</td>
<td>Returns the mean of the interior of a data set.</td>
</tr>
<tr>
<td>TTEST</td>
<td>Returns the probability associated with a Student’s t-test.</td>
</tr>
<tr>
<td>ZTEST</td>
<td>Returns the one-tailed probability-value of a z-test.</td>
</tr>
</tbody>
</table>
## Text and Data Functions

This table lists the text and data functions that are not supported in TM1 Web.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC</td>
<td>Changes full-width (double-byte) English letters or katakana within a character string to half-width (single-byte) characters.</td>
</tr>
<tr>
<td>BAHTTEXT</td>
<td>Converts a number to text, using the ฿ (baht) currency format.</td>
</tr>
<tr>
<td>JIS</td>
<td>Changes half-width (single-byte) English letters or katakana within a character string to full-width (double-byte) characters.</td>
</tr>
<tr>
<td>PHONETIC</td>
<td>Extracts the phonetic (furigana) characters from a text string.</td>
</tr>
<tr>
<td>AutoShapes</td>
<td>TM1 Web does not support Microsoft Office Autoshapes.</td>
</tr>
</tbody>
</table>
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