

IBM Planning Analytics
2.0

Planning Analytics for Microsoft Excel



Note

Before you use this information and the product it supports, read the information in [“Notices” on page 323](#).

Product Information

This document applies to IBM Planning Analytics Version 2.0 and might also apply to subsequent releases.

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Introduction

IBM® Planning Analytics for Microsoft Excel is a Microsoft Excel-based tool that professional report authors use to build sophisticated, multiple-sheet, multiple-query reports against multiple databases.

Audience

This guide assumes that you are familiar with IBM Cognos® products, such as IBM Cognos for Microsoft Office, and IBM TM1®. You should also be familiar with Microsoft Office applications, such as Microsoft Excel.

Finding information

To find product documentation on the web, including all translated documentation, access [IBM Knowledge Center](http://www.ibm.com/support/knowledgecenter) (<http://www.ibm.com/support/knowledgecenter>).

Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products. IBM Planning Analytics for Microsoft Excel has accessibility features. For information on these features, see the accessibility section in this document. For more information about the accessibility features in IBM Planning Analytics for Microsoft Excel, see [Appendix B, “Accessibility features,” on page 311](#)

IBM Cognos HTML documentation has accessibility features. PDF documents are supplemental and, as such, include no added accessibility features.

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.

Samples disclaimer

The Sample Outdoors Company, Great Outdoors Company, GO Sales, any variation of the Sample Outdoors or Great Outdoors names, GO New Stores, Planning Sample, and SData depict fictitious business operations with sample data used to develop sample applications for IBM and IBM customers. These fictitious records include sample data for sales transactions, product distribution, finance, and human resources. Any resemblance to actual names, addresses, contact numbers, or transaction values is coincidental. Other sample files may contain fictional data manually or machine generated, factual data compiled from academic or public sources, or data used with permission of the copyright holder, for use as sample data to develop sample applications. Product names referenced may be the trademarks of their respective owners. Unauthorized duplication is prohibited.

Chapter 1. What's new in Planning Analytics for Microsoft Excel

Read about what's new or updated in IBM Planning Analytics for Microsoft Excel.

2.0.64 - Feature updates, May 10, 2021

IBM Planning Analytics for Microsoft Excel was refreshed on May 10, 2021 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in previous releases, see [What's new in Planning Analytics for Microsoft Excel](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html).

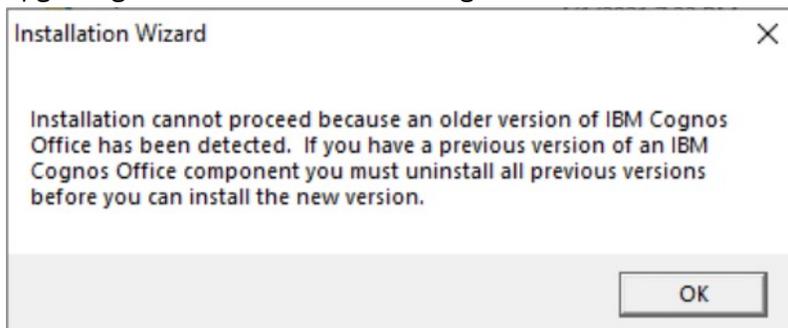
Planning Analytics for Microsoft Excel 2.0.64 compatibility with Cognos Office Connection

Users that use both Planning Analytics for Microsoft Excel as well as Cognos Office Connection are affected in their ability to upgrade to the latest release of Planning Analytics for Microsoft Excel.

Planning Analytics for Microsoft Excel 2.0.64 is not compatible with the latest release of Cognos Office Connection. This is due to conformance updates implemented in Planning Analytics for Microsoft Excel 2.0.63. These updates are fundamental to future feature development and improving the overall product experience, including the installation and post-installation experience.

Users that use both Planning Analytics for Microsoft Excel as well as Cognos Office Connection are affected in their ability to upgrade to the latest release of Planning Analytics for Microsoft Excel. Users who utilize either Cognos Office Connection or Planning Analytics for Microsoft Excel on their own may continue using the latest releases of each. For those who utilize both Planning Analytics for Microsoft Excel as well as Cognos Office Connection for their reporting needs may continue using Planning Analytics for Microsoft Excel 2.0.62 alongside the latest release of Cognos Office Connection.

If you are upgrading from Planning Analytics for Microsoft Excel version 2.0.62 to Planning Analytics for Microsoft Excel version 2.0.63 or 2.0.64, you must uninstall Planning Analytics for Microsoft Excel version 2.0.62 before upgrading. Failing to uninstall Planning Analytics for Microsoft Excel version 2.0.62 before upgrading will result in an error message.



In an upcoming release, the Planning Analytics add-in will be converted from an installer-based delivery to a single file a fraction of the size. This will also enable easier self service in enabling and disabling the add-in. Following this, a new release of Cognos Office Connection will enable the link with the installer-less Planning Analytics for Microsoft Excel.

View formula in a Custom Report is displayed by default

The view formula in a Custom Report is now displayed by default.

The first row of a Custom Report contains the view's formula. In previous version of Planning Analytics for Microsoft Excel, the first row of a Custom Report was hidden by default. As of Planning Analytics for Microsoft Excel 2.0.64, the first row of a Custom Report is displayed by default.

Custom Reports indented based on hierarchy level

Custom Reports are now indented based on the hierarchy level of each row.

In previous versions of Planning Analytics for Microsoft Excel, the rows in a Custom Report were not indented. As of Planning Analytics for Microsoft Excel 2.0.64, the rows of a Custom Report are indented based on the hierarchy level of the row.

	Q1-2004	Jan-2004	Feb-2004	Mar-2004	Q2-2004	Apr-2004	May-2004	Jun-2004	Q3-
1 Planning Sample:plan_BudgetPlan									
2 plan_version									
3 plan_business_unit									
4 plan_department									
5 plan_exchange_rates									
6 plan_source									
7									
8									
9 Sales	938,285	315,513	311,041	311,731	943,378	311,760	316,161	315,457	
10 Other Revenue	184,993	63,400	61,985	59,608	181,039	62,704	59,695	58,640	
11 Revenue	1,123,278	378,913	373,026	371,339	1,124,417	374,465	375,855	374,097	1
12 Direct Costs	118,188	1,000	52,376	64,813	142,410	62,070	37,157	43,183	
13 Other Costs	106,605	43,106	34,801	28,698	139,359	46,196	49,440	43,724	
14 COS	224,793	44,106	87,177	93,511	281,769	108,266	86,597	86,906	
15 Bank Charges	4,449	1,040	1,710	1,699	4,227	1,327	1,355	1,545	
16 Board of Directors	3,039	926	1,097	1,016	2,920	1,195	894	831	
17 Employee Relations	3,113	1,224	1,057	832	3,464	803	1,411	1,249	
18 Printing	102	88	9	5	2,090	5	932	1,153	
19 Seminars & Continuing Ed.	15	4	5	6	3,460	1,061	1,200	1,199	
20 Taxes & Licenses	94	77	8	9	4,079	1,260	1,315	1,504	
21 Office Expense	66	11	22	33	3,911	995	1,553	1,363	
22 Postage	3,325	1,163	1,036	1,127	3,689	1,230	1,114	1,346	
23 Rent	4,041	1,167	1,144	1,729	3,911	1,399	1,100	1,412	
24 Repairs & Maintenance	3,873	1,380	1,008	1,484	4,400	1,441	1,516	1,443	
25 Telephone	3,080	1,087	1,092	901	2,797	993	843	962	
26 Utilities	3,999	1,009	1,299	1,590	4,176	1,046	1,523	1,606	
27 Accounting Expense	4,275	1,393	1,604	1,278	4,180	1,233	1,785	1,161	
28 Legal & Consulting	4,641	1,765	1,327	1,549	3,043	1,167	928	948	
29 Banize / Customer Enrollment	6,193	1,611	1,744	1,778	4,484	1,784	1,744	864	

New API methods for the Task Pane

You can now use new API methods to interact with the Task Pane.

Four new API methods have been added as of Planning Analytics for Microsoft Excel 2.0.64. You can use the new Task Pane API methods to Show, Hide, Refresh, and return the visibility state of the Task Pane.

To learn more about the new Task Pane API methods, see the following topics:

- [Hide \(Task Pane\)](#)
- [IsVisible \(Task Pane\)](#)
- [Refresh \(Task Pane\)](#)
- [Show \(Task Pane\)](#)

2.0.63 - Feature updates, April 12, 2021

IBM Planning Analytics for Microsoft Excel was refreshed on April 12, 2021 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in previous releases, see [What's new in Planning Analytics for Microsoft Excel \(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html\)](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html).

Note: If you are upgrading from Planning Analytics for Microsoft Excel version 2.0.62 to Planning Analytics for Microsoft Excel version 2.0.63, you must uninstall Planning Analytics for Microsoft Excel version 2.0.62 before upgrading.

New CreateFromCVS API method

You can now use the CreateFromCVS API method to generate a new Exploration View or Quick Report using a common view specification (CVS).

A common view specification (CVS) is JSON that is composed of two major parts; the MDX query and a sidecar for additional state information. Data driven mechanisms, such as TurboIntegrator are only concerned with the MDX query, however user interfaces will also consume the sidecar to ensure presentation consistency. As of Planning Analytics for Microsoft Excel 2.0.63, you can use the CreateFromCVS API method to generate a new Exploration View or Quick Report using a CVS.

For more information, see [CreateFromCVS \(Exploration View\)](#) and [CreateFromCVS \(Quick Report\)](#).

To learn more about Common View Specifications, see [Common View Specification\(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_cvs.html\)](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_cvs.html).

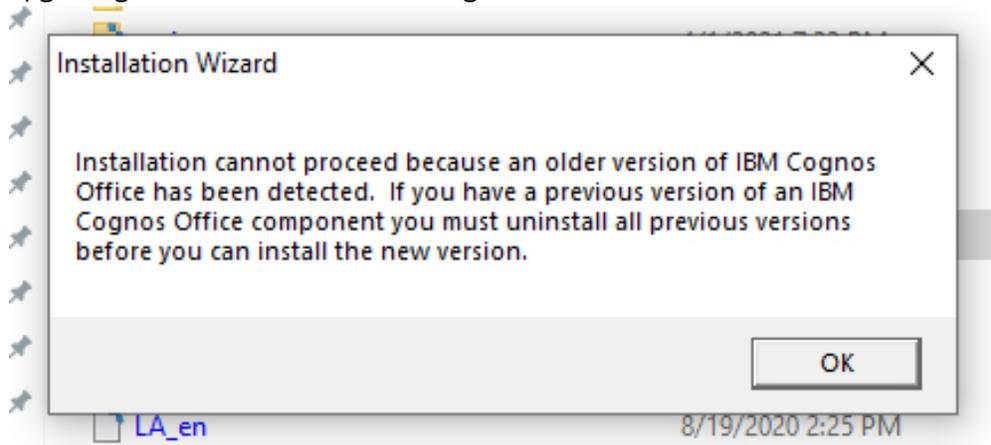
Conformance compatibility update

Planning Analytics for Microsoft Excel 2.0.63 contains conformance updates fundamental to improving the overall product experience including the installation and post-installation experience.

The 2.0.63 update of Planning Analytics for Microsoft Excel is not compatible with the current release of Cognos Office Connection. Users that use both Planning Analytics for Microsoft Excel as well as Cognos Office Connection are affected in their ability to upgrade to the latest release of Planning Analytics for Microsoft Excel.

Users who utilize either Cognos Office Connection or Planning Analytics for Microsoft Excel on their own may continue using the latest releases of each. For those who utilize both Planning Analytics for Microsoft Excel as well as Cognos Office Connection for their reporting needs may continue using Planning Analytics for Microsoft Excel 2.0.62 alongside the latest release of Cognos Office Connection.

If you are upgrading from Planning Analytics for Microsoft Excel version 2.0.62 to Planning Analytics for Microsoft Excel version 2.0.63, you must uninstall Planning Analytics for Microsoft Excel version 2.0.62 before upgrading. Failing to uninstall Planning Analytics for Microsoft Excel version 2.0.62 before upgrading will result in an error message.



In an upcoming release, the Planning Analytics add-in will be converted from an installer-based delivery to a single file a fraction of the size. This will also enable easier self service in enabling and disabling the add-in. Following this release shortly, Cognos Office Connection will enable the link between the two products once again.

2.0.62 - Feature updates, March 08, 2021

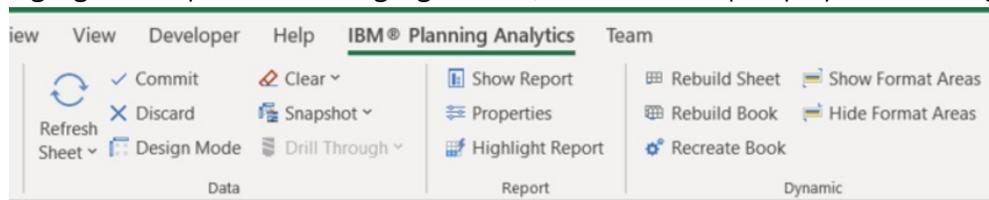
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Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in previous releases, see [What's new in Planning Analytics for Microsoft Excel \(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html\)](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html).

New Report ribbon group

You can show reports, highlight report areas, and view report properties with the new **Report** ribbon group in Planning Analytics for Microsoft Excel.

Planning Analytics for Microsoft Excel now features a new group in the ribbon area, called **Report**. The **Report** ribbon group contains buttons which you can use to quickly show the report of a highlighted cell, highlight the report area of a highlighted cell, and view the report properties of a highlighted cell.



For more information on this feature, see [User interface overview\(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_userinterface.html\)](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_userinterface.html)

2.0.61 - Feature updates, February 9, 2021

IBM Planning Analytics for Microsoft Excel was refreshed on February 9, 2021 to include fixes only.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in previous releases, see [What's new in Planning Analytics for Microsoft Excel \(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html\)](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html).

Timeouts in IBM Planning Analytics for Microsoft Excel

Planning Analytics for Microsoft Excel is now enforcing an inactivity timeout if the user does not interact with a TM1 Server component for 60 minutes.

There is a new inactivity timeout for Planning Analytics for Microsoft Excel users when configured with Planning Analytics Workspace on Cloud version 2.0.61 or newer. The new inactivity timeout is designed to enhance security.

If the user does not interact with any TM1 Server components in Planning Analytics for Microsoft Excel for 60 minutes, they will be disconnected and will be required to log in again. Examples of TM1 Server components in Planning Analytics for Microsoft Excel include the set editor, the task pane, and sending and retrieving data in general.

Note: When a user is disconnected due to an inactivity timeout, they do not experience a loss of state. Upon logging back in, the user does not lose any changes or data due to the timeout.

For more information on the inactivity timeout, see [Connection timeouts in Planning Analytics Workspace on Cloud](#).

2.0.60 - Feature updates and known issues, December 17, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on December 17, 2020 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in previous releases, see [What's new in Planning Analytics for Microsoft Excel](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html).

Show and hide your TM1 servers

You can now select specific TM1 servers to hide in Planning Analytics for Microsoft Excel.

In previous versions of Planning Analytics for Microsoft Excel, you were shown a full list of all of the TM1 servers in your TM1 datasources when connecting to a TM1 datasource from the ribbon or from the task pane. As of Planning Analytics for Microsoft Excel version 2.0.60, you can now select specific TM1 servers to hide from these menus. For more information on this feature, see [Show and hide servers in a TM1 datasource](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_hide_tm1_server.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_hide_tm1_server.html).

Saving or renaming a view in the set editor

When you save or rename a view in the set editor, the title bar in the set editor now updates to display the name of the view. A view saved from the set editor now also automatically appears in the task pane.

In previous versions of Planning Analytics for Microsoft Excel, the title bar of the set editor did not update to show the name of the view. As of Planning Analytics for Microsoft Excel version 2.0.60, when you save or rename a view, the title bar of the set editor shows the updated view name. The task pane now also shows new views that are saved from the set editor without the need to manually refresh the task pane.

Quick Report sheet names in the task pane

Quick Report sheet names are updated in the **Workbook** tab of the task pane.

In previous versions of Planning Analytics for Microsoft Excel, the **Workbook** tab only displayed the sheet number of a sheet. As of Planning Analytics for Microsoft Excel version 2.0.60, Quick Report sheets in the **Workbook** tab now display a sheet name in the following format: Sheet[`sheet number`] [`cube name`]: [`report name`] [`Report ID number`].

Planning Analytics for Microsoft Excel: login or server access may fail in new experience

This issue may occur only when authenticating against a local TM1 database in the Planning Analytics new experience. You will not encounter this issue when authenticating against a local database in Planning Analytics classic or any Planning Analytics on Cloud database.

When attempting to log in to a TM1 database from Planning Analytics for Microsoft Excel, you may receive the following error under certain configurations or conditions: Cannot load the requested view.

To work around this issue, you can dismiss the error and again select the desired TM1 database and continue to log in with a valid user name.

This issue will be corrected in an upcoming release.

2.0.59 - Feature updates and known issues, November 13, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on November 13, 2020 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in previous releases, see [What's new in Planning Analytics for Microsoft Excel](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html).

support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_nfg_pax_test.html).

MDX and TM1 Server views are listed together in the source tree

The source tree now presents MDX views and TM1 Server views combined in a single group, sorted alphabetically.

In previous versions of Planning Analytics for Microsoft Excel, MDX views were listed in one group, while TM1 Server views were listed a separate group,

Planning Analytics for Microsoft Excel: login or server access may fail in new experience

This issue may occur only when authenticating against a local TM1 database in the Planning Analytics new experience. You will not encounter this issue when authenticating against a local database in Planning Analytics classic or any Planning Analytics on Cloud database.

When attempting to log in to a TM1 database from Planning Analytics for Microsoft Excel, you may receive the following error under certain configurations or conditions: Cannot load the requested view.

To work around this issue, you can dismiss the error and again select the desired TM1 database and continue to log in with a valid user name.

This issue will be corrected in an upcoming release.

2.0.58 - Feature updates and known issues, October 20, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on October 20, 2020.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see 2.0.57 - Feature updates, September 14, 2020 (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_57.html).

Updates to the IBM Planning Analytics with Watson ribbon

The IBM Planning Analytics with Watson ribbon has been updated in Planning Analytics for Microsoft Excel.

As of Planning Analytics for Microsoft Excel version 2.0.58, the IBM Planning Analytics with Watson ribbon has been updated to improve usability and to maximize space.

Quick Reports

The ribbon group for Quick Reports has been removed, however all functionality is still accessible either from the **Data** ribbon group or from the task pane. For more information, see:

- [Clearing all data from a Quick Report](#)
- [Refresh](#)
- [Commit data in a Quick Report](#)

Dynamic Reports

The Dynamic Reports ribbon group has now been renamed to **Dynamic**. All functionality remains the same.

Planning Analytics for Microsoft Excel: login or server access may fail in new experience

This issue may occur only when authenticating against a local TM1 database in the Planning Analytics new experience. You will not encounter this issue when authenticating against a local database in Planning Analytics classic or any Planning Analytics on Cloud database.

When attempting to log in to a TM1 database from Planning Analytics for Microsoft Excel, you may receive the following error under certain configurations or conditions: Cannot load the requested view.

To work around this issue, you can dismiss the error and again select the desired TM1 database and continue to log in with a valid user name.

This issue will be corrected in an upcoming release.

2.0.57 - Feature updates, September 14, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on September 14, 2020 to include fixes only.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.56 - Feature updates, August 12, 2020](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_56.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_56.html).

2.0.56 - Feature updates, August 12, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on August 12, 2020 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.55 - Feature updates, July 16, 2020](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_55.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_55.html).

Cube Viewer

Starting in IBM Planning Analytics for Microsoft Excel version 2.0.56, you can change the font size and save views in the Cube Viewer.

Changing the font size

If you're working with large dimensions or sets, you can change the font size of the Cube Viewer to display more data.

For more information about changing the font size in the Cube Viewer, see [Change the font size](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_cube_viewer_zoom.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_cube_viewer_zoom.html).

Save views as part of the cube

After you are finished working in the Cube Viewer, you can save your views as part of the cube. To use this feature, ensure that you also have IBM Planning Analytics Workspace version 2.0.56 or later installed.

For more information about saving views from the Cube Viewer, see [Save a view from the Cube Viewer](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_save_cube_viewer.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_save_cube_viewer.html).

Changing hierarchies

If your dimension contains multiple hierarchies, you can use the set editor or Cube Viewer to change the hierarchy that's being used in your report.

For more information about changing the hierarchy of a report, see [Change the hierarchy](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_change_hierarchy.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_change_hierarchy.html).

2.0.55 - Feature updates, July 16, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on July 16, 2020 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.54 - Feature updates, June 12, 2020](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_54.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_54.html).

Converting reports

As of 2.0.55, if you are converting reports in IBM Planning Analytics for Microsoft Excel, you can define whether or not the converted report uses Microsoft Excel's stylesheet formatting.

You can decide whether or not your converted reports use stylesheet formatting. When you convert a report directly from an Exploration View, the converted report uses stylesheet formatting if you have **Use Excel Formats** enabled. If you are creating or converting a report from the source tree, the cube viewer, or another path, the converted report defaults to using stylesheet formatting.

For more information about converting reports, see [Converting a report from an Exploration View](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_convert_reports.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_convert_reports.html).

2.0.54 - Feature updates, June 12, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on June 12, 2020 to include fixes only.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.53 - Feature updates, May 15, 2020](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_53.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_53.html).

2.0.53 - Feature updates, May 15, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on May 15, 2020 to include fixes only.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.52 - Feature updates, April 16, 2020](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_52.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_52.html).

2.0.52 - Feature updates, April 16, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on April 16, 2020 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [“2.0.51 - Feature updates, March 06, 2020” on page 10](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_51.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_51.html).

All connections are switching to IBM Planning Analytics Workspace

As of 2.0.52, if you are using TM1 Server 2.0.9 or newer and have any connections through PMHub in IBM Planning Analytics for Microsoft Excel, your connections will be switched to solely go through Planning Analytics Workspace.

All new connections in Planning Analytics for Microsoft Excel currently go through Planning Analytics Workspace. Existing PMHub connections will be switched to Planning Analytics Workspace connections if you are using Planning Analytics for Microsoft Excel 2.0.52 or newer with TM1 Server 2.0.9 or newer.

Improvements to the set editor

As of 2.0.52, the set editor has a number of improvements to make it easier to work with large dimensions.

To use the updated set editor, ensure that you have IBM Planning Analytics Workspace version 2.0.52 or later installed. Refer to the [Planning Analytics for Microsoft Excel conformance requirements](#).

Note: If you are using IBM Planning Analytics for Microsoft Excel versions 2.0.51 and older with Planning Analytics Workspace versions 2.0.52 and newer, you will see all of the new set editor features, however any changes made in the default view settings for the Available Members and Current Set panes will not be saved.

Focus on one area at a time

You can hide the pane that you are not currently working in to enable you to focus on one area at a time.

Maximize the set editor

Quickly maximize the set editor by clicking the **Max** icon .

Note: If you added the set editor from the tree, you can resize the set editor by dragging the grab handles.

Drag and drop

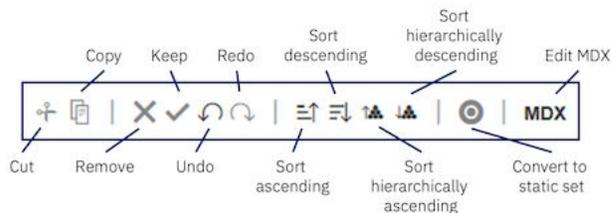
Drag members into the **Current Set** from **Available Members**. Dragging uses the default insert settings



. If there are a lot of members in the **Current Set**, you can scroll down the pane while dragging the selection into the correct position.

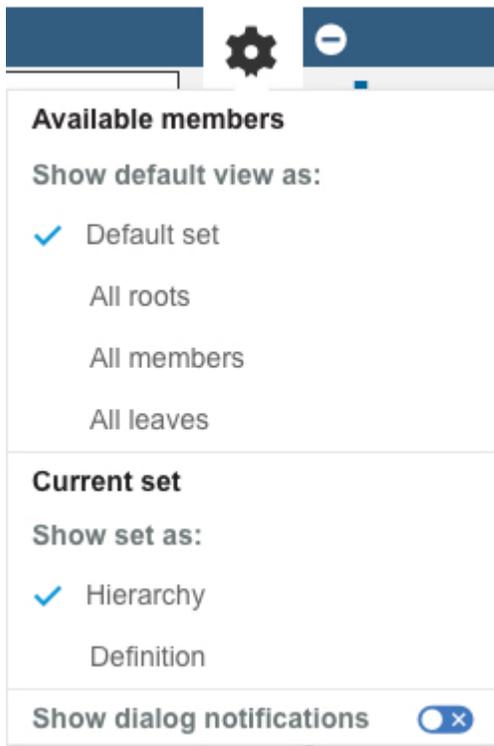
Easy access to functions

The new toolbar makes it easy to edit the members in the current set, with the most frequently used functions available.



Configure default view settings for the Available Members and Current Set panes

For the **Available Members** pane, you can choose to display **Default set**, **All roots**, **All members**, or **All leaves** by default. For the **Current Set** pane, you can choose whether to display the members as a **Hierarchy**, or as a **Definition** (MDX).



Click  to access the **Settings** menu.

For more information about the set editor, see [Sets](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_paw_set.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_paw_set.html).

Version requirements for using IBM Planning Analytics for Microsoft Excel 2.0.52 with TM1 Server.

Improvements in IBM Planning Analytics for Microsoft Excel 2.0.52 are tested on the current supported TM1 Server versions (For more information on supported TM1 Server versions, see [IBM Planning Analytics for Microsoft Excel conformance requirements](#). Please note that some functionality will not work as expected in TM1 Server versions 2.0.5 and older.

2.0.51 - Feature updates, March 06, 2020

IBM Planning Analytics for Microsoft Excel was refreshed on March 06, 2020 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see “2.0.50 - Feature updates, February 7, 2020” on [page 11](#) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_50.html).

Update the datasource or package for Exploration Views in bulk

As of version 2.0.51, you can now bulk update the datasource or package for multiple Exploration Views at the same time.

To bulk update the datasource or package for your Exploration Views, you need to use the BulkSerializeUtil command. For more information, see [Bulk update the datasource or package for Exploration Views](#)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_exploration_bulk_update_server.html)

2.0.50 - Feature updates, February 7, 2020

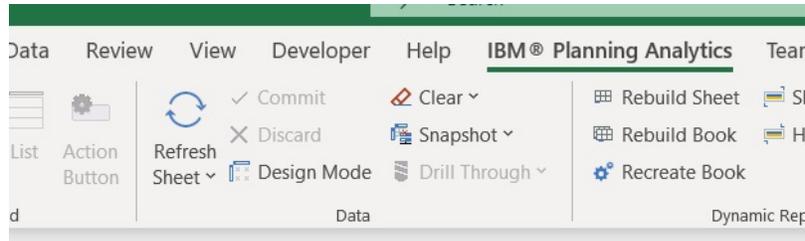
IBM Planning Analytics for Microsoft Excel was refreshed on February 7, 2020 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see “2.0.49 - Feature updates, December 19, 2019” on page 11 (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_49.html).

Improvements to Design Mode

As of 2.0.50, use **Design Mode** to preserve or clear DBRW formulas when you are copying and pasting values into cells.

Design Mode is a handy tool that can be used to enable or disable the refreshing of an Exploration View upon every change. You can now also use **Design Mode** to preserve or clear DBRW formulas when you are copying and pasting values into cells. Simply enable or disable **Design Mode** from the **Data** group in the IBM Planning Analytics ribbon.



For more information about **Design Mode**, see [Design Mode](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_design_mode.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_design_mode.html).

2.0.49 - Feature updates, December 19, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on December 19, 2019 to include the following features and notices.

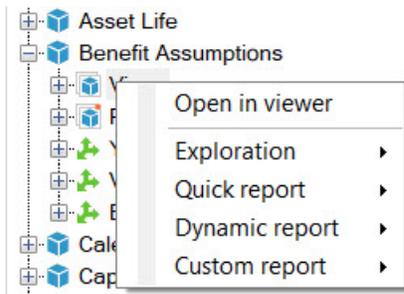
Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see “2.0.48 - Feature updates, November 20, 2019” on page 12 (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_48.html).

Quickly access views from the IBM task pane

As of 2.0.49, you can open views from the IBM task pane.

You can now quickly access views from the IBM task pane by double-clicking a cube or Views node. You can also open a view by right-clicking a cube or Views node and selecting **Open in viewer** from the right-click menu.

Additionally, when you right-click a cube or Views node on the task pane, you can choose to run as one of the available report types.



For more information about the IBM task pane and how you can open views from the task pane, see [IBM task pane](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_taskpane.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_taskpane.html).

2.0.48 - Feature updates, November 20, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on November 20, 2019 to include the following features and notices.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.47 - Feature updates, October 15, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_47.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_47.html).

Show the information header in a Quick Report

Starting in 2.0.48, you can show or hide header information in a Quick Report. The header information includes the host URL, server name, and the cube name for the Quick Report.

For more information about the information header, see [Show the information header in a Quick Report](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_qr_header_informtion.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_qr_header_informtion.html).

For more information on enabling the information header, see [Manually enabling features in the tm1features.json file](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/r_pax_tm1features.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/r_pax_tm1features.html).

Dimension names are automatically displayed in a Quick Report

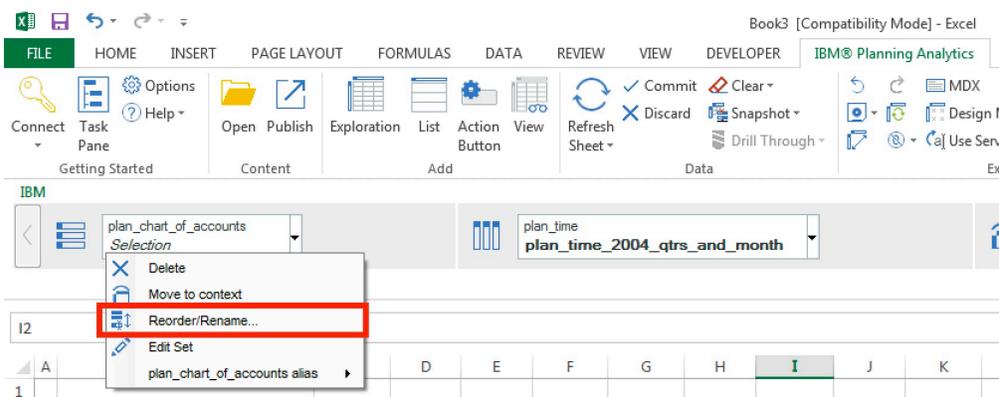
When you create or open a Quick Report, the names of the dimensions used in the Quick Report are automatically displayed at the top of the report.

For more information about Quick Reports, see [Quick Reports](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_ug_cxr_powersheets.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_ug_cxr_powersheets.html).

Deprecation notice for the Reorder/Rename feature in Exploration Views and lists

In IBM Planning Analytics for Microsoft Excel version 2.0.49, the Reorder/Rename feature in Exploration Views and lists will be deprecated.

The Reorder/Rename feature:



- You can use the set editor to reorder your members. For more information, see [Reorder members in a set](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_set_editor_reorder_members.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_set_editor_reorder_members.html).
- You can still use aliases to rename a member.
- To rename a calculated column or row, edit the column or row header. For more information, see [Rename a calculated column or row](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_exploration_rename_calculation.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_exploration_rename_calculation.html).

2.0.47 - Feature updates, October 15, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on October 15, 2019 to include fixes only.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.46 - Feature updates, September 13, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_46.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_46.html).

2.0.46 - Feature updates, September 13, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on September 13, 2019 to include fixes only.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.45 - Feature updates, August 16, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_45.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_45.html).

2.0.45 - Feature updates, August 16, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on August 16, 2019 to include fixes only.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.44 - Feature updates, July 30, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_44.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_44.html).

2.0.44 - Feature updates, July 30, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on July 30, 2019 to include the following features.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.43 - Feature updates, June 19, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_43.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_43.html).

Save your Exploration Views to the Planning Analytics Workspace Content Store!

As of 2.0.44, you can save your Exploration Views to the Planning Analytics Workspace Content Store.

Save your Exploration View to the Planning Analytics Workspace Content Store

Saving your Exploration Views to the Planning Analytics Workspace Content Store allows you to save enhanced views, and share your views between IBM Planning Analytics Workspace and IBM Planning Analytics for Microsoft Excel.

Share views between Planning Analytics Workspace and Planning Analytics for Microsoft Excel

Saving your Exploration View to the Planning Analytics Workspace Content Store allows you to share your views to Planning Analytics Workspace and Planning Analytics for Microsoft Excel. Simply access the Planning Analytics Workspace from either product and open the view for quick and flexible collaboration.

The versatility of MDX Views

MDX expressions can be a powerful tool for storing and generating views. When you save your Exploration View to the Planning Analytics Workspace Content Store, the view is stored as an MDX expression. Just like in an MDX View, you can store calculations or headers, and define asymmetric axes when you save your Exploration Views to the Planning Analytics Workspace Content Store.

Compatibility

Planning Analytics for Microsoft Excel version 2.0.44 used with Planning Analytics Workspace version 2.0.44 will receive full support for saving to the Planning Analytics Workspace Content Store.

You also need IBM Planning Analytics version 2.0.7 IF 3 or newer installed. It is recommended that you install IBM Planning Analytics version 2.0.8 or newer.

For more information about saving your Exploration Views to the Planning Analytics Workspace Content Store, see [Methods for saving an Exploration View](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_exploration_save.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_exploration_save.html).

Enhanced clear functionality for Exploration Views

The clear functionality when applied to an Exploration View has been improved as of 2.0.44.

Using **Clear workbook**, **Clear worksheet**, or **Clear data** on an Exploration View or list view will now also clear any items in the context area drop zone.

For more information about clearing Exploration Views, see [Clearing all data from an Exploration View or list view](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_clear_data_exploration.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_clear_data_exploration.html).

MDX button disabled after clearing an Exploration View or list view

As of 2.0.44, the MDX button will be temporarily disabled after a user clears an Exploration View or list view.

When you clear data in an Exploration View or list view, the cleared cells remain as blank cells on the report. Clearing the content does not break the link to the datasource. As of version 2.0.44, when you clear data in an Exploration View or list view, the button to open the MDX editor is temporarily disabled. This feature prevents other users from viewing the worksheet's MDX expression, which may contain information about the datasource.

The button to open the MDX editor is enabled again if the Exploration View or list view is refreshed by the user that initially cleared the data. When the view is refreshed, the context dimensions will query for the first available member for each subset and update the selections and the MDX expression is updated.

For more information about clearing Exploration Views, see [Clearing all data from an Exploration View or list view](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_clear_data_exploration.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_clear_data_exploration.html).

Actions to prompt a Constrained Calculation

As of 2.0.44, you can use a number of actions to prompt a Constrained Calculation in IBM Planning Analytics for Microsoft Excel.

Constrained Calculations can be used in Planning Analytics for Microsoft Excel to limit recalculations strictly to a specified worksheet. Because Planning Analytics for Microsoft Excel is only recalculating the single worksheet, you may notice improved performance when refreshing a single worksheet. The 2.0.44 release of Planning Analytics for Microsoft Excel has enabled new actions that will prompt a recalculation when Constrained Calculations are enabled.

To learn more about the actions you can use to prompt a recalculation, see [Actions that prompt a Constrained Calculation](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/r_pax_constrainedcalculationgestures.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/r_pax_constrainedcalculationgestures.html).

To learn more about Constrained Calculations, see [Constrained Calculations](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_constrainedcalculations.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_constrainedcalculations.html).

2.0.43 - Feature updates, June 19, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on June 19, 2019 to include the following features.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.42 - Feature updates, May 13, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_42.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_42.html).

Support for Microsoft Excel 2019

Starting in version 2.0.43, IBM Planning Analytics for Microsoft Excel will now be compatible with Microsoft Excel 2019.

You can now use Planning Analytics for Microsoft Excel with Microsoft Excel 2019. For more information on supported software environment, see the IBM Software Product Compatibility Reports (<https://www.ibm.com/software/reports/compatibility/clarity/index.html>).

2.0.42 - Feature updates, May 13, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on May 13, 2019 to include the following features.

Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.41 - Feature updates, April 12, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_41.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_41.html).

Quickly access the set editor from the IBM task pane

As of 2.0.42, you can open the set editor from the IBM task pane.

You can now quickly access the set editor from the IBM task pane by double-clicking a dimension or named set, or by right-clicking a dimension or named set and opening the set editor from the right-click menu.

For more information about the IBM task pane and how you can open the set editor from the IBM task pane, see [IBM task pane](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_taskpane.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_taskpane.html).

Set data refresh options for your views

As of 2.0.42, you can set a data refresh option for your views from the cube viewer.

Using the Cube Viewer, you can define how data refreshes are triggered in your view.

For more information about how you can set data refresh options for your views, see [Set data refresh options for a view](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_cubeviewer_autorecalc.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_pax_cubeviewer_autorecalc.html).

Use Planning Analytics for Microsoft Excel without Performance Manager Hub

Planning Analytics for Microsoft Excel no longer requires IBM Cognos Performance Management Hub (PMHub) to access the TM1 Server or TM1 Admin Server.

For more information about how you can use Planning Analytics for Microsoft Excel without Performance Manager Hub, see [Using Planning Analytics for Microsoft Excel without Performance Manager Hub](https://www-01.ibm.com/support/docview.wss?uid=ibm10883120) (<https://www-01.ibm.com/support/docview.wss?uid=ibm10883120>).

2.0.41 - Feature updates, April 12, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on April 12, 2019 to include the following features. Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.40 - Feature updates, February 22, 2019](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_40.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_40.html).

Speed up your worksheet refreshes with Constrained Calculations

As of 2.0.41, you can improve the performance and speed of your single worksheet refreshes using Constrained Calculations.

When you refresh your worksheet, IBM Planning Analytics for Microsoft Excel will recalculate every worksheet in your workbook. Using Constrained Calculations is an easy way to narrow the scope of the recalculates to just your active worksheet.

For more information about Constrained Calculations, see [Constrained Calculations](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_constrainedcalculations.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_constrainedcalculations.html).

2.0.40 - Feature updates, February 22, 2019

IBM Planning Analytics for Microsoft Excel was refreshed on February 22, 2019 to include fixes. Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.39 - Feature updates, December 21, 2018](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_39.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_39.html).

2.0.39 - Feature updates, December 21, 2018

IBM Planning Analytics for Microsoft Excel was refreshed on December 21, 2018 to include fixes. Updates to each version of Planning Analytics for Microsoft Excel are cumulative. To see what was new in the previous release, see [2.0.38 - Feature updates, November 27th, 2018](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_38.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_new_features_2_0_38.html).

New API function for Quick Reports

As of 2.0.39, you can use the `ReplaceWithFormats` function to replace the MDX statement in a Quick Report with another MDX statement. `ReplaceWithFormats` also has an option to preserve or destroy the existing sheet formatting in the Quick Report.

To find out more, see [ReplaceWithFormats](https://ibm.github.io/paxapi/#replacewithformats) (<https://ibm.github.io/paxapi/#replacewithformats>).

2.0.38 - Feature updates, November 27, 2018

IBM Planning Analytics for Microsoft Excel was refreshed on November 27, 2018 to include fixes. Updates to each version of Planning Analytics for Microsoft Excel are cumulative.

Chapter 2. Getting started

This topic will help you get started using IBM Planning Analytics for Microsoft Excel and get you oriented as you navigate through the user interface.

Planning Analytics for Microsoft Excel provides an interactive drag-and-drop environment for you to explore and analyze data, helping you find answers to your important business questions.

You can also use Planning Analytics for Microsoft Excel to achieve the following goals:

- Find and focus on items that are important to your business.
- Understand trends and anomalies.
- Compare data, such as details to summaries, or actual results to budgeted results.
- Assess performance by focusing on the best or worst results.
- Share your findings with others.
- Multi-dimensional analysis and exploration of large data sources within a familiar Excel environment.

Before you begin

Before you use IBM Planning Analytics for Microsoft Excel, ensure that you accomplish the following tasks.

Configure your anti-virus software

To run Planning Analytics for Microsoft Excel, you must first configure your anti-virus software to allow connections from both Microsoft .NET Runtime and Microsoft Excel.

For more information, see [Configure your anti-virus software](#) in the *Planning Analytics Local Installation and Configuration* documentation.

Set up connections for TM1 Rest APIs

Planning Analytics for Microsoft Excel uses TM1 REST APIs from the IBM TM1 Server. An administrator needs to configure the HTTP port number in the IBM TM1 Server configuration files for each TM1 Server.

For more information, see [Setting up connections for TM1 REST APIs](#) in the *Planning Analytics Local Installation and Configuration* documentation.

Internet browser requirements

Planning Analytics for Microsoft Excel requires Internet Explorer 11.

Upgrade existing workbooks

You need to update the original TM1 server connections to the Planning Analytics Workspace URI if you have workbooks from earlier versions of Planning Analytics for Microsoft Excel. Update your connections by editing the connections in the **Options** screen.

For more information, see [“Update Connection URLs”](#) on page 45.

Use the **Update connection utility** to update Exploration View and Quick Report connections.

For more information, see [“Utilities”](#) on page 47.

Disable automatic hyperlinking

Microsoft Excel by default enables **Internet and network paths with hyperlinks**, an AutoCorrect setting which automatically turns text that represents Internet and network paths into hyperlinks. This setting may interfere with TM1RPTROW functions. Follow these steps to disable this setting:

1. Open Microsoft Excel.
2. Click **File > Options > Proofing**.
3. Click **AutoCorrect Options...**
4. Click the **AutoFormat As You Type** tab.
5. Uncheck **Internet and network paths with hyperlinks** under **Replace as you type**.

Note: For TM1RPTROW functions that were already converted into hyperlinks, remove the link and republish the report to remove the hyperlink from published reports:

1. Right-click the TM1RPTROW function that contains the hyperlink.
2. Click **Edit hyperlink**.
3. Click **Remove link**.

Optimize for high DPI displays

For user interface elements to render properly on high DPI displays, you need to optimize Microsoft Office. You can optimize Microsoft Office by ensuring that the display setting in Microsoft Office is set to **Optimize for compatibility**.

If you do not see the **Optimize for compatibility** display setting, downgrade your version of Microsoft Office to version 1803.

For instructions and more on changing your display settings in Microsoft Office, see [Office support for high definition displays](https://support.office.com/en-us/article/office-support-for-high-definition-displays-6720ca0e-be59-41f6-b629-1369f549279d?ui=en-US&rs=en-US&ad=US) (<https://support.office.com/en-us/article/office-support-for-high-definition-displays-6720ca0e-be59-41f6-b629-1369f549279d?ui=en-US&rs=en-US&ad=US>).

Getting oriented

When you start Microsoft Excel, the **IBM Planning Analytics** tab opens in the ribbon. The **IBM Planning Analytics** tab is your starting point for working with IBM TM1 data in Microsoft Excel. When you log on to an IBM TM1 system and create reports, you see other user interface features for working with IBM TM1 data.

The IBM Planning Analytics for Microsoft Excel user interface includes the **IBM Planning Analytics** tab, the **IBM** task pane, which contains a source tree and several commands.

[This video demonstrates how to set up connections to servers](#)

User interface overview

This topic shows you a few of the major areas of the IBM Planning Analytics for Microsoft Excel user interface

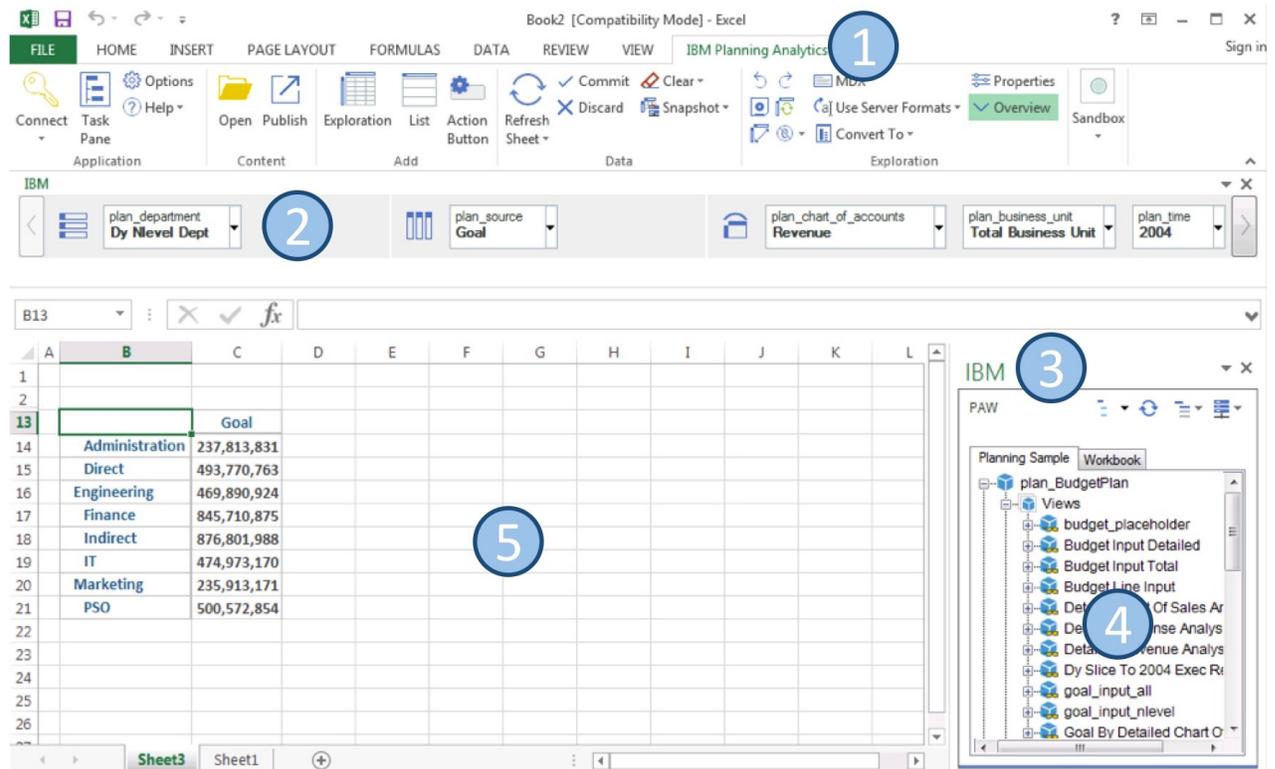


Figure 1. Planning Analytics for Microsoft Excel user interface

The following legend describes the areas that are referenced in the previous image:

1. IBM Planning Analytics ribbon

The IBM Planning Analytics ribbon contains ribbon groups, which you can use to explore your data in Planning Analytics for Microsoft Excel.

• Getting Started

The **Getting Started** group contains buttons, which you can use to connect to your datasource, view your data in a tree, set options, and find additional help.

- **Connect:** The **Connect** button allows you to add or select a datasource. For more information, see Chapter 4, “Connecting to datasources,” on page 37.
- **Task Pane:** The **Task Pane** button allows you to access the source tree, controls for opening datasources, and active workbooks. For more information, see “IBM task pane” on page 24.
- **Options:** The **Options** button allows you to see the options that you can set in Planning Analytics for Microsoft Excel. For more information, see “IBM Planning Analytics settings” on page 48.
- **Help:** The **Help** button allows you to find additional help content related to Planning Analytics for Microsoft Excel.

• Content

The **Content** group contains buttons, which you can use to open and publish your workbooks.

- **Open:** The **Open** button allows you to find and open a workbook. For more information, see “Opening workbooks from the TM1 Server Application folder” on page 41.
- **Publish:** The **Publish** button allows you to publish your workbooks. For more information, see “Share your analysis” on page 94.

- Add

The **Add** group contains buttons, which you can use to add Explorations, Lists, or Action Buttons to your worksheet.

- **Exploration:** The **Exploration** button allows you to add an Exploration View to your worksheet. For more information, see [“Create an Exploration View from scratch” on page 102](#).
- **List:** The **List** button allows you to add a List View to your worksheet. For more information, see [“Create a list” on page 101](#).
- **Action Button:** The **Action Button** button allows you to add an Action Button to your worksheet. For more information, see [Chapter 10, “Action buttons,” on page 245](#).

- Data

The **Data** group contains buttons, which you can use to explore, refresh, or modify your workbook.

- **Refresh:** The **Refresh** button allows you to refresh your worksheet. For more information, see [“Refresh data” on page 93](#).
- **Commit:** The **Commit** button allows you to commit changes in your Exploration View or Quick Report to the TM1 Server.

For more information about committing changes in a Quick Report, see [“Commit data in a Quick Report” on page 124](#).

For more information about committing changes in an Exploration View, see [“Commit data in a TM1 Exploration View” on page 113](#).
- **Discard:** The **Discard** button allows you to reset the values in a sandbox that you have changed, but not committed. For more information, see [“Virtual sandbox dimensions” on page 150](#)
- **Design Mode:** The **Design Mode** button allows you to enable or disable the automatic refreshing of an Exploration. For more information, see [“Design Mode” on page 87](#).
- **Clear:** The **Clear** button allows you to clear data from your workbook or worksheet. For more information, see [“Clearing data” on page 73](#).
- **Snapshot:** The **Snapshot** button allows you to convert reports in a workbook into a snapshot. For more information, see [“Convert dynamic data to snapshots \(static data\)” on page 77](#).
- **Drill Through:** The **Drill Through** button allows you to perform a drill through on your data. Drilling through on a cell provides detailed data on the cell, and shows you information from the data source. You can drill through on cells in Exploration Views, Custom Reports, Quick Reports, and Dynamic Reports. For more information, see [“Drill through to detailed data” on page 198](#)

- Report

The **Report** group contains buttons, which allows you to show or highlight your reports, and set report properties.

- **Show Report:** The **Show Report** button opens the **workbook** tab in the Task Pane and selects the report that contains the highlighted cell. If the highlighted cell is not within a report, the **Show Report** button shows all of the reports in the current worksheet in the Task Pane.
- **Properties:** The **Properties** button can be used with Exploration Views and Quick Reports. The **Properties** button shows the properties of the report that contains the highlighted cell. If the highlighted cell is not contained within a report, the **Properties** button shows all of the reports in the current worksheet in the Task Pane.
- **Highlight Report:** The **Highlight Report** button highlights the report area of the highlighted cell, if the cell is contained within a report. The **Highlight Report** button can be used with Quick Reports. If the highlighted cell is not contained within a report, the **Highlight Report** button shows all of the reports in the current worksheet in the Task Pane.

- Exploration

The **Exploration** group contains buttons, which you can use to work with your Exploration View or list. For more information on the **Exploration** group, see [“Exploration Views and lists” on page 99](#).

- Dynamic

The **Dynamic** group contains buttons, which you can use to work with your Dynamic Report. For more information on the **Dynamic** group, see [“The Dynamic ribbon group” on page 125](#).

- Sandbox

The **Sandbox** group contains buttons, which you can use to work with your sandboxes.

- **New:** The **New** button allows you to create a new sandbox.
- **Delete:** The **Delete** button allows you to delete the current sandbox.
- **Rename:** The **Rename** button allows you to rename the current sandbox.
- **Clone:** The **Clone** button allows you to clone the current sandbox.
- **Merge:** The **Merge** button allows you to commit changes from your sandbox to the case. For more information, see [“Virtual sandbox dimensions” on page 150](#).

2. Overview area

The overview area is displayed when you are viewing an Exploration View or a list. Use the overview area as a convenient place to quickly explore and change the contents of the Exploration View or list.

For Exploration Views, the overview area displays the Rows, Columns, and Context areas. You populate the Exploration View with data by adding items from the data source to these areas. For example, you can place a Department dimension in the rows and a Source dimension in the columns. The items that you place in the context area are used to filter the values. For example, you can filter the Exploration View to display data for a specific year by selecting a year in the Time dimension. Each box in the rows, columns, and context area represents a set of data in the data source.

3. IBM task pane

The IBM® task pane is a component in Planning Analytics for Microsoft Excel that provides you access to the source tree, controls for opening datasources, and active workbooks.

4. Source tree

The source tree in the task pane displays the cube and related items of the data source, such as views.

5. Work area

The work area is Microsoft Excel worksheet where you create and view reports.

When you create a new Exploration View or list, the work area displays a visual guide to help you build the report. Drop zones show you where you can drag items from the source tree to create the report. You can change, limit, or expand the items that you see in an Exploration View by using techniques such as filtering and drilling, to quickly focus on the most significant items on your worksheet.

If you want to use a more flexible report layout, rather than visual guides, you can create other types of reports such as Quick Reports, Dynamic Reports, and Custom Reports.

IBM Planning Analytics tab

The **IBM Planning Analytics** tab in the ribbon displays commands for starting IBM Planning Analytics for Microsoft Excel, logging on to IBM TM1 systems, setting options, opening reports that are published to an IBM TM1 Server Application folder, and other tasks.

Start Planning Analytics for Microsoft Excel by creating a new workbook in Microsoft Excel and opening the **IBM Planning Analytics** tab.

Find the version information for IBM Planning Analytics for Microsoft Excel

You can find the version information for Planning Analytics for Microsoft Excel in the IBM Planning Analytics ribbon.

Procedure

1. Click the IBM Planning Analytics tab to open the IBM Planning Analytics ribbon.
2. Click the **Help** drop down, located in the **Getting Started** group.
3. Click **About**.
4. Click **Show Version...** to open the version text file.
5. The CORCSP_version line contains the version number for your installation of Planning Analytics for Microsoft Excel.

Example

If the value of CORCSP_version is COR-AW64-ML-RTM-2.0.47.4-0, the version number is 47.4.

IBM task pane

The IBM task pane is a component in Planning Analytics for Microsoft Excel that provides you access to the source tree, controls for opening datasources, and active workbooks.

The IBM task pane consists of two tabs:

- The first tab contains the source tree and controls for opening data sources.
- The **Workbook** tab contains the components of the active workbook. For example, any Exploration Views, Quick Reports or Dynamic Reports that the workbook contains are listed.

The IBM task pane opens when you start IBM Planning Analytics for Microsoft Excel. You can move and resize the pane.

The source tree displays the data sources that you selected.

- For TM1 data sources, the tree displays the cube, with its associated dimensions, members, and levels. The source tree also displays saved views and TurboIntegrator processes.
- For IBM Cognos Analytics packages based on dimensionally modeled relational (DMR) and OLAP data sources, the source tree displays a dimensional view of your data. The tree is organized into dimensions, hierarchies, levels, and measures.
- For IBM Cognos Analytics packages based on relational data sources, the source tree displays query subjects, which are organized into lists of data items.

You can add objects to a report by dragging them from the source tree to a worksheet.

Tip: Ensure that all of the dimensions that you use in a report are from the same cube that was used to create the report. Using dimensions from outside of this cube can cause object reference errors.



Trouble: If the **IBM Planning Analytics** tab is not displayed on the ribbon, see [“The Cognos Office interface fails to initialize in Microsoft Office ” on page 292.](#)

Open the set editor from the IBM task pane

There are several ways that you can open the set editor from the IBM task pane.

To open the set editor from the task pane:

Double-click the dimension name

You can double-click on a dimension name in the IBM task pane to open the default set in the set editor.

Double-click a named set

You can double-click on a named set in the IBM task pane to open the named set in the set editor.

Right-click a dimension name

You can right-click a dimension name, then click **Edit set** to open the default set in the set editor.

Right-click the set name

You can right-click a named set, then click **Edit set** to open the named set in the set editor.

Launch the viewer from the IBM task pane

There are several ways that you can launch the viewer from the IBM task pane.

To open the viewer from the task pane:

Double-click the cube name

You can double-click on a cube name in the IBM task pane to open the default view in the viewer. A new view opens if a default view does not exist.

Double-click a Views node

You can double-click on a **Views** node in the IBM task pane to open the default public view in the viewer. A new view opens if a default view does not exist.

Double-click a private Views node

You can double-click on a private **Views** node in the IBM task pane to open the default private view in the viewer. A new view opens if a default view does not exist.

Right-click the cube name, a Views node, or a Private Views node

You can right-click a cube name, a **Views** node, or a **Private Views** node, then click **Open in viewer** to open the default view in the viewer. A new view opens if a default view does not exist. You can also select one of the available report types to open it as a report.

Filter items in the IBM task pane

You can choose to filter control objects, processes, or dimensions in the IBM task pane.

About this task

Use the **Show and hide**  icon in the task pane to select the type of items that you want to filter in the tree view. You can add or remove filters for control objects, processes, or dimensions.

Note: Processes or dimensions with names beginning with the } character are treated as a control object. If your process or dimension name begins with the } character, it will be filtered by the **Show control objects** option.

Procedure

1. Open the task pane.
2. Click the **Show and hide**  icon.
3. Select the type of item that you want to filter.
 - **Show control objects** adds or removes a filter for control objects in the tree view.
 - **Show processes** adds or removes a filter for processes in the tree view.
 - **Show dimensions** adds or removes a filter for dimensions in the tree view.

Overview area

The overview area is displayed when you are viewing an Exploration View or a list. Use the overview area as a convenient place to quickly explore and change the contents of the Exploration View or list.

For Exploration Views, the overview area displays the **Rows**, **Columns**, and **Context** areas. You populate the Exploration View with data by adding items from the data source to these areas. For example, you can place a Department dimension in the rows and a Source dimension in the columns. The items that you place in the context area are used to filter the values. For example, you can filter the Exploration View to

display data for a specific year by selecting a year in the Time dimension. Each box in the rows, columns, and context area represents a set of data in the data source.

Work area

The work area is a Microsoft Excel worksheet where you create and view reports.

When you create a new Exploration View or list, the work area displays a visual guide to help you build the report. Drop zones show you where you can drag items from the source tree to create the report. You can change, limit, or expand the items that you see in an Exploration View by using techniques such as filtering and drilling, to quickly focus on the most significant items on your worksheet.

If you want to use a more flexible report layout, rather than visual guides, you can create other types of reports such as Quick Reports, Dynamic Reports, and Custom Reports.

Show or hide the IBM Planning Analytics with Watson ribbon

When you start IBM Planning Analytics for Microsoft Excel, an **IBM Planning Analytics** tab is displayed in the ribbon. You can hide this tab if you decide to resume work on non-IBM TM1 workbooks and want to show only Microsoft Excel commands and buttons.

Procedure

1. To hide the **IBM Planning Analytics** tab in Microsoft Office 2010 or 2013, click **File, Options**, and then **Customize Ribbon**.
2. Under **Customize the Ribbon**, clear the **IBM Planning Analytics** check box.
3. Click **OK**.

To hide the **IBM Planning Analytics** tab in earlier versions of Microsoft Office, click **Tools > Customize**.

- To show or hide the **IBM** pane, select or clear the **IBM** check box.
- To show or hide the **IBM Planning Analytics** tab, select or clear the **IBM Cognos for Microsoft Office** check box.

Report types

IBM Planning Analytics for Microsoft Excel offers you the flexibility to create various report types, from simple lists and Exploration Views to complex formula-based reports.

The report types that you can use depends on whether you are using an IBM TM1 data source or an IBM Cognos Analytics package.

	TM1	Cognos Analysis
Simple layout and easy to use	Lists	Lists
	Exploration Views	Exploration Views
	Quick Reports	
	Custom Reports	Custom Reports
Flexible layout and powerful	Dynamic Reports	

Figure 2. Report types

You can create an Exploration View that shows sales by product line and then create a Quick Report that shows budget projections by product line. You can then create Microsoft Excel calculations that reference cells in the two reports.

If you have both TM1 and IBM Cognos Analytics available, you can create workbooks that contain both TM1 and IBM Cognos Analytics reports.

You can also combine TM1 and IBM Cognos Analytics data in a single report by using formulas.

For example, you can create a Custom Report that uses a IBM Cognos Analytics package, add TM1 formulas, and then use the IBM Cognos Analytics and TM1 data in Microsoft Excel calculations.

Planning Analytics for Microsoft Excel report types

When you are using data from an IBM Planning Analytics with Watson data source, you can work in multiple ways: Exploration Views, lists, Quick Reports, Dynamic Reports, or Custom Reports (reports based on formulas). You can use multiple types of report in a workbook. Each report type has its own benefits and limitations.

Lists

A list shows data in rows and columns. Each column shows the members of a dimension or set.

When you create a list, you use a single drop zone, columns, to create a list of members. A drop zone is an area where you can drag items to include in a report. You can add more columns to populate the list with additional information.

Use list explorations to show detailed information from a data source, such as customer lists or product lists.

You can also create a list to look up the value of a member, and then use the value in another worksheet, for example.

Some of the strengths that are associated with lists include drag-and-drop capabilities and visual cues that are provided by the zone in the overview area. With lists, you can view all of the members in a dimension or set easily and quickly.

Use a list:

- To create a list of members in a dimension

Exploration Views

An Exploration View shows data in rows and columns. An Exploration View also has a context area, which you can use to filter the data in the Exploration View.

When you create an Exploration View, you use drop zones to add objects from the source tree to the rows, columns, and context area of the report. A drop zone is an area where you can drag items to include in a report.

Some of the strengths that are associated with Exploration Views include drag-and-drop capabilities and visual cues that are provided by the drop zones in the overview area.

Use Exploration Views to compare and manipulate data so that you can better understand relationships between data and the relative importance of individual data items.

For example, you look at revenue for the years 2012 - 2015 by sales region. You notice a dip in the revenue for 2014. You focus the Exploration View on 2014 only and expand 2014 to show revenue results by quarter. You then replace the sales region dimension with the products dimension to explore revenue in 2014 from a different perspective.

Use an Exploration View:

- To find answers to simple questions that can be found in your data source, such as the revenue for Tents in the Americas for 2015

- To build interactive Exploration Views that you or another user can drill up and down in
- When you are not concerned with formatting
- To build a data set to convert and use in a more complex analysis, such as a formula-based report or a Dynamic Report

Quick Reports

A Quick Report shows data in rows and columns. A context area above the Quick Report shows the context members.

When you use Quick Reports, you drag-and-drop objects onto the regions of the report: rows, columns, context, and data. You can create Quick Reports by using existing Exploration Views or views. You can create multiple Quick Reports on a worksheet. You can also use multiple data sources.

For example, you create three Quick Reports on a worksheet to show different views of financial performance by region. You then add a fourth Quick Report that uses a different IBM Planning Analytics with Watson data source. You then create a Microsoft Excel calculation that references cells in the four Quick Reports to add more information to the report.

Some of the strengths that are associated with Quick Reports include the ability to present multiple views that use the same or different data sources in a worksheet, the ability to build complex layouts, and the ability to add Excel calculations, charts, and formatting. With Quick Reports, you can move beyond simple Exploration View layouts while still having the advantage of visual cues provided through the Quick Report regions.

Use Quick Reports:

- To build complex, highly formatted reports
- To use multiple data sources or servers
- When the row and column definitions will not change

Custom Reports

When you use Custom Reports, you use TM1 worksheet functions to build the report. You can create a Custom Reports report from scratch, you can build an Exploration View or Quick Report and convert it to formulas, or you can create Custom Reports from a cube view.

Some of the strengths that are associated with Custom Reports include the ability to use multiple data sources in the same worksheet; the ability to move cells, rows, and columns; and the ability to add Excel calculations, charts, and formatting. With formula-based reports, you can move to a custom or complex layout.

Use Custom Reports reports:

- To build a complex report that cannot be easily achieved with Quick Reports or Dynamic Reports
- To work with data from multiple servers and data sources in a report
- When formatting is important

Dynamic Reports

A Dynamic Report shows data in rows and columns. A context area above the Dynamic Report shows the context members. Dynamic Reports use TM1 functions to define the components of the report, such as context members, row members, and display properties. Dynamic Reports also use formulas to apply formatting to rows automatically. You can create a Dynamic Report from scratch or by converting an Exploration View to a Dynamic Report.

Some of the strengths that are associated with Dynamic Reports include the ability to have dynamic row members with customized formatting, the ability to expand and collapse rows, and the ability to use Excel calculations and other Excel features in the report. With Dynamic Reports, you can create more complex reports while still using interactive features, such as expanding and collapsing rows.

Use Dynamic Reports:

- To build a complex report that cannot be easily achieved with Quick Reports
- To apply formatting automatically to rows

IBM Cognos Analytics report types

When you are using data from an IBM Cognos Analytics package, you can work in three different ways: Exploration Views, lists, or Custom Reports. You can move between the methods. Each of these methods has its own benefits and limitations.

Lists

When you create a list, you use a single drop zone, columns, to create a list of items. A drop zone is an area where you can drag items to include in a report. You can add more columns to populate the list with additional information. In a list, each column shows all the values for a data item in the database.

Some of the strengths that are associated with lists include drag-and-drop capabilities and visual cues that are provided by the drop zone in the overview area. With lists, you can view all the items in the tables of your database easily and quickly.

You can open list reports in IBM Cognos Analytics - Reporting and IBM Cognos Workspace Advanced. You also publish lists to Cognos Connection.

Data sources can be relational, OLAP, or dimensionally modeled relational (DMR).

Use a list:

- To create a comprehensive group of items in a query subject or table of the database
- To enumerate the members of an OLAP dimension

Exploration Views

When you create an Exploration View, you use drop zones to add objects from the source tree to the rows, columns, measures, and context area of the report. A drop zone is an area where you can drag items to include in a report. Exploration Views provide automatic formatting based on the underlying data.

Some of the strengths that are associated with Exploration Views include drag-and-drop capabilities and visual cues that are provided by the drop zones in the overview area.

You can open Exploration Views in IBM Cognos Analysis Studio, IBM Cognos Analytics - Reporting, and IBM Cognos Workspace Advanced. You also publish Exploration Views to Cognos Connection.

Use an Exploration View:

- To find answers to simple questions that can be found in your data source, such as the revenue for Tents in the Americas for 2015
- To build interactive Exploration Views that you or another user can drill up and down in
- When you are not concerned with formatting
- To build a data set to convert and use in a more complex cell-based analysis

Custom Reports

When you use Custom Reports, you drag-and-drop objects directly onto the cells of a worksheet.

Some of the strengths that are associated with Custom Reports include the ability to use multiple packages in the same worksheet; the ability to move cells, rows, and columns; and the ability to add Excel calculations, charts, and formatting. With cell-based reports, you can move beyond simple Exploration View layouts. From a single cell, it is easy to create a detailed report.

Data sources can be dimensionally modeled relational (DMR) or OLAP. Relational data sources are not supported.

Use Custom Reports:

- To add data and calculations that are not in the original data source
- To work with data from multiple data sources, packages, and servers
- To create layouts with complex layouts, rather than a simple Exploration View
- When formatting is important
- When you are presenting a final view that does not require interactive exploration

Manually enabling features in the tm1features.json file

There are some features in Planning Analytics for Microsoft Excel that will need to be manually enabled before use. This topic will provide you with a list of features that need to be manually enabled and how you can manually enable certain features in Planning Analytics Workspace.

How do I edit the tm1features.json file?

1. Ensure that no Microsoft Office applications are open.
2. Navigate to the C:\<user profile path>\Cognos\Office Connection folder.
3. Open tm1features.json in a text editor.
4. Edit the desired parameter.
5. Save the tm1features.json file.

Tip: You can also find the Office Connection folder in Planning Analytics for Microsoft Excel by clicking **Options > IBM > View logs** and then navigating up one level.

Note: If the tm1features.json file does not exist, you can create one by using an empty text file and naming it tm1features.json. Be sure to save it to C:\<user profile path>\Cognos\Office Connection\.

List of features in Planning Analytics Workspace that need to be manually enabled

Constrained Calculations

To enable Constrained Calculations, you need to set the **r41_EnableConstrainedCalcScope** parameter to true.

```
{ "r41_EnableConstrainedCalcScope": true }
```

Quick Report headers

To enable the information header in a Quick Report, you need to set the **r48_QuickReportLabeling** parameter to true. By default, the parameter is set to false, and the header information is hidden.

```
{ "r48_QuickReportLabeling": true }
```

Chapter 3. Notes for IBM TM1 Perspectives users

If you are coming from using IBM TM1 Perspectives, you will notice some differences and improvements in IBM Planning Analytics for Microsoft Excel.

Note: Some features might not work if Planning Analytics for Microsoft Excel and IBM TM1 Perspectives are enabled concurrently in Microsoft Excel.

TM1 Perspectives features not implemented in Planning Analytics for Microsoft Excel

There are some features in TM1 Perspectives that are not implemented in Planning Analytics for Microsoft Excel.

The following are TM1 Perspectives features that are not implemented in Planning Analytics for Microsoft Excel:

Modeling

Modeling is not available in Planning Analytics for Microsoft Excel. Instead, you can use Planning Analytics Workspace to create and maintain models, applications, or security permissions.

TM1 macro functions

The TM1 macro functions are not available. The Planning Analytics for Microsoft Excel API can be used for macro automation instead.

Note: You may experience differences in performance and/or functionality if you are directly porting macro automation from TM1 Perspectives to Planning Analytics for Microsoft Excel. You should design and evaluate macro automation specifically for Planning Analytics for Microsoft Excel.

Various spread methods

The following methods to spread data are not available: Relative Proportional Spread, Relative Percent Adjustment.

Dynamic Report cell and password protection

Dynamic Reports are supported in Planning Analytics for Microsoft Excel, except for cell and password protection.

User defined consolidations

User defined consolidations are not available. This includes the usage of DBRW worksheet functions that use subset names as a dimension element reference.

Holds in formula reports

Holds in formula reports are not visible in Planning Analytics for Microsoft Excel.

Referencing non-default hierarchies

Referencing non-default hierarchies is not supported in formula or legacy reports. The default hierarchy must be the same-named hierarchy.

The Print Report Wizard

The Print Report Wizard is not currently implemented in Planning Analytics for Microsoft Excel.

Undo to revert data entry changes

The Undo capability to revert data entry changes is currently not implemented in Planning Analytics for Microsoft Excel.

Annotations in formula reports

The capability to add annotations in Dynamic Reports and Custom Reports is currently not implemented in Planning Analytics for Microsoft Excel.

Differences in implementation for TM1 Perspectives features

TM1 Perspectives is TM1-native API based, whereas Planning Analytics for Microsoft Excel is REST API and MDX based. This difference affects how some of the features are implemented.

The following are some TM1 Perspectives features that are implemented differently in Planning Analytics for Microsoft Excel:

Consumption patterns for macro automation

The consumption patterns for macro automation in TM1 Perspectives and Planning Analytics for Microsoft Excel are not directly comparable. You might experience differences in performance or functionality if you are directly porting macro automation from TM1 Perspectives to Planning Analytics for Microsoft Excel. You should design and evaluate macro automation specifically for Planning Analytics for Microsoft Excel.

Exporting reports from the Cube Viewer

Instead of slicing from the Cube Viewer into an Excel worksheet, in Planning Analytics for Microsoft Excel you can right-click a view and insert it as the type of report you want. If you want to manipulate the view first, insert it as an Exploration View, manipulate the view, and then convert it to the type of report you want.

Refreshing a Dynamic Report

When you refresh a Dynamic Report, the formatting is updated only if the number of rows in the data area was changed or if a value in the ID column of the format range was changed. Otherwise, rebuild the Dynamic Report (ALT+F9) to update the formatting. In TM1 Perspectives, the formatting is updated when you recalculate (F9) a Dynamic Report.

Rebuilding a Dynamic Report

When you rebuild a Dynamic Report, rows and columns are inserted or deleted from the existing rows or columns. In TM1 Perspectives, all rows and columns are deleted and then re-added.

Dynamic Report header rows

In Dynamic Reports, any change to the header row (the row with the TM1RPTRow formula) of the report requires you to re-create the report. For example, if you change the formula or add a column, you must re-create the Dynamic Report to see the results.

Dynamic Report nested rows

In Dynamic Reports with nested rows, the member names in the nested rows are not grouped. Instead, the member names are repeated.

Zero suppression

Zero suppression is done based on the column tuples that are present. In TM1 Perspectives, zero suppression is done based on the product of the members of each dimension on the column (symmetric column).

Blank dimension elements in a DBRW argument

A blank dimension element in a DBRW argument is displayed as an empty result in TM1 Perspectives, but is displayed as #VALUE in Planning Analytics for Microsoft Excel. This difference is because Planning Analytics for Microsoft Excel returns a true error response to an invalid element, which is displayed as #VALUE. For more information, see [How to correct a #VALUE! error \(https://support.office.com/en-us/article/how-to-correct-a-value-error-15e1b616-fbf2-4147-9c0b-0a11a20e409e\)](https://support.office.com/en-us/article/how-to-correct-a-value-error-15e1b616-fbf2-4147-9c0b-0a11a20e409e).

DBRA function

The DBRA function is currently read-only in Planning Analytics for Microsoft Excel. If you are using DBRA functions for writeback in TM1 Perspectives and you want to perform write back in Planning Analytics for Microsoft Excel, you can use the DBRW function against the }ElementAttributes_DimensionName control cube in Planning Analytics for Microsoft Excel instead. Alternatively, you can write back by using the control cube in an Exploration View or a Quick Report.

The benefits of using Planning Analytics for Microsoft Excel over TM1 Perspectives

There are benefits to using Planning Analytics for Microsoft Excel over TM1 Perspectives.

The following are some benefits of using Planning Analytics for Microsoft Excel over TM1 Perspectives:

- Planning Analytics for Microsoft Excel reports are designed to work even in a wide area network environment, without the need for Citrix.
- Planning Analytics for Microsoft Excel offers the following improvements to formulas:
 - DBR is equivalent to DBRW and DBS is equivalent to DBSW. DBR, DBRW, DBS, DBSA, and DBRA are optimized to reduce network traffic and improve performance on wide area networks.
 - If a SUBNM formula references a set, a drop-down arrow is displayed when you click the SUBNM cell. You can use the drop-down list to select a different member in the set. You must be logged on to the TM1 server to use this feature.
 - The TM1USER function returns the user name, not the internal CAMID.
- You can copy and paste values multiple times in Planning Analytics for Microsoft Excel. In TM1 Perspectives, you can copy only one time, and then the clipboard is empty. You can also copy and paste values across multiple cells in Planning Analytics for Microsoft Excel.
- Planning Analytics for Microsoft Excel uses named styles, which means you can customize the appearance of your reports easily.
- Reports that you open from the **Application** folder on an IBM TM1 server open with their actual names and not a generated random name.

Enable trust access to the VBA project object model

Trust access to the VBA project object model is required for IBM Planning Analytics for Microsoft Excel. Macros developed for IBM Planning Analytics for Microsoft Excel may not work properly if trust access to the VBA project object model is not granted.

Procedure

1. Start Microsoft Excel.
2. Open a workbook.
3. Click **File** and then **Options**.
4. In the navigation pane, select **Trust Center**.
5. Click **Trust Center Settings...**
6. In the navigation pane, select **Macro Settings**.
7. Ensure that **Trust access to the VBA project object model** is checked.
8. Click **OK**.

Results

Trust access to the VBA project object model will be granted for IBM Planning Analytics for Microsoft Excel.

Open an IBM TM1 Perspectives workbook

You can open an IBM TM1 Perspectives workbook in IBM Planning Analytics for Microsoft Excel.

About this task

Before you open a TM1 Perspectives workbook, note the following points:

- If you open a workbook from a IBM Planning Analytics datasource and convert it, you must publish the converted workbook to make it available on the server.
- If the workbook contains action buttons, you are asked if you want to upgrade them. If you choose to upgrade them, a backup copy of the workbook is saved, and then an upgrade process runs.
- You cannot edit or use an action button that was created in TM1 Perspectives unless you convert it.
- Background images are not maintained.
- Cells with an invalid parameter reference in TM1 Perspectives return a *key_err notification. Cells with an invalid parameter reference in Planning Analytics for Microsoft Excel will display #VALUE.
- Cells with a blank parameter reference in TM1 Perspectives are displayed as blank cells. Cells with a blank parameter reference in Planning Analytics for Microsoft Excel will display #VALUE.

Procedure

1. Start Microsoft Excel.
2. Open a TM1 Perspectives workbook.
3. If you are prompted to convert action buttons, select an option and click **OK**.
4. If you are prompted for the host, either select a TM1 system from the list or type the system URL, and then click **OK**.

The format of the URL is `http://[server]:[port number]`, for example `http://myserver:9510`

5. Log on to the TM1 server.

Results

The report is displayed in IBM Planning Analytics for Microsoft Excel. The formulas in the report reference the TM1 system that you specified.

Upgrade IBM TM1 Perspectives action buttons

This setting upgrades IBM® TM1® Perspectives action buttons to allow them to be used in IBM Planning Analytics for Microsoft Excel.

About this task

Upgrading IBM TM1 Perspectives action buttons allows them to be used in IBM Planning Analytics for Microsoft Excel. When upgrading action buttons, note the following points:

- Trust access to the VBA project object model must be granted in Microsoft Excel. See [“Enable trust access to the VBA project object model”](#) on page 33.
- You must have a TM1 Perspectives workbook that contains one or more action buttons.
- An administrator may upgrade action buttons in public and private workbooks.
- A non-administrator may only upgrade action buttons in private workbooks.
- Once action buttons are converted for use in IBM Planning Analytics for Microsoft Excel, they will no longer work in TM1 Perspectives. It is recommended that a backup of all TM1 Perspectives workbooks is created before upgrading action buttons.

Procedure

1. On the IBM Planning Analytics toolbar, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under Action Button Settings, click **Upgrade Action Buttons**.
4. Optional: Under Backup Excel Files, click **Browse** and define a backup directory. This step will create a backup of the TM1 Perspectives workbooks.

5. Under Conversion Log, click **Browse** and define a log directory.
6. Click **OK**.
7. Using the drop down menu, select the system that contains a TM1 Perspectives workbook that needs to be upgraded.
8. Select the server that contains a TM1 Perspectives workbook that needs to be upgraded.
9. Select a TM1 Perspectives workbook that contains the action buttons that need to be upgraded.
10. Click **Upgrade**.
11. Click **OK**.

Results

A dialog will indicate the number of files upgraded. In this instance, a file is a workbook that has had action buttons within it upgraded for use in IBM Planning Analytics for Microsoft Excel.

Note: If the workbook containing the action buttons was open during the upgrade process, you will need to close and reopen the upgraded workbook from the IBM Planning Analytics datasource to complete the upgrade.

Tip: By selecting the parent server or folder to upgrade, you can upgrade action buttons in multiple TM1 Perspectives workbooks.

Chapter 4. Connecting to datasources

Connecting to a datasource allows you to use many IBM Planning Analytics for Microsoft Excel features, including to exploring data, creating reports, and publishing your work.

Connect to IBM Planning Analytics with Watson

You can connect to an IBM Planning Analytics with Watson datasource that is configured to be accessible from IBM Planning Analytics Workspace version 2.0.0 or later.

Users

If you are a user in IBM Planning Analytics for Microsoft Excel, you can use a Planning Analytics datasource to do the following tasks:

- Create reports
- Open workbooks that are published on a TM1 Server Application folder
- Explore data in a model or package
- Save your data and work locally
- Publish your workbooks to a TM1 Server Application folder
- You can also modify data. For example, if your administrator distributes an enterprise-wide budget plan, you can use IBM Planning Analytics for Microsoft Excel to create an Exploration View to review, analyze, and update the portion of the plan that is assigned to you

Modelers

If you are a modeler in Planning Analytics Workspace, you can publish your models to a Planning Analytics datasource. You can also include TurboIntegrator processes in the model and then use them in IBM Planning Analytics for Microsoft Excel.

Administrators

If you are an administrator in Planning Analytics Workspace, you can use the Planning Analytics Workspace Administration tool to configure the Planning Analytics URIs and authentication servers.

Connect to IBM Cognos Analytics

You can explore data that is published to an IBM Cognos Analytics server.

For IBM Cognos Analytics systems, the packages that you use to generate explorations are based on models that are created in a modeling tool, such as Framework Manager.

A modeler uses a modeling application, such as Framework Manager, to create a package. A package can be based on relational, dimensionally modeled relational (DMR), or OLAP data sources. A relational package presents query subjects, which are organized into lists of data items. DMR and OLAP packages present a dimensional view of data. The data in these packages is organized into dimensions, hierarchies, levels, and measures. The modeler publishes the package to an IBM Cognos Analytics server, which you can then access in IBM Planning Analytics for Microsoft Excel.

To work with IBM Cognos Analytics packages, you connect to an IBM Cognos Analytics server and then select a package. You can use the package to create your own reports. You can also open and download reports that are published to IBM Cognos Connection. You can explore the data and save your work locally. You can also publish your workbooks to IBM Cognos Connection or to an IBM Cognos studio to share them with other users.

Set up a connection to a datasource

Access and share content by setting up your connections to a datasource.

A connection to an IBM Cognos Analytics system provides access to relational, OLAP, and dimensionally modeled relational (DMR) packages. If you have a connection to an IBM Cognos Analytics system, you can also open a report from IBM Cognos Connection and publish a Microsoft Office document to IBM Cognos Connection.

You need to set up a connection to an IBM Planning Analytics Workspace URL if you want to access IBM Planning Analytics datasources and share content.

You can use only datasources that were previously created and published to IBM Planning Analytics or IBM Cognos Analytics. For more information about creating datasources, see the *IBM Cognos TM1 Performance Modeler* or the *IBM Cognos TM1 Operation* documentation.

For more information about creating Cognos BI packages (also known as IBM Cognos Analytics packages), see the *Framework Manager User Guide*.

[This video demonstrates how to set up a connection to a datasource](#)

Before you begin

Contact your administrator for the URLs you'll need to connect to a datasource. The URL identifies the location of the datasource.

- Syntax of a URL for an IBM Cognos Analytics system:

```
http://<host>:<port number>/bi/v1/disp
```

Do not use localhost to refer to the local computer that the IBM Cognos Analytics (IBM Cognos BI) gateway is running on. By using localhost, the information sent to the server is routed back to the local computer. As a result, requests to the report server will fail when importing prompted reports.

Note: The values for **host** are variables and depend on the exact settings that are used. Contact your IBM Cognos administrator for more information about these settings.

Example of a URL without a Cognos Analytics gateway:

```
http://cognos-analytics.ibm.com:9300/bi/v1/disp
```

Example of a URL with a Cognos Analytics gateway:

```
http://cognos-analytics.ibm.com:80/analytics/bi/v1/disp
```

Example of a URL if your Cognos system is using Microsoft Internet Information Services (IIS):

```
http://10.121.25.121/ibmcognos/cgi-bin/cognosisapi.dll
```

- Syntax of a URL for a IBM Planning Analytics Workspace datasource:

```
http://<IP of the system / system name>
```

Procedure

1. Open the IBM Planning Analytics ribbon.
2. Click **Options** to open the **Options** dialog box. 
3. In the navigation pane of the **Options** dialog box, click **IBM**.
4. Click **Add** to create a new connection to a datasource.
5. In the **Datasource Type** box, select the datasource.
6. In the **Connection URL** box, enter the URL provided by your administrator.
7. In the **Friendly Name** box, enter a name for your new connection.
8. Click **Test Connection** to test if the URL that you entered is live.

If the connection fails, contact your administrator to verify the connection information.

9. Click **Save**.

Results

The saved connections appear in the **IBM connections** list and the friendly name appears in the Connect drop-down on the ribbon.

Log on to a datasource

To use a datasource as an authenticated user, open and log on to the datasource that contains the model or package that you want to use.

Procedure

1. Open the IBM Planning Analytics ribbon.
2. Click **Connect**.
3. Select the datasource that contains the model or package that you want to use.
4. If there is more than one namespace, select a **Namespace**.
5. Enter your **User Name** and **Password**, and then click **Login**.
6. If the **Select Package** dialog box is displayed, select a server or package, and then click **OK**.
The **Select Package** dialog box is displayed if IBM Planning Analytics is running.

Results

You are logged on to a datasource as an authenticated user. If you work in more than one datasource, you can also be logged on to multiple datasources at the same time.

Open a model or package

Models and packages contain data that you can use to generate your reports. This topic guides you through how you can open a model or a package from IBM Planning Analytics for Microsoft Excel.

For those using IBM Cognos Analytics systems, the packages that you use to generate reports are based on models that are created in a modeling tool, such as Framework Manager. A model is a set of related objects, such as query subjects, dimensions, filters, and calculations. Packages can be either relational or dimensionally modeled datasources. Dimensionally modeled datasources can be rendered by using either lists or Exploration Views.

Before you begin

Before you can open a model or package, check with your administrator to ensure that you have the correct security permissions to the datasource containing the model or package.

Procedure

1. Open the **IBM Planning Analytics** ribbon.
2. Click **Task Pane**.
3. In the **Task Pane**, click  **Open**.
4. Select the datasource that contains the model or package that you want to use.
If you selected a Cognos Analytics system, log on to the system.
5. Select the model or package that you want to use.
6. If prompted, log on to the datasource.

7. For IBM Planning Analytics datasources, you can choose to show control objects and processes. Click the control and processes icon  and select your preferred option.

Results

Objects from the selected model or package, such as data items, appear in the source tree.

Refresh a datasource, model, or package

Perform a refresh in the Task Pane to get the most recent version of the datasource, model, or package.

If something new was added to the datasource, model, or package that you're working on, you might not see it in the Task Pane until you refresh. You can refresh in two ways:

- To refresh a model or package, right-click the highest level node in the Task Pane, and then click **Refresh**.
- To refresh a datasource, click the refresh icon in the Task Pane.

Change the datasource and datasource type

You can change the datasource and datasource type that is used by a report.

Refer to the following topics:

- For Exploration Views or lists, see [“Change the cube or datasource used by an exploration” on page 117](#).
- For Quick Reports, see [“Change the cube and datasource used by a Quick Report” on page 124](#).
- For TM1 formulas and Custom Reports, see [“Change the cube and datasource of Custom Reports” on page 135](#).
- For Dynamic Reports, see [“Change the model and cube used by a Dynamic Report” on page 130](#).
- For Custom Reports using IBM Cognos Analytics data, see [“Change the server and package used by a Custom Report” on page 229](#).

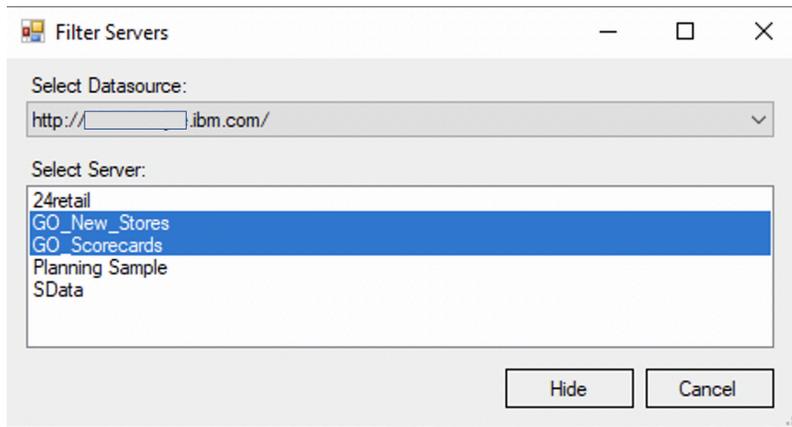
Show and hide servers in a TM1 datasource

You can choose to show or hide specific servers in a TM1 datasource.

Hide a server

If your TM1 datasource contains a lot of servers, you can choose to hide specific servers to reduce visual clutter.

1. Click the **IBM Planning Analytics** tab.
2. Click **Options** to open the **Options** window.
3. Click **IBM Planning Analytics** in the left hand menu.
4. Under **Server settings**, click **Set Hidden Servers**.
5. Select the TM1 datasource that contains the server that you want to hide.
6. Select the server that you want to hide.



7. Click **Hide**.

Unhide all hidden servers

You can unhide all of the TM1 servers that you have hidden.

Note: This action unhides every hidden TM1 server in every TM1 datasource.

1. Click the **IBM Planning Analytics** tab.
2. Click **Options** to open the **Options** window.
3. Click **IBM Planning Analytics** in the left hand menu.
4. Under **Server settings**, click **Unhide Hidden Servers**.

Open and download workbooks

You can open workbooks that are published to an TM1 Server Application folder.

You can also download workbooks from IBM Cognos Connection.

To refresh your data or make enhancements, you can open or download published Microsoft Excel workbooks and then use Microsoft Excel to make changes.

You can also open locally saved workbooks.

Note: If your workbook is in the xslb file format, you must be connected to the datasource that it is in before you open the book.

If you are opening a workbook from an earlier version of a IBM Planning Analytics for Microsoft Excel, any custom properties settings that were specified for the workbook is applied to the settings in the **Options** dialog box.

For example, if a workbook from an earlier version of a Planning Analytics for Microsoft Excel is opened, the address for the gateway might appear in the list of addresses under **IBM connections**, in the **Options** dialog box.

Opening workbooks from the TM1 Server Application folder

The TM1 Server Application folder is a content store inside each of your models. You can store the workbooks that you create or modify on the TM1 Server Application folder. You can use the TM1 Server Application folder to share a report with a report author who is working in a different environment. You can also save those workbooks on your computer or to a source code-controlled directory on a local network or drive.

Before you begin

Before you can open a workbook from the TM1 Server Application folder, ensure that the following statements are true:

- Workbooks are published to a public folder on a TM1 Server Application folder.
- The datasource URL where workbooks are published is added to your list of connections.
- You know the name of the TM1 Server Application folder where workbooks are published.

Procedure

1. Click the IBM Planning Analytics tab.
2. In the ribbon, click **Open** .
3. In the **Open** dialog box, select the datasource connection that contains the workbook that you want to open.
4. Select the model that contains the workbook that you want to open.
5. If prompted, log on.
6. Navigate to the folder that contains the workbook you want to open.

Tip: To return to the list of models in the datasource, click **Servers**.
7. Click the workbook, and click **Open**.

Results

The workbook opens. You can make changes, manipulate data, and publish it to TM1 Server Application folder for sharing.

Open a report from IBM Cognos Connection

You can store the reports that you create or modify on the IBM Cognos Analytics server. You can also open and save those reports on your computer. This is useful if you want to send a report to a report author who is working in a different environment, or you want to save the report to a source code controlled directory on a local network or drive.

Folders in IBM Cognos Connection are logically labeled and organized to help you locate reports. Entries in **Public Folders** are of interest to and can be viewed by many users. Entries in **My Folders** are accessible by you only when you are logged on.

If you are working from IBM Cognos Connection, you can also download a Microsoft document and open it in the application that was used to create it.

Before you begin

You must have write access to a folder to create entries.

Procedure

1. On the IBM Planning Analytics toolbar, click **Open** .
2. Select the server that contains the report that you want.
3. Choose the type of folder in which the report is saved:
 - To view files in public folders, click **Public Folders**.
 - To view only your files, click **My Folders**.
4. Click the report that you want, and click **OK**.

Results

The report appears in your workbook, slide, or document. You can make changes and manipulate data, and publish it to IBM Cognos Connection for sharing.

Open a workbook containing Planning Analytics for Microsoft Excel styles

About this task

Note: Opening a workbook with Protected View enabled may prevent Microsoft Excel from loading Planning Analytics for Microsoft Excel styles. In order to ensure that Microsoft Excel loads Planning Analytics for Microsoft Excel styles in a workbook with Protected View enabled, you should:

Procedure

1. Save the workbook with Protected View disabled.
2. Close Microsoft Excel.
3. Open the workbook and launch Planning Analytics for Microsoft Excel.
4. Enable Protected View and save the workbook.
5. Close Microsoft Excel.

Download a workbook from IBM Cognos Connection

You can download a Microsoft Excel workbook from IBM Cognos Connection if it was published in one of the IBM TM1 applications, such as IBM Planning Analytics for Microsoft Excel.

You can download documents created in Microsoft Excel, Microsoft PowerPoint, and Microsoft Word. The default action for any Microsoft Office document is to download it.

For more information, see the IBM Cognos Analytics *Administration and Security Guide*.

Before you begin

You must have read and traverse permissions to access Microsoft Office documents in IBM Cognos Connection.

Procedure

1. In IBM Cognos Connection, locate the workbook that you want to open.
2. Click **more** on the actions toolbar next to the document that you want to download.

The IBM Cognos Connection **Actions** page opens.

3. For a Microsoft Excel workbook, click **View most recent document in Excel** .

The **File Download** window appears.

4. Click **Save** and follow the prompts that appear.

You must save the workbook before using it with IBM Planning Analytics for Microsoft Excel.

Results

You can now perform the same actions that you would perform for any workbook.

Chapter 5. Settings

Customize your experience by setting options that apply to IBM Planning Analytics for Microsoft Excel.

You can also set options that apply to specific explorations. For more information, see [“Set properties” on page 115](#).

IBM settings

Start application

You can choose the startup application. Click the application icon that best meets your needs.

Procedure

1. On the IBM Planning Analytics tab on the ribbon, click **Options** .
2. In the navigation pane, click **IBM**.
3. Choose the startup application.
4. Click **OK**.

Update Connection URLs

If the URL of an IBM system changes, you can edit the information to use the new URL.

Editing the URL updates the saved connection for the IBM Planning Analytics for Microsoft Excel application, but not the connections for the reports in the workbook. To update the connections for Exploration Views or Quick Reports in an open workbook, use the Update connection utility. For more information, see [“Utilities” on page 47](#).

About this task

When running this command, the name of the data source or package remains the same. You can use this command to change only one server, such as a test server to another server, such as a production server. You choose the URLs from the list of systems that you enter in the IBM **connections** section of the **Options** dialog box.

Procedure

1. Open the file you want to update.
2. On the **IBM Planning Analytics** tab, click **Options** .
- The **Options** dialog box is displayed.
3. In the navigation pane, click **IBM**.
4. Select the system you want to update and click **Edit**.
5. Select the **Datasource type**.
6. Type the new **Connection URL** in the field.
7. Update the Friendly name field as required.
8. Test the connection and click save.
9. Click **OK**.

Results

The open **IBM** enabled files are searched and the server information is updated.

Set up forms-based user authentication

Forms-based authentication is not supported for connections to IBM Planning Analytics servers, it is only supported for connections to IBM Cognos Analytics servers.

If your company uses Web-based access management software, such as SiteMinder, to provide single signon in your security infrastructure, you must enable forms-based authentication. The forms-based authentication service allows you to enter your credentials, such as your user name and password, through a form on a Web page. If the credentials are valid, you are logged on to the site. The credentials persist until you explicitly log off.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM**.
3. Under **Authentication**, select the **Enable forms based authentication** check box.
4. Click **OK**.

Logging

A log file is an important diagnostic tool for investigating the behavior of applications. It can help you troubleshoot problems by recording information about the environment, exceptions, and entry and exit functions.

You can specify whether information is logged and at what level of detail. By default, log activities are saved to the *user_root_directory*.

Enable logging if you are attempting to troubleshoot unexpected behavior. In this situation, the support staff will want a copy of the entries in the log file.

Writing to log files may result in performance degradation.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM**.
3. Under **Logging**, select the **Log level**.
 - To turn logging off completely, click **None**.
 - To record only critical issues and events in the log, click **Critical**.
 - To record errors as well as critical issues and events, click **Error**.
 - To record warnings as well as errors and critical issues and events, click **Warning**.
 - To record information as well as warnings, errors, and critical issues and events, click **Information**.
 - To record all events and issues, even routine items, click **All**.
4. Click **OK**.

The log file is created in %APPDATA%\Local\Cognos\Office Connection\Logs.

The naming format for log files is *yyymmdd_hhmmss.txt*.

Results

The next time that you start the application, activities and information about the environment are logged in the file. From the **Options** dialog box, click the **View logs** button to open the folder that contains the log files.

Cache management

You can reduce the file size of a workbook by clearing the cache.

About this task

For each workbook that you open or create during or after logging on, a cache worksheet is created. This worksheet holds information about the data that needs to be rendered. You can clear the cache of packages used in workbooks that use Planning Analytics for Microsoft Excel. Clearing the package cache reduces the size of the workbooks by deleting unused data and metadata associated with formulas. The **Clear Cache** button works for all the data sources and packages defined in Planning Analytics for Microsoft Excel. After you clear the cache, you must save workbooks to see a reduction in file size.

Clear the cache when workbook size matters or when it is not necessary to store report results for faster processing times. If the size of your workbook is too large due to extensive data, the clear cache function reduces the size of the workbook. However, there is a trade-off: the processing time for populating the workbook with data increases because the data must be retrieved from the IBM TM1 server instead of relying on the data that is saved in the cache.

Alternatively, you can specify to clear the local cache of retrieved data each time that you save the workbook or save the workbook with a new file name. You can do this by selecting the **Clear cache on save** check box.

You can also automate the process for clearing the cache. For more information, see <https://ibm.github.io/paxapi/#clearcache>.

Procedure

1. Start Planning Analytics for Microsoft Excel.
2. Open a workbook.
3. From the IBM Planning Analytics tab, click **Options** and then click **IBM**.
4. Under **Cache Management**, choose how you want to clear the cache:

- To clear the local cache for the active workbook, click **Clear Cache**.

The cache is cleared and the size of the workbook is reduced. You can now open and save additional workbooks. To avoid creating a cache worksheet for non-IBM TM1 workbooks, you must exit Microsoft Excel.

- To clear the local cache each time that you save a workbook, or save a workbook with a new file name, select the **Clear cache on save** check box.

Note: Data displayed in the workbook is cleared only when using the **Clear All Data** button  on the IBM Planning Analytics tab.

5. Click **OK**, and then save the workbook.

Utilities

The **Update connection utility** updates the connections for Exploration Views or Quick Reports in an open workbook.

Procedure

1. Open the file containing the reports that you want to update.
2. On the **IBM Planning Analytics** tab, click **Options** .
- The **Options** dialog box is displayed.
3. In the navigation pane, click **IBM**.
4. Scroll to the **Utilities** section and click **Update connection utility**.

5. Select the connection that you want to upgrade from in **Old connection**.

Note: The **Update connection utility** does not differentiate between connection names where the only variance is case sensitivity. If you have multiple connection names with varying case sensitivity, you can use the bulk update tool to update each connection name separately. For more information, see [“Bulk update the datasource or TM1 instance for Exploration Views” on page 118](#).

6. Select the new connection and click **OK**.
7. Choose whether you want to refresh the data in the report. If you select **Yes**, then determine whether you want to refresh just the data, or the data and report formatting.
8. After you have made your selection, you are prompted to log onto the server on the new connection.
9. Refresh your workbook to complete the update.

IBM Planning Analytics settings

Application settings

Load recently used data source or package

This setting automatically loads the most recently used data source or package when you start IBM Planning Analytics for Microsoft Excel.

About this task

If you usually work with the same data source or package, you can automatically load the most recently used data source or package when you start IBM Planning Analytics for Microsoft Excel. This is most useful when you use the data source or package regularly and you want an easy way to access it so that you can quickly begin or resume work.

If the most recently used data source or package is inaccessible or missing, no source tree is shown. Select another package to replace the missing one.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Application settings**, select the **Load most recently used system and package** check box.
4. Click **OK**.

Member display count limit

This setting defines the number of members shown in the source tree, drop zones, and search results.

About this task

You can limit the number of members shown in the Task Pane.

For IBM Cognos Analytics packages, this setting applies to dimensionally modeled data. It does not apply to relational packages.

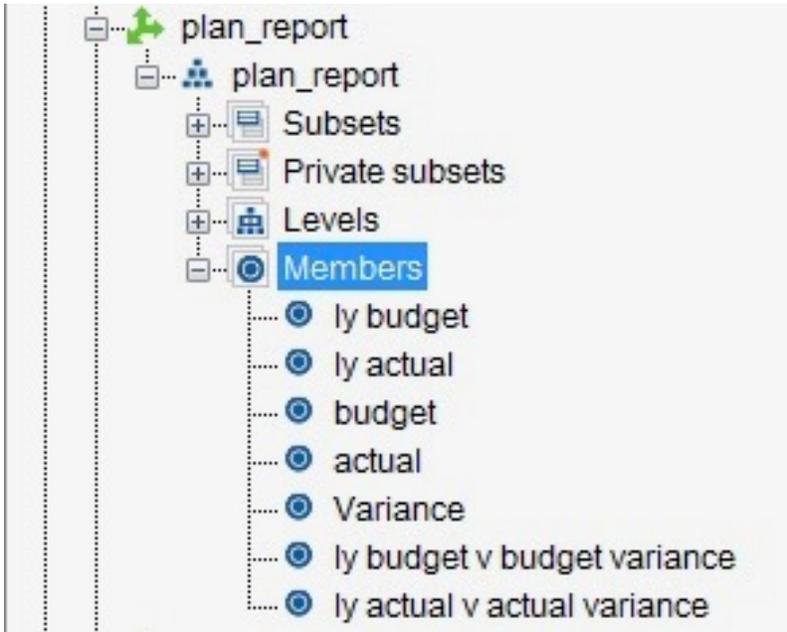
Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.

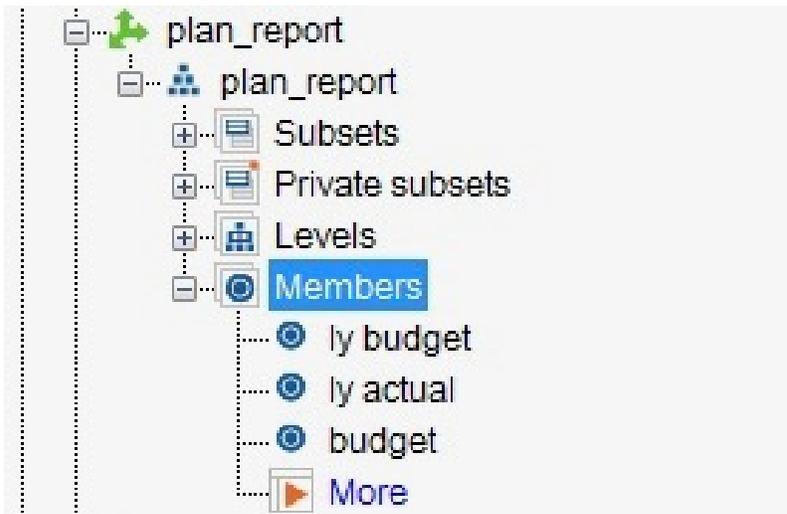
3. If you want to limit the number of members shown in the source tree and in the search result dialog box, under **Application settings**, in the **Member display count limit** box, type the maximum number of members that can appear in the source tree before showing the **More** or **Search** option.
4. Click **OK**.

Results

Member display count limit: 7



Member display count limit: 3



Default expand direction

This setting defines the expand direction when you double click on a consolidated cell in an Exploration View or list view.

About this task

Using this setting, you can define which direction your Exploration View or list expands when double clicked. You can set the default to expand either above or below.

Note: This setting will only apply to new explorations created using dimensions after the option is enabled. This setting will not apply to explorations which have already been created.

You can set your Exploration View or list to expand in the following directions when double clicked:

Expand Above

Double-clicking a consolidated member expands the children above their parent.

	1 Quarter	2 Quarter	3 Quarter	4 Quarter	Year
Scandinavia	(1,446)	(211)	481	802	(373)
Benelux	(3,292)	3,632	3,511	(904)	2,947
Islands	(8,158)	2,373	(6,995)	4,332	(8,448)
Central Europe	(23,496)	15,522	9,005	16,175	17,207
Iberia	(3,076)	(606)	(1,920)	2,443	(3,160)
Southern Europe	(7,325)	8,755	6,391	6,253	14,074
Europe	(46,792)	29,464	10,474	29,100	22,246
North America	(47,477)	17,098	4,029	26,757	407
South America	(1,980)	876	(1,475)	2,911	332
Americas	(49,457)	17,974	2,553	29,668	739
World	(96,249)	47,439	13,027	58,768	22,985

Expand Below

Double-clicking a consolidated member expands the children below their parent.

	Year	1 Quarter	2 Quarter	3 Quarter	4 Quarter
World	22,985	(96,249)	47,439	13,027	58,768
Europe	22,246	(46,792)	29,464	10,474	29,100
Scandinavia	(373)	(1,446)	(211)	481	802
Benelux	2,947	(3,292)	3,632	3,511	(904)
Islands	(8,448)	(8,158)	2,373	(6,995)	4,332
Central Europe	17,207	(23,496)	15,522	9,005	16,175
Iberia	(3,160)	(3,076)	(606)	(1,920)	2,443
Southern Europe	14,074	(7,325)	8,755	6,391	6,253
Americas	739	(49,457)	17,974	2,553	29,668
North America	407	(47,477)	17,098	4,029	26,757
South America	332	(1,980)	876	(1,475)	2,911

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Application settings**, use the drop down below **Default expand direction** to select the default expand direction.
4. Click **OK**.

Task Pane double-click action

This setting defines the default action for when you double-click a node in the Task Pane.

About this task

Using this setting, you can define the default action for when you double-click a node in the Task Pane. You can set the default to either open the double-click options dialog box, expand the node, or open the set editor.

Prompt

The double-click options dialog box will open when a node in the Task Pane is double-clicked.

Expand

A node in the Task Pane will expand when double-clicked.

Launch

A set or dimension in the Task Pane will launch the set editor when double-clicked.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Application settings**, use the drop down below **Task Pane double-click action** to select the default double-click action.
4. Click **OK**.

Hide commit confirmation

This setting disables the confirmation prompt, which appears before a commit is performed.

About this task

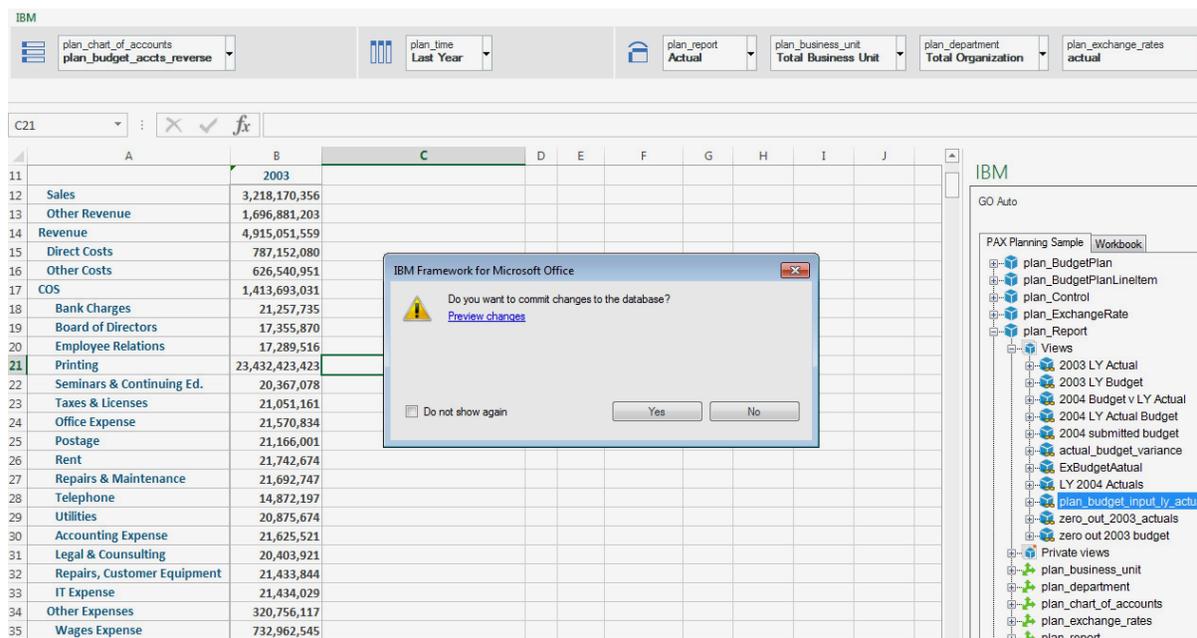
Disable the confirmation prompt which appears before a commit is performed. Committing a change in a worksheet will result in a confirmation prompt which appears before the commit is performed. This setting will disable the confirmation prompt.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Application settings**, select the **Hide commit confirmation** check box.
4. Click **OK**.

Results

Unselected



The screenshot displays the IBM Planning Analytics interface. At the top, there are several dropdown menus for configuration: 'plan_chart_of_accounts' (set to 'plan_budget_accts_reverse'), 'plan_time' (set to 'Last Year'), 'plan_report' (set to 'Actual'), 'plan_business_unit' (set to 'Total Business Unit'), 'plan_department' (set to 'Total Organization'), and 'plan_exchange_rates' (set to 'actual'). Below these is a spreadsheet with columns A through J and rows 11 through 35. The spreadsheet contains financial data for the year 2003, including categories like Sales, Revenue, Direct Costs, Other Costs, COS, Bank Charges, Board of Directors, Employee Relations, Printing, Seminars & Continuing Ed., Taxes & Licenses, Office Expense, Postage, Rent, Repairs & Maintenance, Telephone, Utilities, Accounting Expense, Legal & Consulting, Repairs, Customer Equipment, IT Expense, Other Expenses, and Wages Expense. A dialog box titled 'IBM Framework for Microsoft Office' is overlaid on the spreadsheet, asking 'Do you want to commit changes to the database?' with a 'Preview changes' link and 'Yes' and 'No' buttons. There is also a 'Do not show again' checkbox. On the right side, the 'GO Auto' task pane is visible, showing a tree view of the planning model structure, including 'PAX Planning Sample', 'Workbook', 'plan_BudgetPlan', 'plan_BudgetPlanLineItem', 'plan_Control', 'plan_ExchangeRate', 'plan_Report', 'Views', and various budget and actuals views for 2003 and 2004.

Auto spread consolidated inputs

This setting proportionally spreads values entered in a consolidated cell across nested cells.

About this task

If you enable the **Auto spread consolidated input** option, the values you enter in consolidated cells will be proportionally spread across the nested cells after you commit your data.

Note: Consolidated cells do not accept typed-in input in formulas-based reports, such as Custom Reports or Dynamic Reports.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Application settings**, select the **Auto spread consolidated input** check box.
4. Click **OK**.

Preserve user formulas

This setting preserves the user formulas in an Exploration View, list view, or Quick Report.

About this task

You can choose to preserve user formulas in an Exploration View, list view, or Quick Report.

Note: If this setting is not selected, any formulas that you add to an Exploration View, list view, or Quick Report will be discarded when you commit data.

Procedure

1. On the **IBM Planning Analytics** tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Application settings**, select the **Preserve user formulas** check box.
4. Click **OK**.

Exploration or list settings

Show system and package information in exploration and list sheet

This setting is used to display the system and package information in newly created Exploration Views or list views.

About this task

You can choose to display the system and package information in your Exploration Views and list views by enabling this setting.

Note: This setting only applies to Exploration Views and list views created after the setting is enabled. This setting will not have an effect on explorations already opened.

Procedure

1. On the **IBM Planning Analytics** tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Exploration or list settings**, select the **Show system and package information in exploration and list sheet** check box.

4. Click **OK**.

Results

Unselected

IBM
region: region (list) month: month (list) actuals: Actual model: S Series 1.8 L Sedan account: Sales

K22 19651.01584

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Argentina	7,932	8,085	7,838	7,241	5,921	5,861	5,717	6,203	8,231	9,239	8,522	8,282	
Belgium	3,764	4,546	4,082	3,507	2,935	2,994	2,758	3,127	4,077	4,762	4,071	3,488	
Brazil	7,603	8,782	8,314	6,913	5,615	5,272	5,266	5,875	7,709	9,214	7,915	6,500	
Canada	0	0	0	0	0	0	0	0	0	0	0	0	
Chile	1,844	2,273	2,003	1,791	1,531	1,382	1,404	1,488	2,012	2,329	2,149	1,681	
Denmark	1,920	2,247	2,129	1,867	1,506	1,433	1,429	1,563	1,934	2,407	2,074	1,732	
France	35,617	39,418	39,241	32,194	26,162	26,437	23,998	26,173	37,002	44,127	37,804	29,312	
Germany	39,153	42,362	43,898	36,609	30,781	29,483	28,135	31,745	39,380	47,077	41,825	33,905	
Great Britain	20,056	21,982	20,159	17,686	15,008	14,332	14,193	15,507	19,651	24,483	22,050	16,614	
Greece	3,688	4,340	4,332	3,633	2,961	2,866	2,834	3,026	3,920	4,684	4,046	3,513	
Ireland	1,920	2,170	2,053	1,817	1,480	1,408	1,329	1,563	1,986	2,303	2,048	1,656	
Italy	20,031	23,041	20,559	18,544	15,391	13,795	14,043	15,305	20,095	24,794	21,722	17,091	
Luxembourg	404	439	426	353	306	282	276	303	392	492	430	326	
Mexico	11,013	12,838	12,170	11,303	9,291	8,650	7,974	8,951	11,759	14,183	12,214	9,788	
Netherlands	4,319	4,882	4,783	3,911	3,446	3,097	3,059	3,505	4,259	5,487	4,729	3,589	
Norway	2,198	2,686	2,554	2,220	1,838	1,791	1,605	1,790	2,483	2,873	2,503	2,033	
Portugal	1,591	1,808	1,703	1,388	1,225	1,136	1,153	1,185	1,542	1,838	1,644	1,405	
Spain	8,033	8,937	8,539	7,090	5,845	5,810	5,266	6,228	8,231	9,757	8,775	6,676	
Sweden	2,779	3,229	3,055	2,548	2,067	1,996	1,856	2,093	2,770	3,261	2,933	2,459	
United States	0	0	0	0	0	0	0	0	0	0	0	0	
Uruguay	1,137	1,317	1,227	1,135	893	819	802	933	1,176	1,429	1,315	1,004	
North America	11,013	12,838	12,170	11,303	9,291	8,650	7,974	8,951	11,759	14,183	12,214	9,788	
South America	18,516	20,458	19,382	17,081	13,961	13,334	13,190	14,498	19,128	22,232	19,901	17,467	
Scandinavia	6,896	8,163	7,738	6,635	5,411	5,221	4,890	5,446	7,186	8,541	7,510	6,224	
Benelux	8,487	9,867	9,291	7,771	6,687	6,373	6,093	6,934	8,728	10,740	9,230	7,403	

Selected

IBM
region: region (list) month: month (list) actuals: Actual model: S Series 1.8 L Sedan account: Sales

K22 19651.01584

System: Pev2stageq: SData
Package: SalesCube
Created: 18/08/2017 8:59:05 AM
Modified: 18/08/2017 9:06:22 AM
Rows: region: region (list)
Columns: month: month (list)
Context: actuals: Actual, model: S Series 1.8 L Sedan, account: Sales
Filter rows:
Filter columns:

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Argentina	7,932	8,085	7,838	7,241	5,921	5,861	5,717	6,203	8,231	9,239	8,522	8,282	
Belgium	3,764	4,546	4,082	3,507	2,935	2,994	2,758	3,127	4,077	4,762	4,071	3,488	
Brazil	7,603	8,782	8,314	6,913	5,615	5,272	5,266	5,875	7,709	9,214	7,915	6,500	
Canada	0	0	0	0	0	0	0	0	0	0	0	0	
Chile	1,844	2,273	2,003	1,791	1,531	1,382	1,404	1,488	2,012	2,329	2,149	1,681	
Denmark	1,920	2,247	2,129	1,867	1,506	1,433	1,429	1,563	1,934	2,407	2,074	1,732	
France	35,617	39,418	39,241	32,194	26,162	26,437	23,998	26,173	37,002	44,127	37,804	29,312	
Germany	39,153	42,362	43,898	36,609	30,781	29,483	28,135	31,745	39,380	47,077	41,825	33,905	
Great Britain	20,056	21,982	20,159	17,686	15,008	14,332	14,193	15,507	19,651	24,483	22,050	16,614	
Greece	3,688	4,340	4,332	3,633	2,961	2,866	2,834	3,026	3,920	4,684	4,046	3,513	
Ireland	1,920	2,170	2,053	1,817	1,480	1,408	1,329	1,563	1,986	2,303	2,048	1,656	
Italy	20,031	23,041	20,559	18,544	15,391	13,795	14,043	15,305	20,095	24,794	21,722	17,091	
Luxembourg	404	439	426	353	306	282	276	303	392	492	430	326	
Mexico	11,013	12,838	12,170	11,303	9,291	8,650	7,974	8,951	11,759	14,183	12,214	9,788	
Netherlands	4,319	4,882	4,783	3,911	3,446	3,097	3,059	3,505	4,259	5,487	4,729	3,589	

Assign exploration or list starting cell

This setting is used to enable a prompt, which defines the starting cell for a new Exploration View or lists view.

About this task

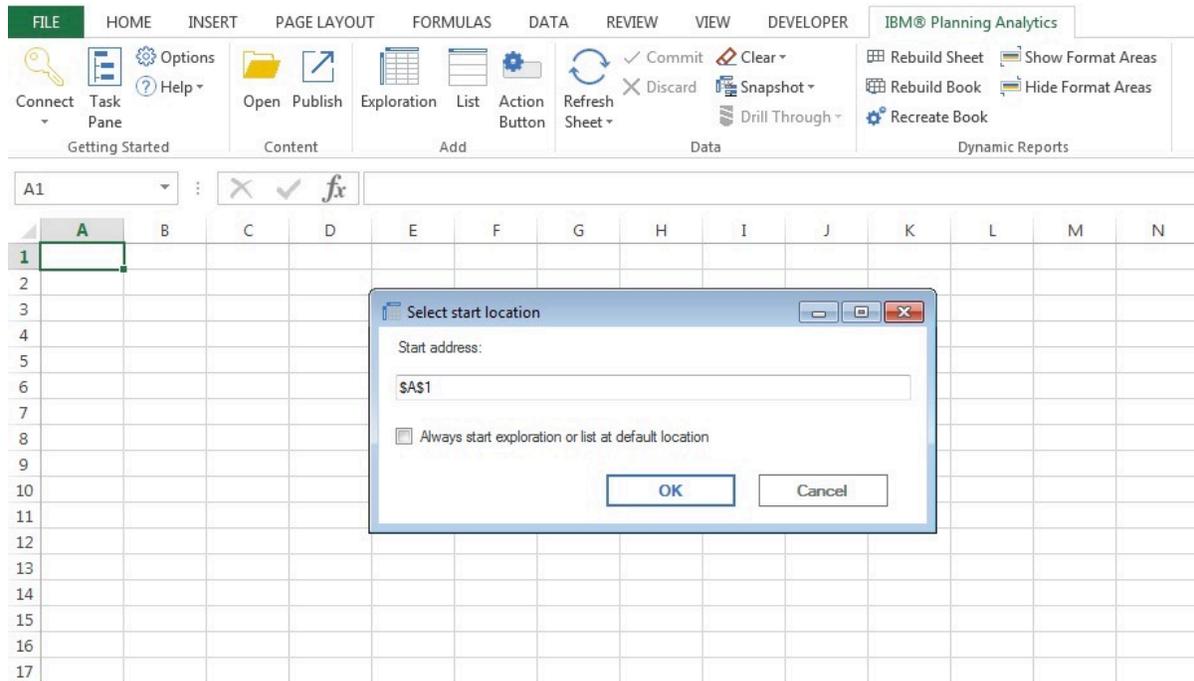
You can choose to assign a starting cell when creating a new Exploration View or list view by enabling this setting. After the setting is enabled, a prompt will appear for a starting cell when creating a new exploration.

Procedure

1. On the **IBM Planning Analytics** tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Exploration or list settings**, select the **Assign exploration or list starting cell** check box.
4. Click **OK**.

Results

A prompt will appear for a starting cell when creating a new exploration



Hide refresh confirmation for each worksheet and workbook

This setting is used to hide the confirmation dialog box, which appears whenever you refresh an Exploration View or a Quick Report.

About this task

Right clicking a cell in your Exploration View or Quick Report and selecting **IBM Planning Analytics** will show you options for refreshing your workbook or worksheet. If you decide to refresh your workbook or worksheet from this menu, a confirmation dialog box will appear. Use this option to hide the confirmation dialog box whenever you refresh your workbooks or worksheets.

Note: This setting does not apply to the **Refresh** or **Refresh All Data** buttons.

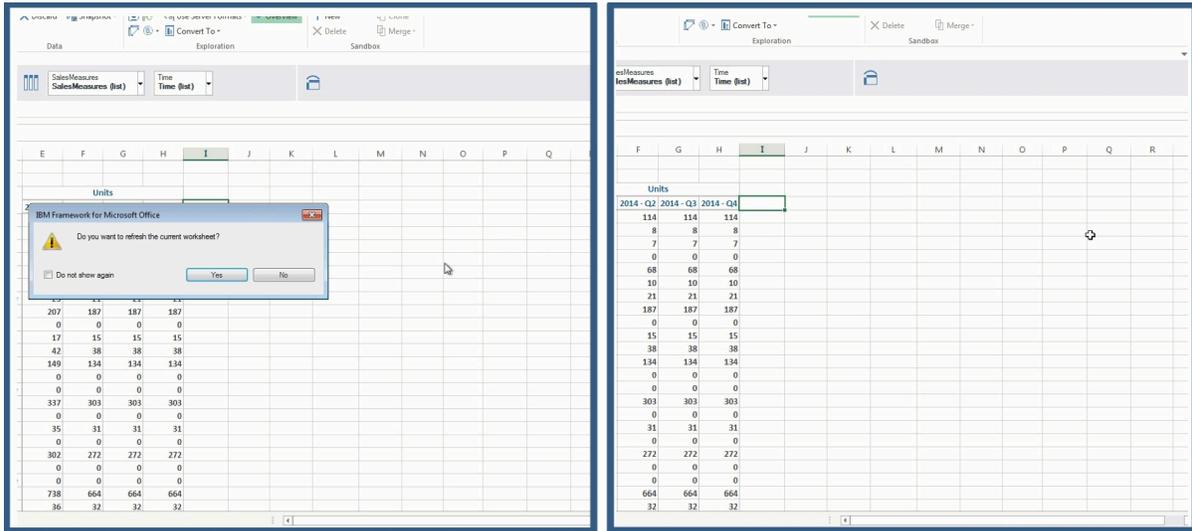
Procedure

1. On the **IBM Planning Analytics** tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Exploration or list settings**, select the **Hide refresh confirmation for each workbook or worksheet** check box.
4. Click **OK**.

Results

Left: Unselected

Right: Selected



Expand with double-click

This setting is enables consolidated cells to expand when double-clicked.

About this task

By enabling this setting, you will be able to expand a consolidated member by double-clicking on it.

Enabling this setting will also override the default double click action in BI formulas.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Exploration or list settings**, select the **Expand with double-click** check box.
4. Click **OK**.

Results

You can now double-click a consolidated member to expand it.

Allow sum on context dropdown

This setting enables you to select a sum of items in the context dimension drop down of an Exploration View.

About this task

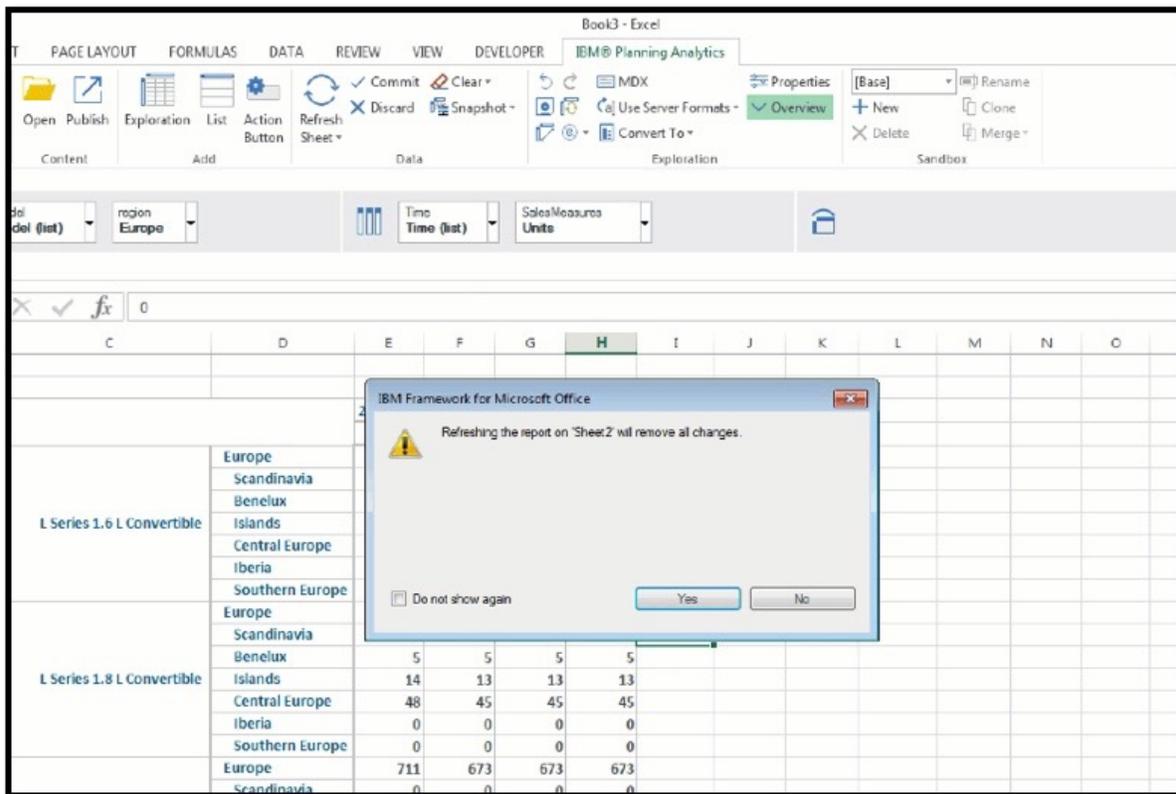
You can add a **Sum** button to the context dimension drop down of an Exploration View. After enabling this option, you can click on the drop down and click **Sum** to select the sum of the items.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.

Results

Selected



Context member dropdown limit

This setting defines the number of members displayed in an Exploration View's dimension drop down.

About this task

Use this option to define the number of members to display in the dimension area drop down.

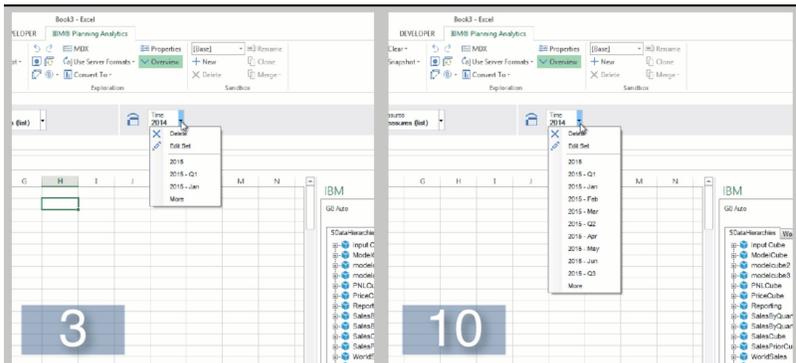
Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Context member dropdown limit** under **Exploration or list settings**.
4. Define a number.
5. Click **OK**.

Results

Left: **Context member dropdown limit** set to 3.

Right: **Context member dropdown limit** set to 10.



Data display row limit

This setting defines the number of rows that are displayed in an Exploration View or list view.

About this task

If you are pulling large quantities of data while working on your Exploration Views or list views, you may find that there is a delay. Limiting the number of rows that are displayed in your Exploration Views or list views can help mitigate this delay.

Under the last row of your Exploration View or list view, you can double-click **More** or **All** to see the remaining rows of data.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Data display row limit** under **Exploration or list settings**.
4. Use the field to define a number.
5. Click **OK**.

Results

Expand member limit

This setting defines the maximum number of members to display when you expand a consolidated member in your Exploration View. This setting affects only IBM® Cognos® Analytics Exploration Views.

About this task

Note: This option affects only IBM Cognos Analytics Exploration Views.

Set the maximum number of members to display when you expand a consolidated member in your Exploration View.

Procedure

1. Click **Options** , from the IBM Planning Analytics tab.
2. Click **IBM Planning Analytics**, from the navigation pane.

3. Locate **Expand member limit** under **Exploration or list settings**.
4. Use the field to define a number.
5. Click **OK**.

Results

Grouping options

This setting defines the way in which cells are grouped when you nest dimensions.

About this task

You can nest multiple dimensions in a row or column. This setting will define how the dimensions appear when nested.

Options	Description
Merge cells	Repeating cells in the parent dimension are merged.
Repeat labels	Repeating cells in the parent dimension each have labels.
Label top cell	Only the top cell of the repeating cells in the parent dimension has a label.

Left: Merge cells

Center: Repeat labels

Right: Label top cell

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Grouping options** under **Exploration or list settings**.
4. Use the drop down menu to select an option.
5. Click **OK**.

Custom report settings

Set TM1RebuildOption when generating new formula content

This setting enables the TM1RebuildOption variable when you generate new formula content.

About this task

The TM1RebuildOption variable causes the worksheets in a book to be rebuilt upon opening. This forces a recalculation to happen on each sheet in the book every time you open the book. The **Set TM1RebuildOption when generating new formula content** setting enables the TM1RebuildOption variable when you generate new formula content.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Set TM1RebuildOption when generating new formula content** under **Custom report settings**.
4. Select the check box.
5. Click **OK**.

Expand with double-click (applies to package based data sources only)

This setting overrides the default double-click action in IBM® Cognos® Analytics formulas and enables you to expand with double-click on IBM® Cognos® Analytics formulas in package based data sources.

About this task

Override the default double-click action in IBM Cognos Analytics formulas.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Expand with double-click (applies to package based data sources only)** under **Custom report settings**.
4. Select the check box.
5. Click **OK**.

Results

Refresh data on Excel recalculation Keys (F9, Shift F9)

This setting enables Custom Report refreshes by using Microsoft Excel recalculation keys.

About this task

Use this setting to enable Custom Report refreshes by using Microsoft Excel recalculation keys. When this setting is enabled, you can use **F9** to refresh the entire workbook or **Shift + F9** to refresh the current sheet.

Note: You need to restart Microsoft Excel after setting this option for it to take effect.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Refresh data on Excel recalculation Keys (F9, Shift F9)** under **Custom report settings**.
4. Select the check box.
5. Click **OK**.

Refresh data on writeback

This setting defines if and how you want to refresh your data on write back.

About this task

Use this setting to define if and how you want to refresh your data on write back.

<i>Table 2. Refresh data on write back options</i>	
Option	Description
None	Data does not refresh on write back.
Workbook	The data refreshes in the workbook on write back.
Worksheet	The data refreshes in the worksheet on write back.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Refresh data on writeback** under **Custom report settings**.
4. Select an option.
5. Click **OK**.

Quick report settings

Double-click option

This setting defines the action executed after double-clicking on dimensions or context areas of a Quick Report.

About this task

You can use this setting to define the action that occurs after double-clicking on the dimension or context areas of a Quick Report.

<i>Table 3. Double-click options</i>	
Option	Description
None	No action occurs after double-click.
Replace	Double-clicking a dimension or context member opens up the set editor to allow a replacement of the dimension / context member.
Toggle	Expands and collapses consolidated members when double-clicked on dimension areas. Launches the set editor when double-clicked on the context area.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Double-click option** under **Quick report settings**.
4. Select an option.
5. Click **OK**.

Results

Use level based indents

This setting enables level based indents between parent-child members in a Quick Report.

About this task

Level based indentations allow you to easily identify parent-child relationships in rows within Quick Reports. By enabling level based indents, child row members will be indented under the parent row member.

Procedure

1. On the **IBM Planning Analytics** tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Under **Quick Report settings**, select the **Use level based indents** check box.
4. Click **OK**.

Results

Use type-in refresh

This setting, if enabled, refreshes a Quick Report automatically when you update a context member by typing it into the report.

About this task

update a context member

You can use this option to refresh a Quick Report automatically when you add a member by typing it into the report.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Use type-in refresh** under **Quick report settings**.
4. Click the checkbox.
5. Click **OK**.

Results

Use server formatting

This setting removes custom formatting in a Quick Report and uses server formatting.

About this task

You can use this option to remove custom formatting in a Quick Report and use server formatting.

Procedure

1. On the IBM Planning Analytics tab, click **Options** .
2. In the navigation pane, click **IBM Planning Analytics**.
3. Locate **Use server formatting** under **Quick report settings**.
4. Click the checkbox.

5. Click **OK**.

Results

Settings in the CognosOfficeReportingSettings.xml file

You can configure IBM Planning Analytics for Microsoft Excel by using the CognosOfficeReportingSettings.xml file. This file is located in C:\Users\[User]\AppData\Local\Cognos\Office Connection.

The following tables group the settings into categories:

- Settings that apply to all supported datasources
- Settings that apply only when you are using a IBM Cognos Analytics datasource
- Settings that apply only when you are using a TM1 datasource

Settings that apply to all supported datasources

Name	Description	Allowed values	Default value
CommitWithoutConfirmation	Commits valid data without prompting you to confirm the commit. You can also turn this feature on or off by using the Hide commit confirmation option in the Options dialog box. Or you can use the Hide commit confirmation option in the Commit Changes dialog box.	True, False	False
ContextMemberLimit	Sets the number of members to display in the drop-down list for dimensions in the context area of Exploration Views. Click More to see more members.	Integer	15
ConvertDropDown	Sets the default conversion option displayed on the explorations toolbar (used for converting to another report type).	Quick Reports: MapOnNewSheet, MapOnThisSheet, MapAtSpecifiedLocation Formulas: FormulasOnNewSheet, FormulasOnThisSheet, FormulasAtSpecifiedLocation None	MapOnNewSheet

Table 4. Settings that apply to all supported datasources (continued)

Name	Description	Allowed values	Default value
CustomStartingRange	<p>Prompts you for a starting cell when you create explorations.</p> <p>You can also turn this feature on or off by using the Assign Exploration View or list starting cell option in the Options dialog box.</p>	True, False	False
DataRowLimit	<p>Specifies the number of rows to retrieve from the server and display in explorations, 0 = no limit.</p> <p>You can also set this by using the Data display row limit option in the Options dialog box.</p> <p>Note: This is a global setting for all explorations in a workbook. You can override this setting in the Properties dialog box for Exploration Views and lists.</p>	Integer	500
DefaultRefreshMode	<p>Sets the default refresh button displayed on the explorations toolbar.</p> <p>For example, if you set DefaultRefreshMode=PreviewOnly, the Preview with No Data button is displayed on the explorations toolbar.</p>	<p>None</p> <p>RunAllData: Refresh data and formatting</p> <p>RunAllDataWithout Formatting: Refresh data only</p> <p>PreviewOnly: Preview without data</p>	None
ExplorationOverrideDoubleClick	<p>Overrides the double-click action in explorations.</p>	True, False	True
ExplorationThresholdContextUnnamedSetSize	<p>Defines the maximum number of members in unnamed and static sets that will be shown when a view is added to an exploration.</p> <p>Defines the size limit for unnamed sets when a view is added to an Exploration.</p>	Integer	1000

Table 4. Settings that apply to all supported datasources (continued)

Name	Description	Allowed values	Default value
GroupingOption	<p>Sets the way in which cells are grouped when you nest dimensions.</p> <p>You can also set the grouping option by using the Grouping option in the Options dialog box.</p> <p>Note: This is a global setting for all explorations in a workbook. You can override this setting in the Properties dialog box for Exploration Views and lists.</p>	<p>None</p> <p>Sparse: Labels the top cell only</p> <p>Normalized: Repeats labels</p> <p>Full: Merges cells</p>	Full
InsertDetails	<p>Sets the default insert mode displayed on the explorations toolbar.</p> <p>For example, if you set InsertDetails=InsertSingleMember, the Insert Single Member button is displayed on the explorations toolbar.</p>	<p>None</p> <p>InsertSingleMember</p> <p>InsertMemberWithChildren</p> <p>InsertMemberWithChildren Dynamic</p> <p>InsertMemberWithDescendants</p> <p>InsertMemberWithInputs</p> <p>InsertMemberWithAncestors</p>	InsertSingle Member
MemberLimit	<p>Sets the maximum number of child members to show in the source tree.</p> <p>You can also set this option by using the Member display count limit option in the Options dialog box.</p>	Integer	1000
MruPackage	Contains information about the most recently used datasource.		
MruServer	Contains information about the most recently used Cognos system.		

Table 4. Settings that apply to all supported datasources (continued)

Name	Description	Allowed values	Default value
RefreshConfirmation	<p>Displays a confirmation dialog box when you refresh a workbook or worksheet.</p> <p>You can also turn this feature on or off by using the Hide refresh confirmation for each worksheet and workbook option in the Options dialog box.</p>	True, False	True
RefreshDropDown	Stores the refresh mode most recently used on the explorations toolbar.	None RunAllData: Refresh and apply server formatting RunAllDataWithout Formatting: Refresh and apply Excel formatting PreviewOnly: Preview without data	RunAllData
ShowServerInExploration	<p>Displays an information area above explorations. The information area displays details such as the server, row dimensions, column dimension, and so on.</p> <p>You can also turn this feature on or off by using the Show system and package information in the Exploration View and list sheet option in the Options dialog box.</p>	True, False	True
UndoStackLimit	Defines the limit on the number of undo actions a user can perform in an Exploration View.	Integer	15
UseMruPackage	<p>Loads the most recently used datasource at startup.</p> <p>You can also turn this feature on or off by using the Load most recently used system and package option in the Options dialog box.</p>	True, False	False

Settings that apply only to reports that use IBM Cognos Analytics datasources

Table 5. Settings that apply only to reports that use IBM Cognos Analytics datasources			
Name	Description	Allowed values	Default value
ChunkSize	Sets the IBM Cognos Analytics chunk size (row count per request).	Integer	0
EnableBIToggle	For explorations using IBM Cognos Analytics datasources, enables the Toggle_set expression instead of adding all child members.	True, False	False
ExpandMemberLimit	Sets the maximum number of members to display when you expand an item. You can also set this option by using the Expand member limit option in the Options dialog box.	Integer	4000
FormulaDefaultNumeric	For explorations, forces a zero to be returned when a value is empty in the result set.	True, False	False
FormulaResolution Paused	Prevents formulas from triggering a call to the server.	True, False	False
OverrideDoubleClick	Overrides the default double-click action in IBM Cognos Analytics formulas. You can also set this option by using the Expand with double-click option in the Options dialog box.	True, False	True
RequestFormat	Specifies the format to use when loading IBM Cognos Analytics explorations. You can also set this option by using the Request format option in the Properties dialog box for Exploration Views.	CSV: Unformatted, removes data formatting from the model rawXML: Formatted	rawXML

Settings that apply only to reports that use IBM TM1 datasources

Table 6. Settings that apply only to reports that use IBM TM1 datasources			
Name	Description	Allowed values	Default value
ActionButtonBackupDir	Sets the default directory for backing up workbooks when upgrading action buttons.	Path	C:\Users\ <user>\Desktop</user>
ActionButtonLogDir	Sets the default directory for saving the logs when upgrading action buttons.	Path	C:\Users\ <user>\Desktop</user>
AllowContextSum	Enables you to select a sum of items for context dimensions in Exploration Views. In an Exploration View, click the drop-down for a dimension in the context area and click Sum .	True, False	True
AutoSpread ConsolidatedInput	Converts values entered in consolidated cells into proportional spread operations.	True, False	True
BulkUploadAutoCommitValid	Commits values in valid intersections of a Quick Report automatically, without validating the values first. You can also turn this feature on or off by using the Automatically commit valid intersections option in the Error Report dialog box.	True, False	True
cellSetMaxSize	Sets the upper bound limit on the size of cellset resolution attempts from a client. Client operations exceeding the limit during processing are terminated and a <code>DataLimitExceededException</code> error level log is produced.	Positive signed Int32	Zero (auto)

Table 6. Settings that apply only to reports that use IBM TM1 datasources (continued)

Name	Description	Allowed values	Default value
DefaultExpandDirection	<p>Sets the direction to expand when you double-click in an Exploration View or list.</p> <p>You can also change this setting by using the Expand Direction option in the Properties dialog box for Exploration Views and lists.</p>	<p>EXPAND_ABOVE: Expands child members above their parent.</p> <p>EXPAND_BELOW: Expands child members below their parent.</p>	EXPAND_ABOVE
Expansions	<p>Defines macros for data entry: k, m, q, or user-defined. These macros are applied to a value before it is committed to the TM1 server.</p>	A JSON expression	<pre> {"TM1": {"k": "1000", "m": "1000000", "q": ".001"}} </pre>
FlexviewDefaultIndentOn	<p>Sets Quick Reports to indent by default.</p>	True, False	True
FlexViewDoubleClickAction	<p>Defines the double-click action for Quick Reports. You can also set this option by using the Double-click action option in the Options dialog box.</p>	<p>None: This allows the normal Excel behavior to occur, which is to edit the cell.</p> <p>ExpandAbove: Double clicking a consolidated member expands the children above their parent.</p> <p>ExpandBelow: Double clicking a consolidated member expands the children below their parent.</p> <p>Replace: Double clicking any member displays the set editor, which you can use to replace the member.</p>	None
IncludeControlObjects	<p>Displays the control cubes of a TM1 datasource in the Select Package dialog box. You can select a cube and use it to create reports.</p>	True, False	False
IncludeProcesses	<p>Shows the processes in the metadata tree.</p>	True, False	False

Table 6. Settings that apply only to reports that use IBM TM1 datasources (continued)

Name	Description	Allowed values	Default value
MapAddedRowColumnStyle	Sets the style to apply when you extend a Quick Report by adding rows or columns.	NoStyle: No styles are applied to the extended values ServerStyle Apply server styles to the extended values LastRowColumnStyle: Apply the style of the previous row or column to the extended cells	NoStyle
MapHotRefreshEnabled	Enables the Use Type-in Refresh option for Quick Reports. You can also turn this feature on or off by using the Use Type-in Refresh option in the Properties dialog box for Quick Reports.	True, False	False
MapUseMergeAreas	Allows the user to use merged cells along the axes of Quick Reports.	True, False	False
PreserveFormulas	Preserves user formulas in an exploration or Quick Report when you commit data.  Attention: If this option is set to False, any formulas that you add to an Exploration View or Quick Report are discarded when you commit data. You can also turn this feature on or off by using the Preserve user formulas option in the Options dialog box.	True, False	True
PromptUncommitted Changes	When you refresh, prompts you to confirm before uncommitted changes are lost.	True, False	True

Table 6. Settings that apply only to reports that use IBM TM1 datasources (continued)

Name	Description	Allowed values	Default value
RefreshOnExcelHotkeys	Refreshes data on Excel recalculation keys (F9, Shift F9). User needs to restart Excel after change.	True, False	False
RefreshOnWriteBack	Refreshes data on writeback. The user can define whether the data in the workbook or worksheet is refreshed.	None Workbook: Refreshes data in the workbook on writeback. Worksheet: Refreshes data in the worksheet on writeback.	None
SetEditorPreviewOn	Shows set members in the Selection pane (Hierarchy mode) of the Subset Editor instead of the set definition (Definition mode). You can toggle the display in the Selection pane using the View Set Contents and View Set Definition buttons.	True, False	True
SetRebuildOptionOnSlice	Sets the TM1RebuildOption variable. This variable causes the worksheets in the book to be rebuilt on opening (which forces a recalculation to happen on each sheet in the book).	True, False	False
UseGzipUpload	Enables Gzip compression for data uploaded to TM1.	True, False	True

Chapter 6. Work with data and reports

Learn about the different report types available to you and the ways you can work with them to analyze your data.

You can make changes to your reports by retrieving data and overriding any previous changes, removing data, or converting dynamic data to static data to prevent future updates from the servers. You can also share your reports with other users.

When you work with data from the IBM TM1 server, you are also able to write back data to the TM1 cube.

Change the hierarchy

You can change the hierarchy that's being used in your report.

If your dimension contains multiple hierarchies, you can use the set editor or Cube Viewer to change the hierarchy that's being used in your report. For example, if you're working with an Exploration View, you can edit sets and use members from another hierarchy if the dimension that the Exploration View uses contains alternate hierarchies.

You can change the hierarchy for all members of an Exploration View and for context members of a Quick Report.

1. Open the set editor or Cube Viewer.
2. Click the hierarchy name to open the **Select hierarchy** menu.
3. Select the hierarchy which contains the set and members that you want to use in your report.

Note: You may notice that some hierarchies cannot be selected. Disabled selections indicate that the hierarchy is currently in use in your active report. You can only change to a hierarchy that is not in use in your report.

4. Click **Apply and close**.

After you click **Apply and close**, your report is automatically refreshed to reflect the change in hierarchies.

Clearing data

You can clear data from the cells in an exploration, cell-based report, or in a Quick Report.

What does clearing data do?

When you clear data, the cleared cells remain as blank cells on the worksheet.

Formats, such as number formats, conditional formats, and borders are retained. Clearing the content does not break the link to the datasource.

Why would I want to clear data?

You might want to clear the data before you share a report so that

- Report consumers are required to refresh data to obtain recent changes from the data source.
- Report consumers are authenticated before they are able to view report content.

Can I automate the clearing of data?

You can also automate this task by using the ClearAllData method. For more information, see <https://ibm.github.io/paxapi/#clearalldata>.

Can I restore the data that I have cleared?

To restore the data that you have cleared, you need to refresh the data. For more information, see [“Refresh data” on page 93](#).

Note: Some values may be visible in a published workbook, even if the values were cleared. This may occur if the values were cleared and published from an older version of Microsoft Excel, and opened in a newer version of Microsoft Excel. Cleared data is visible in this scenario because opening a workbook in a newer version of Microsoft Excel triggers a recalculation, which includes a refresh of the IBM TM1 data. The data is authenticated with the credentials of the user that opens the workbook.

Clearing all data from a workbook

You can clear all data in a specific workbook or in all workbooks in IBM Planning Analytics for Microsoft Excel.

When you clear data, the cleared cells remain as blank cells on the worksheet. Formats, such as number formats, conditional formats, and borders are retained. Clearing the content does not break the link to the datasource.

You can clear data in a workbook either by using the [IBM Planning Analytics ribbon](#) or the [right-click menu](#).

Clear all data in a workbook from the IBM Planning Analytics ribbon

You can use the Clear All Data icon in the IBM Planning Analytics ribbon to clear all data in your workbook.

Procedure

1. Click the IBM Planning Analytics tab to open the IBM Planning Analytics ribbon.
2. Click the **Clear** icon .
3. Click **Clear Book** to clear all data from the single workbook.
4. Click **Clear All Books** to clear all data from all workbooks.

Clear all data in a workbook from the right-click menu

You can use the right-click menu in Planning Analytics for Microsoft Excel to clear all data in your workbook.

Procedure

1. Right-click any cell on a worksheet.
2. Click **IBM Planning Analytics**.
3. Click **Clear data**.
4. Click **Clear workbook**.

Clearing all data in a worksheet

You can clear all data in a specific worksheet in IBM Planning Analytics for Microsoft Excel.

When you clear data, the cleared cells remain as blank cells on the worksheet. Formats, such as number formats, conditional formats, and borders are retained. Clearing the content does not break the link to the datasource.

You can clear data in a worksheet either by using the [IBM Planning Analytics ribbon](#) or the [right-click menu](#).

Use the right-click menu to clear all data in a worksheet

About this task

You can use the right-click menu in Planning Analytics for Microsoft Excel to clear all data in your worksheet.

Procedure

1. Right-click any cell in the worksheet you want to clear data from.
2. Click **IBM Planning Analytics**.
3. Click **Clear data**.
4. Click **Clear worksheet**.

Use the IBM Planning Analytics ribbon to clear all data in a worksheet

About this task

You can use the IBM Planning Analytics ribbon to clear all data in your worksheet.

Note: This method cannot be used for Dynamic Reports or Custom Reports.

Procedure

1. Click the IBM Planning Analytics tab.
2. Locate the **Data** ribbon group.
3. Click **Clear**.
4. Click **Clear Sheet**.

Results

The data in the worksheet is cleared.

Clearing all data from a cell-based report

You can clear all data from a specific cell-based report.

About this task

Use the right-click menu to clear all data from a specific cell-based report.

Note: The **Clear Data** command does not clear data from Dynamic Reports or Custom Reports.

Procedure

1. Right-click any cell in the worksheet containing the cell-based report that you want to clear data from.
2. Click **IBM Planning Analytics**.
3. Click **Clear data**.
4. Click **Clear worksheet**.

Clearing data from a specific cell

You can clear all data from a specific cell.

About this task

Use the right-click menu to clear data from a specific cell.

Procedure

1. Right-click a cell or range of cells.
2. Click **IBM Planning Analytics**.
3. Click **Clear Data**.
4. Click **Clear Selected Cells**.

Common View Specification

You can use a Common View Specification to embed additional state information in your Exploration View or Quick Report.

A Common View Specification (CVS) is a JSON that can be used to embed additional state information when creating an Exploration View or Quick Report. A CVS is composed of two major parts; the MDX query and a sidecar for additional state information. Data driven mechanisms, such as TurboIntegrator are only concerned with the MDX query, however user interfaces will also consume the sidecar to ensure presentation consistency. By using a CVS, you can generate highly customizable Exploration Views or Quick Reports. For example, using a CVS, you can define aliases and subsets as per the CVS schema input.

To generate an Exploration View or Quick Report from a CVS, use the `CreateFromCVS` API method. For more information, see [CreateFromCVS \(Exploration View\)](#) and [CreateFromCVS \(Quick Report\)](#).

The following is the schema for a Common View Specification.

```
/*!  
 * Licensed Materials - Property of IBM  
 * © IBM Corp. 2021. All Rights Reserved.  
 * US Government Users Restricted Rights - Use, duplication or  
 * disclosure restricted by GSA ADP Schedule Contract with IBM Corp.  
 */  
{  
  "$schema": "http://json-schema.org/draft-06/schema#",  
  "title": "IBM Planning Analytics Universal View Specification",  
  "type": "object",  
  "required": ["MDX"],  
  "additionalProperties": false,  
  "properties": {  
    "MDX": {  
      "type": "string"  
    },  
    "Meta": {  
      "type": "object",  
      "additionalProperties": true,  
      "properties": {  
        "Aliases": {  
          "type": "object",  
          "additionalProperties": false,  
          "patternProperties": {  
            "^\\[[.+\\]\\]\\.[.+]\\]$": {  
              "type": "string"  
            }  
          }  
        }  
      }  
    },  
    "ExpandAboves": {  
      "type": "object",  
      "additionalProperties": false,  
      "patternProperties": {  
        "^\\[[.+\\]\\]\\.[.+]\\]$": {  
          "type": "boolean"  
        }  
      }  
    }  
  }  
  "ContextSets": {  
    "type": "object",  
    "additionalProperties": false,  
    "patternProperties": {  
      "^\\[[.+\\]\\]\\.[.+]\\]$": {  
        "type": "object",  
        "additionalProperties": false,  
        "properties": {  
          "Expression": {  
            "type": "string"  
          }  
        }  
      }  
    }  
  }  
}
```


www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/r_pax_tm1features.html).

Why does my data get recalculated?

Normally, when you refresh your worksheet, IBM Planning Analytics for Microsoft Excel will recalculate all data that is flagged as "dirty" in your workbook. Planning Analytics for Microsoft Excel recalculates this data in an attempt to ensure maximum data coherency.

Maximum data coherency

When you refresh a worksheet, Planning Analytics for Microsoft Excel will dirty the requested sheet, and then recalculate any dirty data in your workbook. This is in an attempt to ensure maximum data coherency at rest.

If you have other content in your workbook that is flagged as dirty, ensuring maximum data coherency may have a performance cost, as any dirty content will have to be recalculated.

For more information on data coherency and dirty data, see [“Data coherency”](#) on page 86.

What does Constrained Calculations do?

You can use Constrained Calculations to limit the recalculations strictly to the specified worksheet. Because Planning Analytics for Microsoft Excel is only recalculating the single worksheet, you may notice improved performance when refreshing a single worksheet. Other content in your workbook that is flagged as dirty will not be recalculated if you use Constrained Calculations.

Why do my cells show RECALC_###?

Cells with unfinished calculations may display RECALC_###. Complete the refresh of any worksheets that contain RECALC_### to update those cells with data.

If your **Calculation Options** is set to **Manual**, then RECALC_### is the expected response for any triggered formula-based report content until a refresh gesture is performed.

If your **Calculation Options** is set to **Automatic** and you use Constrained Calculations, RECALC_### may occur if there are any other sheets invalidated beyond the sheet being refreshed. This can happen due to formula references to that sheet.

Which gestures will prompt a calculation with Constrained Calculations enabled?

With Constrained Calculations enabled, gestures such as **Refresh Sheet** and **Rebuild Sheet** will prompt a calculation. For a full list of gestures that will prompt a calculation with Constrained Calculations enabled, see [“Actions that prompt a Constrained Calculation”](#) on page 78.

Usage Notes

If your **Calculation Options** is set to **Manual**, it is acceptable to have shared report drivers referenced directly, since constrained manual calculation fully limits all costs.

If your **Calculation Options** is set to **Automatic**, it is suggested to use decoupled drivers, with Action Buttons to propagate driver information across the workbook instead of direct references. This is because under automatic recalculations, Microsoft Excel will still attempt to do the initial processing of any dirty content. Constrained Calculation will not change Excel behavior.

As of Planning Analytics for Microsoft Excel version 2.0.41, the benefits of Constrained Calculations will be most noticeable if your worksheet does not contain volatile functions or persistently dirty data. If the worksheet that you are restricting the recalculation scope to contains volatile functions or persistently dirty data, Planning Analytics for Microsoft Excel may need to recalculate any sheets that it shares dependencies with.

Actions that prompt a Constrained Calculation

With Constrained Calculations enabled, there are a number of actions that you can use to prompt a calculation. This topic outlines the different actions that you can use in IBM Planning Analytics for Microsoft Excel.

IBM Planning Analytics ribbon

From the IBM Planning Analytics ribbon, you can prompt a calculation with Constrained Calculations enabled with any of the following actions:

- **Refresh Sheet**
- **Rebuild Sheet**
- **Clear Sheet**

IBM Planning Analytics context menu

You can access the context menu by right-clicking inside of your report, then clicking **IBM Planning Analytics**. From the context menu, you can perform any of the following actions to prompt a calculation:

- **Refresh > Refresh selected cells.**
- **Refresh > Refresh worksheet.**
- **Clear data > Clear selected cells** (for Exploration Views, list views, and Quick Reports only).
- **Clear data > Clear worksheet** (for Exploration Views, list views, and Quick Reports only).

Data tree

From the **Workbook** tab in the **Task Pane**, you can prompt a calculation with Constrained Calculations enabled with any of the following actions:

- **Explorations > Right-click a sheet > Refresh data.**
- **Explorations > Right-click a sheet > Clear data.**
- **Quick Reports > Right-click a sheet > Refresh data.**
- **Quick Reports > Right-click a sheet > Clear data.**
- **Dynamic Reports > Right-click a sheet > Refresh.**
- **Dynamic Reports > Right-click a sheet > Rebuild.**
- **Dynamic Reports > Right-click a sheet > Recreate.**

Hot keys

Using hot keys, you can refresh a sheet with Constrained Calculations enabled using any of the following actions:

- Shift + ALT + 9: Refreshes the sheet and constrains the calculation.
- Shift + F9: Refreshes the sheet, but only constrains the calculation if you have the **Refresh data on Excel recalculation Keys (F9, Shift F9)** setting enabled. For more information on this setting, see [“IBM Planning Analytics settings”](#) on page 48.

Note: You can also create macros that are linked to a user-defined function that will perform a constrained calculation.

Converting a report

You can convert an Exploration View to another report type in IBM Planning Analytics for Microsoft Excel.

When you convert a report from an Exploration View, you can decide whether or not your converted reports use stylesheet formatting. In the Exploration ribbon group, select **Use Excel Formats** to convert reports using stylesheet formatting. Select **Use Server Formats** to convert reports using the server formats.

Converting to a Quick Report using TM1 data

Create a Quick Report from an IBM TM1 Exploration View when you finish your analysis and want to present data by using more advanced cell-based features from Microsoft Excel.

When you convert Exploration Views to Quick Reports the application places the system information, rows, and columns in named ranges.

If you have views, explorations, or other Quick Reports available in the Task Pane, you can drag these to a worksheet to create a Quick Report. For more information, see [“Create a Quick Report” on page 119](#).

1. Open or create an Exploration View.
2. Click **Convert to** and select an option. For example, to create the Quick Report on a new worksheet, select **Convert to > Quick Report > On New Sheet**.

After the report is converted, the Quick Report is listed in the **Task Pane > Workbook** tab in the **Quick Reports** folder.

Note: Calculations created in an Exploration View need to be recreated in Microsoft Excel after converting to a Quick Report.

Converting to a Custom Report using TM1 data

Convert a TM1 Exploration View to a Custom Report when you want to manipulate individual cells. You can use data from multiple data sources in a Custom Report.

You can also create a Custom Report completely from scratch using the cell-based method.

- You cannot convert an Exploration View to a Custom Report if the Exploration View contains alternate hierarchies.
- The Exploration View must also have at least one row or column dimension.
- Text values in formulas are limited to 255 characters. To create text values longer than 255 characters in a formula, use the CONCATENATE function or the concatenation operator (&).

When you convert an Exploration View, you have the option of converting data on the current worksheet, copying and moving the data to a new worksheet, or specifying the location for the converted data.

In the converted report, context members are defined by SUBNM formulas. Data cells are defined by DBRW formulas. You can modify these formulas by double-clicking the cells.

1. Go to the worksheet that contains the Exploration View that you want to convert.
2. Click **Convert to > Custom Report** and select an option.
 - a. To convert the Exploration View to formulas and place the result on the current worksheet, select **On This Sheet**.
 - b. To convert the Exploration View to formulas and place the result on a new worksheet, **On New Sheet**. By placing the results on a new worksheet, you preserve the original Exploration View.
 - c. To convert the Exploration View to formulas and specify the location, which is a cell in an existing spreadsheet, select **At Specified Location**.

After the report is converted, the drop zones disappear. The formatting remains the same, but the cells of the Exploration View contain TM1 formulas, which link the individual cells to data in the cube. An information area above the Custom Report shows the context members of the report.

You can continue to modify the worksheet by editing formulas and applying formatting.

Converting to a Custom Report using Cognos Analytics data

Convert an Exploration View to a Custom Report when you want to manipulate individual cells or place columns or rows in between the imported data.

When you convert an Exploration View, you have the option of converting data on the current worksheet, copying and moving the data to a new worksheet, or specifying the location for the converted data.

Before you convert an Exploration View to a Custom Report, note the following restrictions:

- You cannot convert data from relational sources to a cell-based analysis.
- Text values in formulas are limited to 255 characters. To create text values longer than 255 characters in a formula, use the CONCATENATE function or the concatenation operator (&).

It is also possible to convert your Custom Report to an Exploration View. Click a cell and then click **IBM Planning Analytics > Explore**. Depending on how your columns and rows are set up and how many items are in each, you may notice that certain objects are added to the context drop zone instead of being placed in a row or column.

If the default measure is also on columns, you cannot convert an Exploration View to formulas. You must first remove the default measure. For more information, see [“Remove measures” on page 208](#).

1. Open the workbook with the Exploration View you want to convert.
2. In the **IBM Planning Analytics** tab, click **Convert to**.
3. Choose where to place the converted data:
 - a. To convert the Exploration View to formulas and place the result on the current worksheet, click **On This Sheet**.
 - b. To convert the Exploration View to formulas and place the result on a new worksheet, from the exploration bar, click **Convert to Formulas > On New Sheet**. By placing the results on a new worksheet, you preserve the original Exploration View used to create the analysis and can use it again to change parameters for another analysis.
 - c. To convert the Exploration View to formulas and specify the location, which is a cell in an existing spreadsheet, from the exploration bar, click **Convert to Formulas > At Specified Location**.

After the report is converted, the drop zones disappear. The formatting remains the same, but the cells of the report contain formulas, which link the individual cells to data items in the database.

You can continue to modify the worksheet by editing formulas and applying formatting. By default, data is updated when you edit a formula. To edit formulas without data updates, right-click the worksheet and select **IBM Planning Analytics > Pause formula resolution**. When you are ready to show data, right-click the worksheet and select **IBM Planning Analytics > Run formula resolution**.

Copy and move worksheets

You can copy or move worksheets that contain reports based on IBM TM1 data. You can copy or move worksheets within a workbook or between workbooks.

Before you begin

If you want to copy a worksheet that contains a Quick Report, start IBM Planning Analytics for Microsoft Excel before you copy or move the worksheet.

You can only copy one Quick Report at a time. Copying multiple Quick Reports at a time may cause unexpected behaviors.

Note: Exploration Views cannot be copied and moved.

Procedure

1. Go to the worksheet that you want to move or copy.
2. Right-click the worksheet tab and click **Copy**.
3. Copy the worksheet.
For more information, see the Microsoft Excel online help.

Creating customized report themes

IBM Planning Analytics for Microsoft Excel uses Excel styles to format reports. It's why you see a consistent visual theme when you create your reports. With some modifications, you or your organization can create and deliver unique and customized themes in your reports.

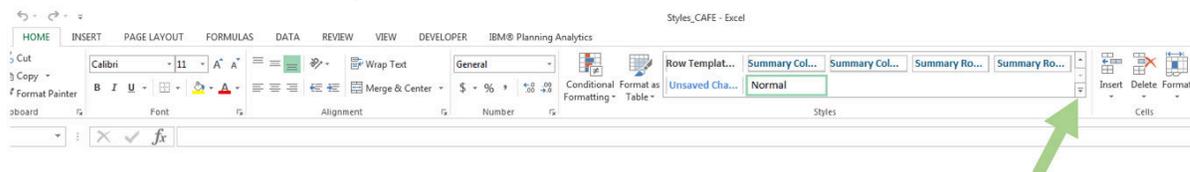
Getting started

The Excel styles that are used by Planning Analytics for Microsoft Excel are generated and stored in an external file. Get started by accessing the styles.

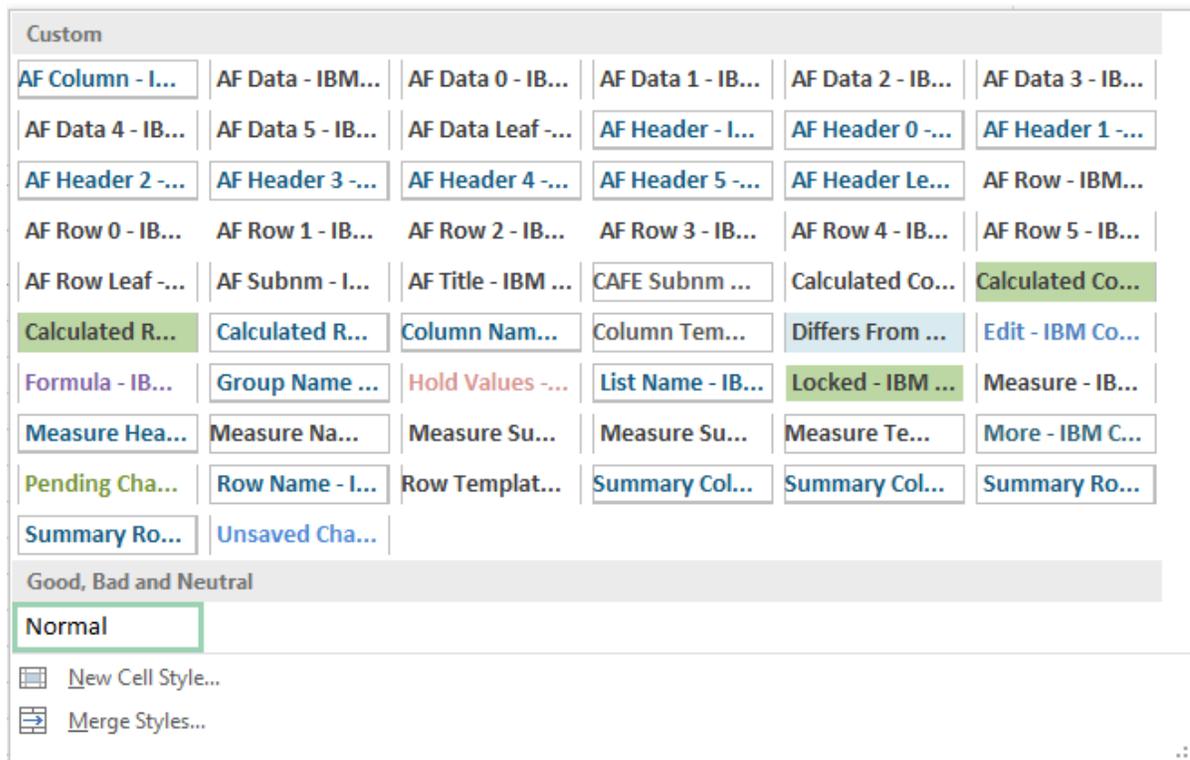
1. Navigate to your Planning Analytics styles directory: C:\Users\- 2. Open Styles_CAFE.xlsx.

Note: Ensure that Planning Analytics for Microsoft Excel is not loaded.

3. Open Microsoft Excel.
4. From the **Home** tab, in the **Styles** section, click **More**.



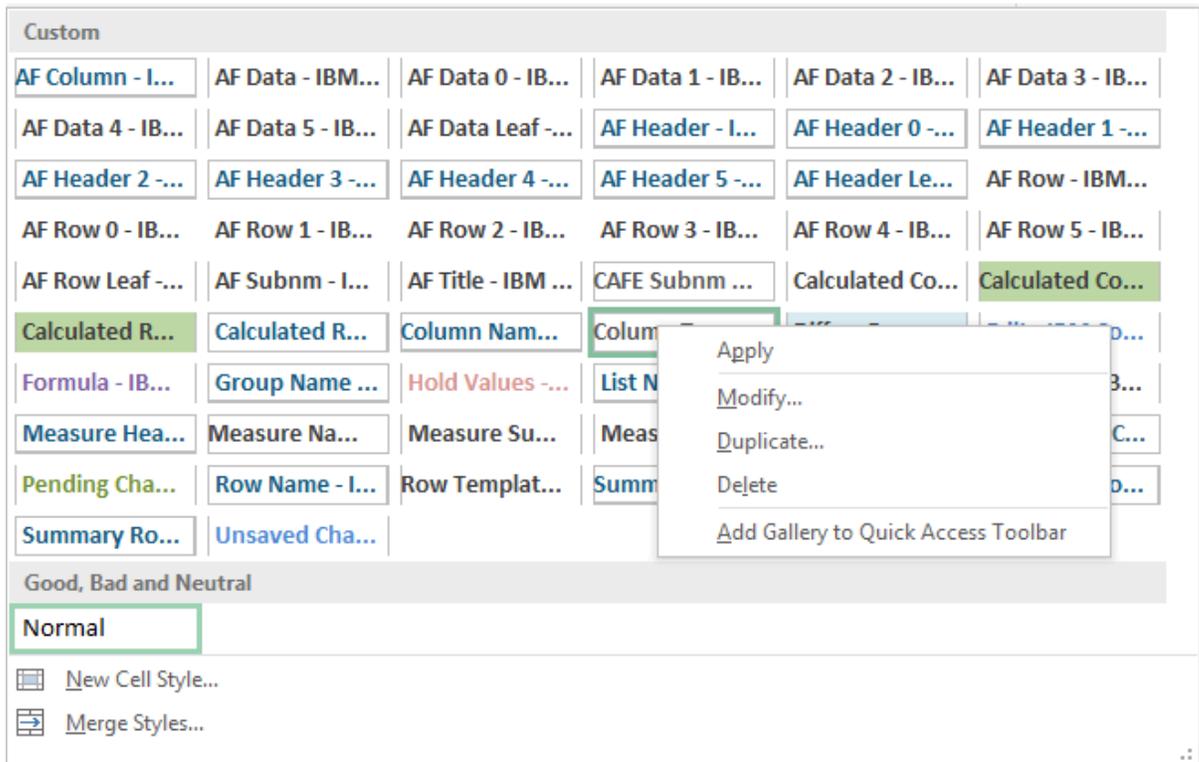
The Microsoft Excel **Styles** window is opened and you are presented with all of the available styles.



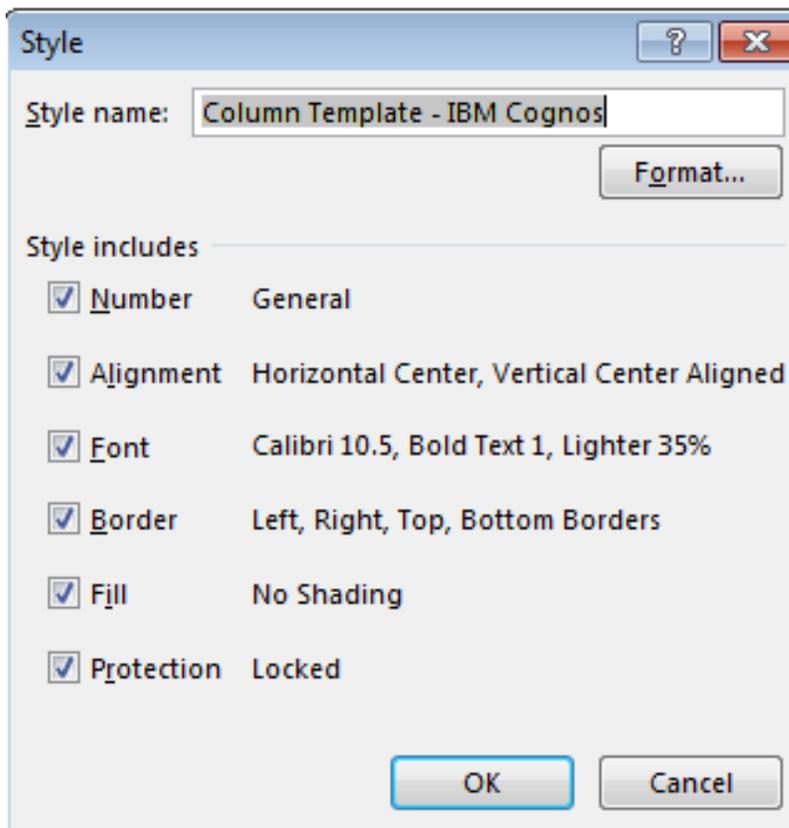
Customizing a style

You can customize styles for your columns, rows, and measures.

1. Open the Microsoft Excel **Styles** window.
2. Right-click the style that you want to customize. For more information on which Excel styles to customize, see “Microsoft Excel styles for Exploration Views, List views, and Quick Reports” on page 84
3. Click **Modify...**



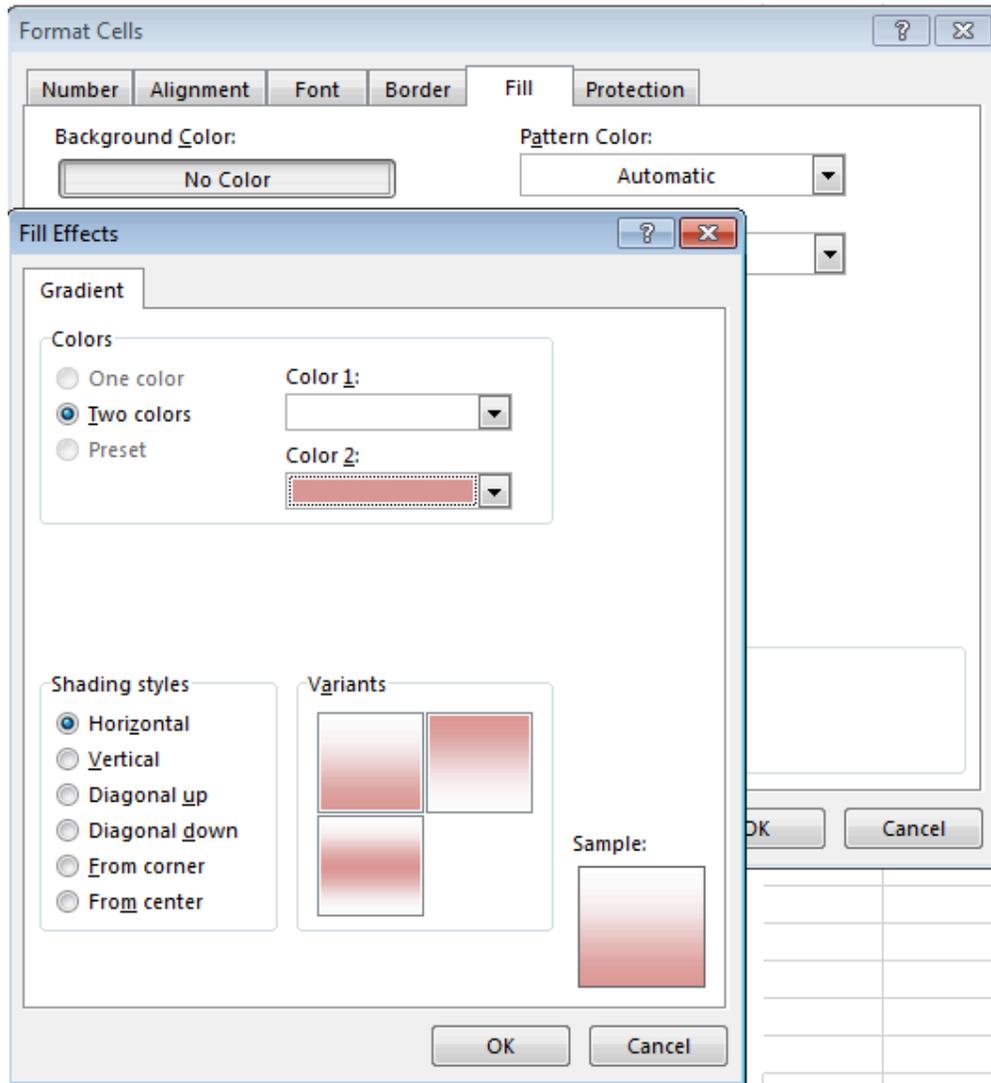
4. Click **Format**.



5. Click the **Fill** tab.

6. Click **Fill Effects...**

7. Define the colors and shading styles that you want for your columns, rows, or measures.



8. Click **OK** on all of the opened dialog boxes.
9. Save your Styles_CAFE.xlsx file.
10. Restart Microsoft Excel.
11. Start Planning Analytics for Microsoft Excel.
12. Create a new Exploration View, List view, or Quick Report to view your custom style.

Microsoft Excel styles for Exploration Views, List views, and Quick Reports

Exploration Views, List views, and Quick Reports all share a common set of Excel styles. You can edit these styles to customize the theme of your reports. This topic shows you how different Excel styles impact your reports.

There are styles for everything from the design of a blank exploration to the shade for data values locked by TM1. Below is a list of the styles that apply to these report types.

Name of style	Description
Row Template - IBM Cognos	Format for blank Exploration row area
Column Template - IBM Cognos	Format for blank Exploration column header area
Measure Template - IBM Cognos	Format for blank Exploration data area
Summary Column Name TM1 - IBM Cognos	Format for TM1 consolidated column header
Summary Row Name TM1 - IBM Cognos	Format for TM1 consolidated row header
Measure Summary TM1 - IBM Cognos	Format for data cell that contains at least one consolidated member
Summary Row Name - IBM Cognos	Format for BI consolidated row header
Summary Column Name - IBM Cognos	Format for BI consolidated column header
Measure Summary - IBM Cognos	Format for BI data cell that contains at least one consolidated member
Column Name - IBM Cognos	Default format for column header
Row Name - IBM Cognos	Default format for row header
Measure - IBM Cognos	Default format for data values
Measure Name - IBM Cognos	Format for when no data exists in the top left cell of Exploration table area
Calculated Column - IBM Cognos	Format for data of user defined calculation in columns
Calculated Column Name - IBM Cognos	Format for user defined calculation column header
Calculated Row - IBM Cognos	Format for data of user defined calculation in rows
Calculated Row Name - IBM Cognos	Format for user defined calculation row header
More - IBM Cognos	Format for Exploration row "More" cell when data row limit exists
Differs from Base - IBM Cognos	Format for data in sandbox that differs from base
Edit - IBM Cognos	Format for uncommitted data value change
Formula - IBM Cognos	Format for user defined formula data value
Hold Values - IBM Cognos	Format for held data value in TM1
Locked - IBM Cognos	Format for locked data value in TM1
Measure Header - IBM Cognos	Format for Quick Report user defined column or row data
List Name - IBM Cognos	Default format for List view headers
Group Name - IBM Cognos	Format for grouped rows in List view

The following image shows how styles are applied to an Exploration View.

Summary Column Name TM1 - IBM Cognos Column Name - IBM Cognos

	Q1-2004	Q2-2004	Q3-2004	Jul-2004	Aug-2004	Sep-2004	Q4-2004
Summary Row Name TM1 - IBM Cognos	261,530	281,766	280,379	91,657	89,880	98,841	227,231
Operating Expense	293,917	272,200	277,602	94,204	89,789	93,609	291,802
Other Expenses	60,790	59,823	60,366	20,172	20,544	19,649	61,488
Bank Charges	4,449	4,200	4,080	1,366	1,551	1,164	3,892
Board of Directors	3,039	2,900	2,802	933	873	995	3,402
Employee Relations	3,113	3,000	3,233	1,084	957	1,195	3,342
Printing	3,117	2,900	3,766	1,204	1,046	1,215	3,508
Seminars & Continuing Ed.	3,500	3,400	3,415	1,341	1,283	791	3,082
Taxes & Licenses	3,653	4,079	3,547	1,561	1,033	958	4,260
Office Expense	3,867	3,911	4,322	1,110	1,655	1,558	3,873
Postage	3,325	3,000	4,195	1,586	1,502	1,107	4,200
Rent	4,041	3,911	4,265	1,403	1,450	1,412	4,338
Repairs & Maintenance	3,873	4,400	4,496	1,745	1,054	1,697	4,149
Telephone	3,080	2,700	2,368	668	874	825	2,929
Utilities	3,899	4,100	4,251	896	1,627	1,727	3,754
Accounting Expense	4,275	4,100	5,174	1,711	1,749	1,714	4,203
Legal & Consulting	4,641	3,000	3,015	993	999	1,023	4,793
Repairs, Customer Equipment	5,132	4,400	3,232	1,076	1,137	1,018	3,675
IT Expense	3,788	4,000	4,204	1,495	1,453	1,256	4,082
Payroll	201,052	179,100	186,210	64,025	58,142	64,042	199,484
Travel	3,593	3,300	2,629	987	853	789	2,599
Depr & Amort	5,820	6,100	6,474	2,349	2,191	1,933	6,178
Adv & Marketing	22,663	23,000	21,925	6,670	8,059	7,196	22,053
Net Operating Income	563,859	570,408	512,499	131,011	202,630	178,858	588,417

For more information on how you can use Excel styles to customize the theme of your reports, see “Creating customized report themes” on page 81.

Data coherency

In IBM Planning Analytics for Microsoft Excel, data is considered coherent if the data in your workbook is in sync with the data saved in the datasource. If you use partially scoped refresh gestures, you may have situations where your workbook is not fully coherent. This topic will take you through some of the scenarios where your workbook may or may not be coherent, as well as explain some of the terms related to data coherency.

Total data coherency

There is total data coherency if the data in your workbook is in sync with the data saved in the datasource. The goal of total data coherency is to ensure that the entire reporting content of the workbook is consistent with the data in the datasource.

Partial data coherency

There is partial data coherency if some of the data in your workbook differs from the data saved in the datasource. Your workbook can have partial data coherency if you are editing cells or modifying the workbook and have not yet committed your changes to the datasource. Partial data coherency can also occur if the data in the datasource changes and you have not refreshed your workbook to reflect the changes, or have refreshed only a part of your workbook.

Partial data coherency is also likely to occur if you employ Constrained Calculations. For more information on Constrained Calculations, see “Constrained Calculations” on page 77.

"Dirty" data

Spreadsheet content is flagged as "dirty" by the Excel runtime whenever you make any changes, such as editing cells or modifying the workbook. Data in a worksheet may also be flagged as dirty if it has dependencies on calculations in another worksheet. If the calculations are changed or recalculated, but the data in the worksheet is not recalculated, the data is flagged as dirty.

"Clean" data

The dirty flag is cleared by the Excel runtime when the relevant spreadsheet content is finally calculated, and if there are no outstanding recalculations that need to be performed.

Calculation Options

If your **Calculation Options** in Microsoft Excel is set to **Manual**, you may observe a "CALCULATE" message in the Microsoft Excel status bar. The "CALCULATE" message appears if there is any active content that is still flagged as dirty.

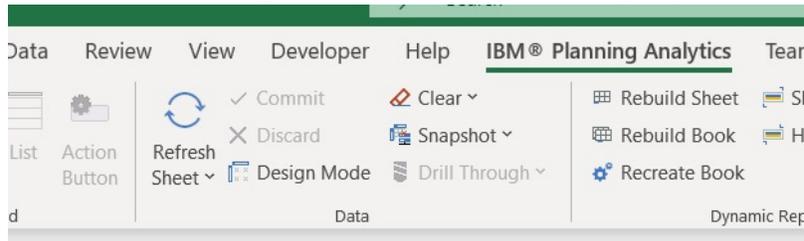
If your **Calculation Options** in Microsoft Excel is set to **Automatic**, Microsoft Excel will attempt to recalculate any dirty content whenever it is encountered.

Design Mode

Design Mode is a handy tool that can be used to enable or disable the refreshing of an Exploration View upon every change. You can also use **Design Mode** to preserve or clear DBRW formulas when you are copying and pasting values into cells.

How to enable or disable Design Mode

You can find the **Design Mode**  icon in the **Data** group of the IBM Planning Analytics ribbon.



Click the **Design Mode** icon to enable or disable **Design Mode**.

Use Design Mode to enable or disable the automatic refresh of an Exploration View

In an Exploration View, **Design Mode** prioritizes the structure of the Exploration View.

When **Design Mode** is on, you must manually refresh your Exploration View to populate the data intersections.

When **Design Mode** is off, the Exploration View is refreshed automatically when it is changed.

Preserve or clear DBRW formulas when you are pasting values into cells

When **Design Mode** is on, you can copy and paste values into cells and clear any DBRW formulas in those cells.

When **Design Mode** is off, you can preserve the DBRW formulas when you are copying and pasting into cells that contain DBRW formulas.

Find items in the source tree

The data source or package that you select might contain large amounts of data. You can use several techniques to find the items in the source tree that you need.

You can do the following:

- Expand a dimension to see successive levels and details
- Specify a greater or lesser number of items to show in the source tree
- Search for items

By default, the source tree shows 50 items for any one dimension at a time. You can change this value to increase or decrease the number of items displayed. Depending on the size of the data source, you might want to set a smaller value to improve performance. For more information, see [“Member display count limit”](#) on page 48.

If you are using an IBM Planning Analytics data source and the number of members in the dimension is greater than the member display limit, a **More** icon is displayed. If you click **More**, more members are displayed. For example, if the member limit is 25 and you click **More**, another 25 members are displayed.

If you are using an IBM Cognos Analytics package and there are more than the specified number of items in the dimension, a **Search** icon is displayed. If you click **Search**, you can enter your search criteria to find the items that interest you.

Search for members in an IBM Planning Analytics with Watson data source

When the source tree displays an IBM Planning Analytics with Watson data source, you can search for members in the data source by name or by attribute values.

Procedure

1. In the source tree, select a hierarchy or member.
 - To search all members in a hierarchy, select a hierarchy.
 - To search a member and its descendants, select a member.
2. Right-click the hierarchy or a member, and click **Search metadata**.
3. Define the search criteria.

To add search criteria, click the plus sign at the end of the search criteria row. To delete a search criteria, click the minus sign at the end of the row.

4. Click **Apply**.

The search results are displayed. You can drag members from the search results list to the work area.

5. After you finish your search, click **OK**.

Example

Suppose that you want to create an Exploration View that shows all Sedan car models that are also leaf members. You want these members to be displayed in the rows of your Exploration View.

1. Open PriceCube on the SData server.

Note: SData is a sample TM1 Server Application folder that is provided with TM1. PriceCube is a sample cube that contains a Model dimension.

2. Create a blank Exploration View.
3. In the source tree, expand the **Model** dimension.
4. Right-click the **model** hierarchy and select **Search metadata**.
5. Create the search criteria.
 - Select **Name**, **Contains**, and type Sedan.

- Click the plus sign to add another row.
- Select **Level**, **=**, and enter 0.

```
Name Contains Sedan
Level = 0
```

6. Click **Apply**. The results are displayed.
7. Select all the members that are returned by your search.
8. Drag the members to the **Rows** drop zone in the Exploration View.

The rows of your Exploration View now display Sedan car models that are leaf members in the Model dimension.

Search for items in an IBM Cognos Analytics package

When the source tree displays a package, you can search for items in the package by name.

Searching is limited to the immediate details of the selected item. In DMR packages, you can search only one level down. For example, if searching for Star Dome Tent, you must select Tents and not Products to perform your search.

In packages based on a cube, you can search in all descendants.

For information about searching for members in a IBM Planning Analytics data source, see [“Search for members in an IBM Planning Analytics with Watson data source”](#) on page 88.

Procedure

1. In the source tree, click a dimension, hierarchy, or level, and click **Search metadata**.
2. In the **Words** box, type the words or characters for which you want to search.
3. In the **Options** box, click the search parameter you want to use.
4. If you want to perform a case-sensitive search, select the **Match case** check box.
If the database does not support this feature, it is disabled.
5. In the **Search In** box, click the level in which you want to search.
6. Click **Search**.
7. After you finish your search, click **Close**.

Results

The search items appear in the **Results** box. If you do not see the results box, you might need to resize the dialog box so that all the fields are visible.

Tip: To make it easier to find items, you can specify the number of items to show in the source tree for the current session. For more information, see [“Member display count limit”](#) on page 48.

How level based indents are applied

IBM Planning Analytics for Microsoft Excel supports level based indentations in various report types. Depending on the report type that you use, you may find that indentations are applied differently.

Level based indentations allow you to easily identify parent-child relationships in rows within your reports. Indentations are applied differently, depending on the report type that you are using.

Exploration Views

Level based indentations in an Exploration View are applied based on your element's hierarchy level. If you have asymmetric hierarchies or if you have elements that appear multiple times in a single hierarchy, but at different levels, you will see level based indentations in your Exploration Views more predominantly.

Quick Reports

Like Exploration Views, level based indentations in a Quick Report are also applied based on the hierarchy level. However, Quick Reports allow you to enable and disable level based indentations. For more information on how to enable and disable level based indentations in a Quick Report, see [“Use level based indents” on page 62](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_coi_gt_strtd_level_based_indents.html) (https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/t_coi_gt_strtd_level_based_indents.html).

Dynamic Reports

Level based indentations in a Dynamic Report are based on your element's subset level.

Naming conventions

IBM Planning Analytics with Watson has the following naming conventions. Some of these conventions are enforced.

Although some of these characters are not reserved, it is a good practice to avoid the use of these special characters in most cases when you name objects and members. For more information, see [“Member names and MDX expressions” on page 91](#).

Character	Description
'	apostrophe
*	asterisk
@	at sign - see “Object names in TM1 rules” on page 92 .
\	back-slash
:	colon
,	comma
{	curly brace - see “The curly brace in object names” on page 91 .
"	double-quote
!	exclamation mark - see “Object names in TM1 rules” on page 92 .
>	greater-than
<	less-than
-	minus sign - in member names. See “Member names and MDX expressions” on page 91 .
or ¦	pipe or broken pipe
+	plus sign - in member names. See “Member names and MDX expressions” on page 91 .
?	question-mark

Table 7. Special characters to avoid in object and member names (continued)

Character	Description
;	semicolon
/	slash
~	tilde - see “Object names in TM1 rules” on page 92.
^	caret - see “Member names and MDX expressions” on page 91.

Reserved characters per component

The following characters are explicitly reserved for the following components and must never be used when you name objects in these contexts:

- TM1 Architect reserves the following characters:

```
\ / : * ? " < > | }
```

- TM1 Server reserves these characters in these objects: Cube, Dimension, Subset, View, Process, Chores.

```
\ / : * ? " < > | ' ; ,
```

- For process variable names, the identifier cannot contain any special characters except for:

```
AllowableChars[] = ".$%_`";
```

The curly brace in object names

It is a good practice to avoid the use of the right curly brace (}) as the first character in any user-created TM1 object name. TM1 control object names always begin with the right curly brace. If a user-created object name begins with a right curly brace, the object becomes hidden if the **Display Control Objects** parameter is turned off.

Member names and MDX expressions

Do not use + or - as the first character of a member name. Although only the first member in a set when slicing to active form cannot use + or - as the first character in the element name, it is a good practice to never use + or - as the first character of a member name.

Do not use a ^ in a member name. The ^ character can be used as the delimiter between the ancestor and multi-parent member's name but when a member name that contains this character is referenced in an MDX expression, it cannot be escaped.

Although all the other characters available for use in member names are technically not restricted, it is good practice to avoid the special characters that are listed in the previous table when you name members.

A member name can contain a right square bracket (]) but when a member name that contains this character is referenced in an MDX expression, the character needs to be escaped by doubling it. For example, a member that is named Array[N] Elements, can be referred to in an MDX expression as [Array[N]] Elements].

Object names in TM1 rules

Although technically allowed, it is a good practice to avoid using these special characters in object names because they may conflict when used in a rules expression. This guideline protects you if the objects or members ever become part of a rule statement where those special characters are not permitted.

- For example,) | ~ ; @ \ / : * ? " < > are all often found in rules statements and should not be used in object names.
- The @ is technically not restricted, however it is a good practice to avoid using the @ character in object names or member names because the @ character is also a string comparison operator in TM1 rules. If you reference any object with a name that contains the @ character in rules, the object name must be enclosed in single quotation marks. For example, a dimension named products@location must be referenced as 'products@location' in rules. Escaping the name with quotation marks does not work in all cases, so it is best to avoid the use of @ in all cases when naming objects.
- Escaping the special character using quotation marks does not work for ! or in certain rule expressions.
- The exclamation point ! character must not be used in object names because it is also used in rules expressions. For example:

```
DB('MarketExchange',!market,!date)
```

Maximum string length for data directory and object names

The entire string that is represented by the combination of the TM1 Server data directory name and the object name is limited to 128 bytes. For example, if your data directory is C:\Financial data\TM1\ (22 bytes), object names are limited to 106 bytes, inclusive of a file extension such as .cub or .rux.

Some TM1 objects, such as views, subsets, and applications, are stored in subdirectories of the TM1 Server data directory. In this case, the 128-byte limit is applied to the combination of the TM1 Server data directory, the subdirectory, and the object name.

Case sensitivity

Object names are not case-sensitive. For example, the dimension name actvsbud is equivalent to ActVsBud.

Spaces in object names

Spaces are allowed in all object names, but spaces are ignored by the TM1 Server. The TM1 Server considers the dimension name Act Vs Bud to be equivalent to ActVsBud (or actvsbud).

User names

User names that include reserved characters cannot save private objects.

Preserve or clear DBRW formulas when pasting values into cells

When working with Custom Reports or Dynamic Reports, you can choose how values are copy and pasted into cells.

When **Design Mode** is on, you can copy and paste values into cells and clear any DBRW formulas in those cells.

When **Design Mode** is off, you can preserve the DBRW formulas when you are copying and pasting into cells that contain DBRW formulas.

You can copy and paste formula cells in Custom Reports or Dynamic Reports. If **Automatic Calculation Mode** is on, you can only paste formulas once. The recalculation that occurs in **Automatic Calculation Mode** discards the original formula cell selection and only preserves the value of the cell. If you paste a formula more than once, the subsequent pastes will only paste the value of the cell.

Tip: If you want to paste a formula multiple times, you need to either turn **Automatic Calculation Mode** off, or paste the formulas as the full formula string in order to preserve them across multiple pastes.

Refresh data

If the data in a report is changed, you can refresh the data to ensure that you are working with the latest data.

About this task

You can refresh your entire workbook, a worksheet, a report, or selected cells.

- To update the entire workbook, on the **IBM Planning Analytics** tab, click **Refresh All Data**.

If you choose the **Refresh the data only** option, the data is refreshed and any user applied formatting is preserved.

If you choose the **Refresh the data and report formatting** option, the data is refreshed and the default formatting is applied. Any user applied formatting is removed.

All worksheets, including Exploration Views, lists, and Custom Reports are updated with the most recent data.

If you choose to also refresh report formatting, formats are updated.

- Refreshing the report formatting applies only to Exploration Views and lists, and temporarily overrides the **Run with Excel formats** option on the **Exploration** or **List** toolbar.
- Quick Reports update their formatting based on a per-Quick Report flag to use server formats (instead of the global flag for explorations) and update formats every time the data is pulled.
- Custom Reports have no dynamic formatting component and use standard Excel formatting.
- To refresh only the current worksheet, right-click any cell on the worksheet, click **IBM Planning Analytics > Refresh > Refresh worksheet**.
- To refresh a specific report, follow these steps:
 - In an Exploration View or list, click  and select an option.
 - In a Quick Report, click .
 - For a Dynamic Report, in the source tree, expand **Dynamic Reports**. Right-click the Dynamic Report and click **Refresh**. For more information, see “Refresh, rebuild, or recreate” on page 127.
 - For Custom Reports, right-click any cell in the report, click **IBM Planning Analytics > Refresh > Refresh worksheet**.
- To refresh only specific cells, right-click a cell or range of cells, click **IBM Planning Analytics > Refresh > Refresh selected cells**.

Design Mode

When **Design Mode** is on, you must manually refresh your Exploration View to populate the data intersections.

For more information about **Design Mode**, see [Design Mode](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_design_mode.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.ug_cxr.2.0.0.doc/c_pax_design_mode.html).

Run Cognos TM1 TurboIntegrator processes

You can run IBM Cognos TM1 TurboIntegrator processes from the IBM Planning Analytics for Microsoft Excel task pane.

A TurboIntegrator process contains a script of TurboIntegrator functions and commands to programmatically import data as well as create and modify TM1 objects, such as cubes and dimensions.

An IBM TM1 administrator creates the TurboIntegrator process and saves the process on an IBM TM1 server. The administrator also assigns security privileges to the TurboIntegrator process. You must have read access privileges to access the TurboIntegrator process from the task pane in IBM Planning Analytics for Microsoft Excel. You cannot create a TurboIntegrator process from IBM Planning Analytics for Microsoft Excel.

Run, monitor, cancel, or change TurboIntegrator process parameters

You can run, monitor, and cancel TurboIntegrator processes directly from the task pane. You can also change TurboIntegrator process parameters when you run the TurboIntegrator process.

1. Click the **Show and hide** icon  in the task pane.
2. Ensure that **Show processes** is selected.
3. Expand **Processes** in the source tree to see a list of available processes.
4. Right-click a process and then click **Run Process** to run it.
5. If there are parameters defined for the process, a dialog box containing the parameters will open, which will allow you to change the process parameters.

Note: A TurboIntegrator process that encounters a major error will roll back instead of committing any changes. For example, errors such as the data source failing to open or attempting to write to a cube that doesn't exist are major errors and trigger a rollback.

By default, when a process is running, there is no progress indicator. To monitor the execution of running processes, right-click **Processes**, and then click **Active Processes**. In the **Active Processes** window you can monitor process execution, and also cancel running processes.

You can also create an action button that runs a TurboIntegrator process. For more information, see [“Run a process” on page 247](#).

For more information about TurboIntegrator processes, see the *IBM Cognos TM1 TurboIntegrator* documentation.

Share your analysis

Share your analysis to give colleagues an opportunity to view important information or contribute their own pieces of data.

Several options exist for storing and distributing IBM Planning Analytics for Microsoft Excel-enabled workbooks.

Publish a workbook to a TM1 Server Application folder

You can publish workbooks that contain TM1 reports to a TM1 Server Application folder. You can publish lists, Exploration Views, Quick Reports, Dynamic Reports, and Custom Reports. Publish a workbook to share it with other users.

This video demonstrates how to publish a workbook: <https://youtu.be/L4Run7-rsb8>

About this task

When you publish a workbook, it is saved under the TM1 Server Application folder. The workbook can then be opened in TM1 Web and in IBM Planning Analytics Workspace.

By default, workbooks are published as private, unless you publish the workbook to a public folder or change the workbook from private to public. Private workbooks are available only to you. Public workbooks are available to users who have access permissions to the TM1 Server Application folder where you published the workbook.

Note: Public workbooks can be viewed only by users with sufficient data access and security permissions. If you are unable to view a public workbook or if another user is unable to view your public workbook, have your administrator review the [data access and security](https://www.ibm.com/support/) (<https://www.ibm.com/support/>)

knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.prfmdl_ug.2.0.0.doc/c_prfmdl_data_access_and_security.html) permissions for their user groups.

Lists and Exploration Views are displayed as static websheets in TM1 Web and IBM Planning Analytics Workspace. Data is not read from the TM1 Server Application folder and so doesn't change when the data on the server changes.

Custom Reports, Quick Reports, and Dynamic Reports are displayed as live websheets. A live websheet maintains its connection to the TM1 Server Application folder. If the data on the server changes, the live websheet reflects the change.

You can use subfolders to organize workbooks. You can rename or delete folders and workbooks that you created.

For example, you can publish a workbook that is called Budget Plan to a TM1 Server Application folder called Planning Sample in a folder called Budget. In TM1 Web, you can open the budget plan report by connecting to the Planning Sample server and browsing to **Applications > Budget**. The workbook is displayed in TM1 Web as a static websheet.

Note: For information about publishing a worksheet to a IBM Cognos Analytics system, see [“Publish an exploration to IBM Cognos Connection”](#) on page 96.

Procedure

1. On the IBM Planning Analytics tab, click **Publish**.
2. Select a TM1 connection.
3. Select a TM1 Server Application folder.
4. Select a folder or create a new folder.
5. Type a name for the workbook.
6. Optional: Enter a description.
7. Click **Publish**.

By default, newly saved workbooks are private. Right-click the workbook in the **Publish** dialog box and click **Make Public** to make the workbook public.

Publish a workbook to IBM Cognos Connection

Publish your IBM Planning Analytics for Microsoft Excel-enabled workbooks to IBM Cognos Connection to share them with other users in a secure and centrally managed way. Users can refresh the data based on their user authentication privileges in IBM Cognos Analytics.

You can also automate this task by using the Publish method. For more information, see <https://ibm.github.io/paxapi/#publish>.

If users do not have IBM Planning Analytics for Microsoft Excel installed, they can view the document and its contents, but they cannot refresh the data or update the contents.

For information about publishing TM1 workbooks to a TM1 Server Application folder, see [“Publish a workbook to a TM1 Server Application folder”](#) on page 94.

Procedure

1. Open the workbook.
2. Choose whether you want to save your workbook with recent data:
 - To save the workbook with the most up-to-date data, on the IBM Planning Analytics tab, click

Refresh All Data 

- To save the workbook as a template without data, on the IBM Planning Analytics tab, click **Clear** , then choose the appropriate option.

3. On the IBM Planning Analytics tab, click **Publish** .
4. If prompted, click your namespace and type your user name and password.
5. In the **Look in** box, click the IBM Cognos Analytics system where you want to publish the workbook.
6. Choose the type of folder in which you want to save the workbook:
 - To save the workbook in a public folder, click **Public Folders**.
 - To save the workbook in a private folder, click **My Folders**.
7. In the **Name** box, type the name of your workbook.
8. If you want, in the **Description** box, type a description for the workbook.
9. Click **Open**.

Results

The workbook is published to IBM Cognos Connection.

Publish an exploration to IBM Cognos Connection

Publish your Exploration View or list to IBM Cognos Connection to make it available to other users.

Only the exploration in the currently active worksheet is published to IBM Cognos Connection.

For information about publishing workbooks to a IBM Cognos Analytics server, see [“Publish a workbook to IBM Cognos Connection”](#) on page 95.

Before you begin

Your system administrator must first give you the capability to publish reports to IBM Cognos Connection.

Procedure

1. Create and save your workbook.
2. Go to the tab that contains the exploration that you want to publish.
3. On the IBM Planning Analytics click **Publish** .
- The **Publish** dialog box is displayed.
4. In the **Connection** box, click the system where you want to publish the exploration.
5. Choose the type of folder in which you want to save the exploration:
 - To save the exploration in a public folder, click **Public Folders**.
 - To save the exploration in a private folder, click **My Folders**.
6. In the **Name** box, type a name.

The default is the name of the saved workbook.
7. In **Description** box, type a description for this report.
8. Click **Open**.

Results

The exploration is saved to IBM Cognos Connection.

Work with dimensionally modeled relational (DMR) and OLAP data

For IBM Planning Analytics for Microsoft Excel, data items are organized hierarchically. Dimensional data sources include OLAP data sources and dimensionally modeled relational (DMR) data sources. The source tree provides a hierarchical-based view of the data.

Note: The names of levels and members in a dimension come from the model. It is the responsibility of the modeler to provide meaningful names.

1. Package

Packages are subsets of a model, containing items that you can insert in a report.

2. Dimension

Dimensions are broad groupings of descriptive data about a major aspect of a business, such as products, dates, or markets. The Information dimension includes additional objects, such as System Name and Package Name that you can also drag into the worksheet.

Tip: Ensure that all of the dimensions that you use in a report are from the same cube that was used to create the report. Using dimensions from outside of this cube can cause object reference errors.

3. Level hierarchy

Level hierarchies are more specific groupings within a dimension. For example, for the **Years** dimension, data can be organized into smaller groups, such as **Years**, **Current Month**, and **All Dates**.

4. Members folder

Members folders contain the available members for a hierarchy or level. For example, the **Members** folder for the **Years** level hierarchy contains everything found in the **Year**, **Quarter**, and **Month** levels.

5. Level

Levels are positions within the dimensional hierarchy that contain information at the same order of detail and have attributes in common. Multiple levels can exist within a level hierarchy, beginning with a root level. For example, the **Years** level hierarchy has the following related levels.

*Table 8. Example of related levels for the **Years** level hierarchy*

Level	Level name	Description
Root	Years	The root level.
First	Year	Years in the Years root level. For example, 2004, 2005, and 2006.
Second	Quarter	Quarters for each year in the Year level. For example, 2004 Q1, 2004 Q2, and 2004 Q3.
Third	Month	Months for each quarter in the Quarter level. For example, Jan, Feb, and Mar.

Note: The **Measures** dimension, which is not shown in the table, contains the measures available in the data source.

Chapter 7. Explore TM1 data

Create, explore, and share views and reports using TM1 data. You can also use TM1 functions, sets, and modify TM1 data for your reports.

Exploration Views and lists

Use Exploration Views and lists to quickly change how you view performance measures and to show detailed information from your database in rows and columns.

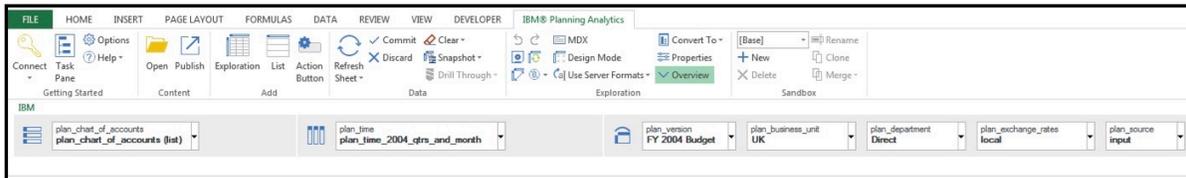
To explore IBM TM1 data by using an Exploration View or list, select an IBM Planning Analytics data source and choose items from that data source to place in the rows and columns of the Exploration View or list.

Note: The **Format as Table** feature in Microsoft Excel should not be used with an Exploration View or list. Formatting an Exploration View or list as a table will cause issues with the ability to refresh the data.

Before you can create an Exploration View or list, the administrator must create a TM1 data source and publish it to a location to which you have access. The administrator must also configure your access privileges.

Administrators can create data sources and assign access privileges in IBM Cognos TM1 Performance Modeler or IBM Cognos TM1 Architect.

When you create or open an Exploration View or list, you'll notice that the IBM Planning Analytics with Watson ribbon changes, and includes an Exploration group and an Overview bar.

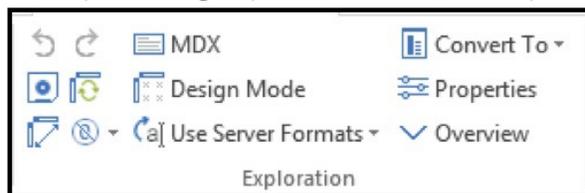


The **Overview** bar is displayed when you are viewing an Exploration View or a list. Use the overview area as a convenient place to quickly explore and change the contents of the Exploration View or list. For Exploration Views, the overview area displays the Rows, Columns, and Context areas. You populate the Exploration View with data by adding items from the data source to these areas. The items that you place in the context area are used to filter the values. Each box in the rows, columns, and context area represents a set of data in the data source.



Note: If you are opening an existing Exploration View, the data in the Context area is not automatically updated and synced with its underlying TM1 model. To ensure that the Context data is updated with any metadata changes in the TM1 model, perform a manual refresh of the Exploration View.

The Exploration group contains tools, which you can use to work with your Exploration View or list.



 **Undo** - Use the **Undo** tool to undo your last action.

Note: By default, you can undo up to 15 actions. Your undo limit can be changed in the  **Options** dialog.

 **Redo** - Use the **Redo** tool to redo your last action.

 **Save View** - Use the **Save View** tool to save an Exploration View or list.

 **Reset** - Use the **Reset** tool to reset an Exploration View or list. This action will clear your Exploration View or list.

 **Swap Rows and Columns** - Use the **Swap Rows and Columns** tool to swap the rows and columns of an Exploration View for a different view of your data. To learn more, see [“Swap rows and columns” on page 107](#).

 **Suppression Type** - Use the **Suppression Type** tool to suppress/hide zeros in the rows, columns, rows and columns, or apply no suppression at all.

 **MDX** - Use the **MDX** tool to view or edit the MDX of the report.

 **Use Server Formats** - Use the **Use Server Formats** tool to use server formats when you refresh an Exploration View or list. This tool will remove custom formatting on refresh.

 **Convert To** - Use the **Convert To** tool to convert an Exploration View to a Quick Report, Dynamic Report, or Custom Report. To learn more, see [“Converting a report” on page 79](#).

 **Properties** - Use the **Properties** tool to set properties for an Exploration View or a list that are specific to a worksheet. To learn more, see [“Set properties” on page 115](#).

 **Overview** - Use the **Overview** tool to show or hide the **Overview** bar.

Create a list

Use list explorations to show detailed information from your database, such as customer lists or product lists.

A list exploration is a report that shows data in rows and columns. You can create a list, for example, to look up the names of members in a dimension and then reference the members in another worksheet where they can be used for setting parameters.

Related concepts

[“Insert blank columns” on page 101](#)

Insert a blank column into a list to create white space or to add cell-based calculations. You can use the new column to insert any Microsoft Excel calculation, such as AVG, MIN, or MAX and you can reference cells both inside and outside the list.

Related tasks

[“Create a list” on page 101](#)

[“Insert members” on page 103](#)

[“Suppress empty cells” on page 101](#)

[“Create a calculated column or row from scratch” on page 116](#)

[“Nest rows or columns” on page 105](#)

[“Change the cube or datasource used by an exploration” on page 117](#)

You can change the cube or datasource that is used by an exploration.

Create a list

When you create list, you begin with a blank list and then drag items from the Task Pane onto the list.

Before you begin

Ensure that you have access to an IBM Planning Analytics data source. The administrator has configured your access privileges.

Procedure

1. Log on to a TM1 system and select a data source.
For more information, see [“Open a model or package ” on page 39](#).
The source tree in the Task Pane displays the cube and related items of the data source, such as views.

2. On the IBM Planning Analytics tab, click  **List**.
3. Add members to the list.
Drag dimensions, sets, or members from the Task Pane to the **Columns** drop zone.

Insert blank columns

Insert a blank column into a list to create white space or to add cell-based calculations. You can use the new column to insert any Microsoft Excel calculation, such as AVG, MIN, or MAX and you can reference cells both inside and outside the list.

Right-click a column header in the list where you want to insert a column, and click **IBM Planning Analytics > Insert user row/column**.

A blank column is added next to the selected column.

Suppress empty cells

Sparse data can result in lists showing empty cells. To remove sparse data in a list, you can suppress empty cells that contain a null or zero value.

Procedure

1. On the **IBM Planning Analytics** tab, click  **Suppression type**.
2. Click **Suppress Rows Only**.

Results

Suppressed items are hidden.

Note: To remove suppression, repeat step 1 and click **No Suppression**.

Create an Exploration View

You can explore IBM TM1 data with Exploration Views.

Use Exploration Views to quickly change how you view performance measures, such as revenue or budgeted production costs.

You can compare and manipulate data so that you can better understand relationships between data and the relative importance of individual data items. Whether you want to assess revenue growth or to identify top performers, IBM Planning Analytics for Microsoft Excel provides the filtering and sorting support you need for exploration and write back.

If you are already comfortable with exploration fundamentals, you may want to refine your Exploration View by using tasks such as manipulating the rows and columns, adding calculations, and sharing the results. For more information, see [“Nest rows or columns” on page 105](#), [“Add calculated rows and columns” on page 106](#), and [“Publish a workbook to a TM1 Server Application folder” on page 94](#). You can also edit data in Exploration Views. For more information, see [“Edit data” on page 110](#).

Note: Worksheets containing an Exploration View can only contain the single Exploration View. Combining other report types in a worksheet containing an Exploration View is not supported.

Create an Exploration View

Create an Exploration View by using a view

You can create an Exploration View from a view. Views are listed in the source tree in the Views folder.

This video demonstrates how to create an Exploration View by using a view: https://youtu.be/F3wo_N97aVg

Before you begin

You have access to an IBM Planning Analytics data source. The data source includes views. The administrator has configured your access privileges.

Procedure

1. Log on to a TM1 system and select a data source.
For more information, see [“Open a model or package ” on page 39](#).
The source tree in the task pane displays the cube and related items of the data source, such as views.
2. Expand the **Views** folder.
3. Use one of the following methods to create an Exploration View.
 - Drag a view onto a blank Exploration View.
 - Right-click a view and click **Exploration > On new sheet**
 - To replace an existing Exploration View, drag a view onto the Exploration View. Or, right-click a view and click **Replace Exploration**.
 - To convert a list to an Exploration View, drag a view onto the list.
4. Click Save to save your view. You can choose to save it as a private view, this is then available from a folder called Private views, below the Views folder in the source tree.

Create an Exploration View from scratch

Creating an Exploration View allows you to fully customize how your report looks and what your report analyzes. Creating an Exploration View from scratch is as easy as starting with a blank Exploration View and dragging items from the source tree onto the Exploration View.

Before you begin

Ensure that you have access to an IBM Planning Analytics data source. Access privileges are configured by your administrator. If you do not have access to a data source, speak with your administrator.

[Watch this video to see how you can create an Exploration View.](#)

About this task

Procedure

1. Log on to a TM1 system and select a data server.
For more information, see [“Open a model or package ” on page 39](#).

The source tree in the task pane displays the cube and related items of the data source, such as views.

2. On the **IBM Planning Analytics** tab, click **Exploration**  .
An Exploration View is created on a new worksheet.
3. Add members to the rows and columns. For more information, see [“Add objects to rows, columns, and the context area”](#) on page 104.
Tip: You can use a view to build an Exploration View. In the source tree, expand **Views** and drag a view onto the Exploration View.
4. Optionally, add members to the context area.

Insert members

You can insert members from the source tree to the rows and columns in an Exploration View that uses TM1 data. You can also insert members to a column in a list that uses TM1 data.

About this task

You can control how members are inserted by setting the insert option in the Task Pane . You can use the following insert options.

- **Insert single member**, which inserts the selected member.
- **Insert member with children**, which inserts the selected member and its components to one level as a dynamic set.
- **Insert member with descendants**, which inserts an item and all levels of its component items as a dynamic set.
- **Insert member with ancestors**, which inserts an item along with all its related components as a dynamic set.
- **Insert member with inputs**, which inserts an item and its input or leaf items as a dynamic set.

You can also simultaneously insert all the members of a level [“Insert all the members of a level”](#) on page 104. In an Exploration View, you can also insert members from different levels of the same dimension [“Insert members from multiple levels of a dimension”](#) on page 103.

For groups of members that you use frequently, you can create a set to make selection of them easier. For more information about sets, see [“Create and edit sets”](#) on page 137.

Procedure

1. In the Task Pane, click  and select the required option.
2. In the source tree, select the members that you want to insert.
3. Drag the members to the desired location in the exploration.

To add a member to the members that already exist in an Exploration View, hold down the Ctrl key when dropping items into the drop zones. A highlighted bar indicates where you can drop the item.

You can use Shift+click or Ctrl+click to select multiple members in a dimension and then drag them to the exploration. When selecting multiple members, the selected members are placed in the Exploration View in the order that you click them. To avoid rearranging members after you drag them into the Exploration View, click the members in the order of placement that you want.

Insert members from multiple levels of a dimension

For a mixed comparison, you can position members from different levels of a dimension adjacent to each other in a TM1 Exploration View.

About this task

You can select members from a single dimension in the source tree. You can select both contiguous and noncontiguous members from different levels.

After you select members, you can drag the members to the Exploration View.

For groups of members that you use frequently, you can create a set to make selection of them easier. For more information on sets, see [“Create and edit sets” on page 137](#).

Procedure

1. In the source tree, expand the dimension to locate the members that you want to insert.
2. Use Shift+click or Ctrl+click to select multiple members in a dimension and then drag them to the Exploration View.

Tip: When selecting multiple members, the selected members are placed in the Exploration View in the order in which you click them. To avoid rearranging members after you drag them into the Exploration View, click the members in the order of placement that you want.

Results

The members are displayed in the Exploration View.

Insert all the members of a level

You can simultaneously insert all the members of a level into a TM1 Exploration View. Levels define the way data is grouped in dimensions.

About this task

Use this technique to insert members at the same level from multiple consolidated members.

For example, a Region dimension might contain levels for region, country, and city. You can click a single country and instantly insert every country in the Region dimension into the Exploration View.

Procedure

1. In the source tree, expand a single member that contains the detail that you want in the Exploration View.
2. From the **Levels** item, drag the level to the drop zone.

Results

The members are inserted into the Exploration View.

Note: You can also insert a level using the source tree. In the source tree, expand a dimension, expand **Levels**, and then drag a level to the Exploration View.

Add objects to rows, columns, and the context area

Select the data that you want to appear in the TM1 Exploration View. You can insert dimensions, members, and subsets.

Alternatively, you can use a view to populate the Exploration View.

Before you begin

You can add or remove dimensions, members, and subsets to the rows, columns, and context areas of an Exploration View.

The rows and columns areas are continuously expressive; when you add or remove a dimension, member, or subset to the rows or columns areas, the sheet is updated to reflect your changes and calculations from a calculated row or column are preserved.

The context area is not continuously expressive; if you move a calculated row or column to or from the context area, the calculations are not preserved. For more information on calculated rows and columns, see [“Add calculated rows and columns” on page 106](#).

Procedure

1. Create an Exploration View using an IBM Planning Analytics with Watson.
2. To use a view to populate the Exploration View, in the source tree, expand **Views** and drag a view onto the Exploration View.

Or, in the source tree, expand a cube, and then drag a dimension, member, or set to the drop zones.

Note: You cannot add a dimension, member, or set from the top level **Dimensions** node in the source tree.

- a. Drag a dimension, member, or set to the **Rows** drop zone.
- b. Drag a dimension, member, or set to the **Columns** drop zone.
- c. Drag dimensions, members, or sets to the context area. This step is optional. Use the context area to filter the data in the Exploration View. For example, to filter the data by product, drag a member of the Products dimension to the context area.

When you drag a member to a drop zone, the member and its children are inserted by default. For more information about inserting members, see [“Insert members” on page 103](#).

For example, to display a dimension called Retailers in the rows, click the Retailers dimension in the source tree and drag the dimension to the **Rows** drop zone.

3. Save your workbook.

Results

Members are displayed in the rows and columns of the Exploration View.

Columns and rows

Nest rows or columns

You can nest rows and columns in an Exploration View to compare information from more than one dimension in a column or row. For example, an Exploration View shows the sales by product line for the past fiscal year. You can nest a row to further break down the sales by order method.

You can also nest columns in a list.

In the overview area, you can drag the boxes that represent the nested items to change the nesting order.

Procedure

1. In the source tree, click the item that you want to insert. You can select a dimension, a set, or one or more members in a dimension.
2. Drag the item to the location in the **Rows** or **Columns** drop zone that you want. Or drag the item onto the exploration in the location that you want.

A highlight bar indicates where you can drop the item.

Insert blank columns or rows

Insert a blank column or row into an Exploration View to create white space or to add cell-based calculations. You can use the new row or column to insert any Microsoft Excel calculation, such as AVG, MIN, or MAX.

About this task

Depending on the type of data, such as relational or asymmetric you experience very different results. Experiment with different approaches to see what makes sense in your environment.

After you insert a row or column into an Exploration View, the rows or columns are separated into two distinct blocks of items before and after the inserted row or column. If you want to use the **Expand level / Collapse level** feature, you must do so for each block separately.

Procedure

1. Right-click a column or row header in the Exploration View where you want to insert a column or row.

If the Exploration View area expands, make sure that it does not overwrite items.

2. Click **IBM Planning Analytics > Insert user row/column**.

A blank column or row appears next to or under the selected column or row.

Results

The blank row or column is added to the Exploration View.

You can leave the row or column blank. You can also populate the blank column or row with a Microsoft Excel calculation. For more information, see [“Create a calculated column or row from scratch” on page 116](#).

Add calculated rows and columns

Insert a calculation to make your Exploration View more meaningful by deriving additional information from the data source. For example, you create an invoice, and you want to see the total sales amount for each product ordered.

About this task

In addition to simple arithmetic calculations, you can perform the following calculations:

% Of

Calculates the value of a selected member as a percentage of another member, for example, fourth quarter as a percentage of the whole year or actual as a percentage of target.

% Change

Calculates the change in value of a selected member as a percentage, for example, growth from year to year or variance from target.

% Of Base

This calculation is available only if you select two members from different hierarchies, one on rows and the other on columns, for example, each region's contribution (on rows) to a yearly total (on columns).

% Of Parent

This calculation is available only for TM1 data. The % of Parent calculation is available only if you select two members from different dimensions, one on rows and the other on columns. % Of Parent calculates the value of a selected member as a percentage of its parent, for example, January sales as a percentage of sales for the whole year.

After you insert a calculation into an Exploration View, the rows and columns are separated into two distinct blocks of items before or after the inserted row or column. If you want to use the **Expand level / Collapse level** feature, you must do so for each block separately.

When calculations in the rows and columns of an Exploration View intersect, calculations are performed in the following order:

- Addition or subtraction
- Multiplication or division

If both calculations have the same precedence, for example, if they are both functions, then the row calculation takes precedence.

For information about adding Microsoft Excel calculations, see [“Create a calculated column or row from scratch”](#) on page 116.

Procedure

1. Right-click the columns or row headers that you want to use in the calculation.
2. Click **IBM Planning Analytics > Insert calculation** and select the calculation that you want to perform.

Note: Calculations that are not applicable to the items you selected are grayed out.

Results

The calculated row or columns appears in the Exploration View. You can rename the calculated column or row. You can also move the calculated column or row.

Note: To remove a calculation, delete the row or column that contains the calculation from the spreadsheet.

Swap rows and columns

You can swap rows and columns for a different view of your data. For example, the rows contain quarters of the fiscal year and the columns contain products. To track trends over time more easily, you can swap them so that the rows contain products and the columns contain quarters.

Note: When you swap rows and columns in a TM1 Exploration View, sorting and top or bottom filters are removed.

Procedure

Click **Swap Rows and Columns**  on the toolbar.

Tip: You can also use the overview area to swap individual items on rows and columns by dragging the items from one area to the other.

Sort rows by values

Sorting rows by values makes it easier for you to organize and analyze your data.

Procedure

1. Right-click the column header cell then click **IBM Planning Analytics > Sort by values**.
2. Select a sort option.

Results

In the overview area, a symbol appears in the columns box to indicate a sort is applied. To remove a sort, right-click the header cell then click **IBM Planning Analytics > Sort by values > Remove**.

Note: When you swap rows and columns, a sort is removed.

Filter data using the context area

You can filter the data in a TM1 Exploration View using the context area. You can filter using dimensions, members, and sets.

About this task

Changing context changes the values that appear. It does not limit or change the members in the rows or columns.

For example, you have an Exploration View showing products in the rows and months in the columns. To change the context to Asia, you drag Asia from the source tree to the **Context** drop zone in the overview area. The Exploration View then shows only the values for Asia.

You can filter using multiple values in the context area. For example, you can drag Asia and Franchise Stores to the context area. The Exploration View then shows only the values for franchise stores in Asia.

Procedure

1. Create an Exploration View using a TM1 data source.
2. In the source tree, select one or more items to filter on.
 - To filter using a dimension, select the dimension. The default member of the dimension is used for the filter.
 - To filter using a set, expand the dimension, expand **Subsets**, and select a set. The default member of the set is used for the filter.
 - To filter using a member, expand the dimension, expand **Members**, and select the member.
3. Drag the item you selected to the **Context** drop zone.

Results

The values in the Exploration View are filtered using the items you selected.

Notice that each item has a down-arrow beside it. Click the down arrow to see options for deleting or changing the context member. For example, if you filtered using a set, you can click the down-arrow to select a different member of the set to use in the filter.

Limit members

You can limit the members that are displayed in a TM1 Exploration View using a variety of techniques.

You can use the following techniques.

- Use zero-suppression to hide rows or columns that contain only missing values. For more information, see [“Suppress empty cells” on page 212](#).
- From either rows or columns, select the members you want to show in the Exploration View, right-click the cells and select **IBM Planning Analytics > Keep**.
- Use the **Data Display Row Limit** option to limit the number of rows displayed in the Exploration View. On the **IBM Planning Analytics** tab, click  **Properties**. In the **Properties** dialog box, set the number of rows to display. For more information, see [“Set properties” on page 115](#).
- Create a set of members. For more information, see [“Create and edit sets” on page 137](#).
- Apply a filter to display the top or bottom values only. For more information, see [“Show top or bottom results” on page 109](#).

Suppress empty cells

Sparse data can result in Exploration Views showing empty cells. For example, an Exploration View that matches employees with products, results in many rows of empty values for the revenue measure if the employee does not sell those products. To remove sparse data in an Exploration View, you can suppress empty cells that contain a null or zero value.

When you are working with IBM Cognos Analytics data, totals-based suppression is applied. Totals-based suppression removes rows or columns where the total results in a null or zero value throughout the Exploration View. You cannot remove sparse data from individual rows or columns.

Procedure

1. On the **IBM Planning Analytics** tab, click  **Suppression type**.

2. Choose where to apply the suppression:

- **Suppress Rows Only**
- **Suppress Columns Only**
- **Suppress Rows and Columns**

Results

Suppressed items are hidden.

Note: To remove suppression, repeat step 1 and click **No Suppression**.

Show top or bottom results

In an Exploration View that uses an IBM Planning Analytics with Watson data source, you can apply a filter to values to display only the top or bottom results.

About this task

You can apply a top or bottom filter in the following ways.

- Show only the top results to quickly determine the highest values in your data. For example, you want to know which sales representative contributed the greatest amount to yearly sales, so you apply a top percent filter.
- Show only the bottom results to quickly determine the lowest values in your data. For example, you want to know which employees spent the fewest dollars on travel, so you apply a bottom rows filter.

Procedure

1. Right-click a column header cell then click **IBM Planning Analytics > Sort by values > Top/Bottom**.
2. Select a sort option and enter a value.
 - For **Top rows** and **Bottom rows**, the value represents the number of rows to display.
 - For **Top percent** and **Bottom percent**, the value represents a percentage of the sum of all values. For example, you can type 10 to display the customers who contribute to the top 10% of revenue.
 - For **Sum of top rows** and **Sum of bottom rows**, the value represents the sum of the results you want to display. For example, you can type 10000000 to display the customers who contribute to the first 10 million dollars of revenue.

Results

In the overview area, a symbol appears in the columns box to indicate a top or bottom filter is applied. To remove the filter, right-click the header cell then click **IBM Planning Analytics > Sort by values > Remove**.

Note: When you swap rows and columns, a top or bottom filter is removed.

Drill down and drill up

You can drill down and drill up to change the focus of your analysis by moving between levels of information.

Drill down to see more detail. For example, you can drill down to the lowest-level member to examine the impact of a single aspect of your business.

Drill up to compare results. For example, you can examine revenue for a single product and then drill up to see revenue for the entire product line for comparison.

Procedure

1. To drill down or up in a single row or column, right-click a cell and then click **IBM Planning Analytics > Drill Down** or **IBM Planning Analytics > Drill Up**.
2. To drill down or up in both a row and column simultaneously, double-click the value at the intersection of the row and the column.

Edit data

You can edit data in an Exploration View that uses an IBM Planning Analytics with Watson data source, if you have Write access to the cells and the cells are editable.

Cell shading identifies the cells that you can edit.

- White: A consolidated cell.
- Gray: A derived or locked cell. You cannot edit the value.
- Green: A calculated cell.
- Dark gray: A cell with a hold applied. Place a hold on a cell to exclude it from data spreading. For more information, see [“Edit TM1 data by using data spreading” on page 153](#).

Planning Analytics for Microsoft Excel offers different ways to work with IBM TM1 data changes. You can determine how your user group is designed to operate based on the options presented on the toolbar. For example, if you have been granted Sandbox capability, you have access to the **New Sandbox** and **Delete Sandbox** options. For more information, see [“Writeback mode” on page 148](#) and [“Virtual sandbox dimensions” on page 150](#).

To edit a value in a cell, click the cell, type the new value, and then press **Enter**.

To save your changes, commit the data to the TM1 Server Application folder.

On the IBM Planning Analytics toolbar, click  **Commit**. A confirmation dialog box is displayed.

For more information, see [“Commit data in a TM1 Exploration View ” on page 113](#).

Cell formatting indicates the state of data changes.

- Bold blue font: The value in the cell has changed but has not been committed to the TM1 server.
- Orange background: The value in the cell has been committed to your sandbox, but has not been committed to Base.

After you commit the changes, the Exploration View displays the updated values in a normal font, indicating that you have saved the changes.

Layouts

You can choose the most practical layout for your Exploration View.

The following layouts are available.

Basic

This layout contains one set of rows and one set of columns.

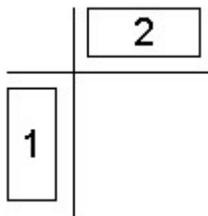


Figure 3. Example of basic sets

Nested

This layout contains sets nested either along the rows, the columns, or both.

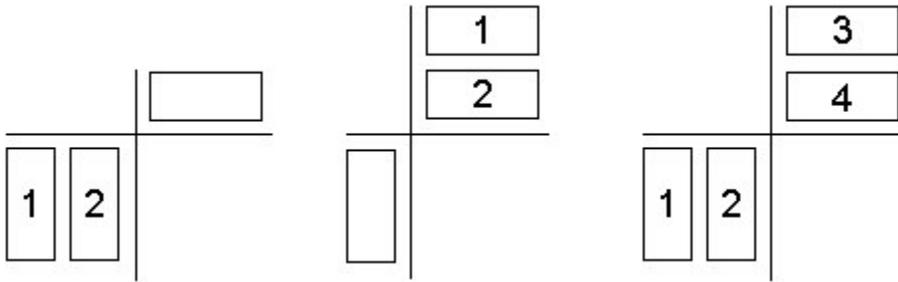


Figure 4. Example of nested sets

Stacked

This layout contains two or more sets arranged one before another on the rows, next to each other on the columns, or both.

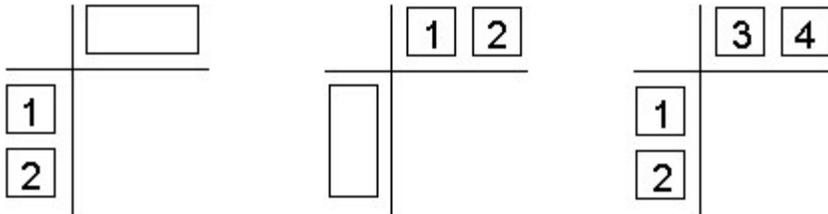


Figure 5. Example of stacked sets

Asymmetric

This layout contains both nested and stacked sets. Many combinations are possible.

To create asymmetrical nesting, nest the required sets. Right-click on an open space in the rows or columns drop zone, then click **Convert axis to asymmetric**. To revert the axis to a symmetric set, click the

Convert axis to symmetric icon , located above the rows or columns drop zone icon. You can then delete nested members from a parent without deleting the nested member from all parents. For example, you can show an actual category under previous years and show only the forecast category under the current year, because no actual is available.

Note: You can only convert an axis to asymmetric if the axis contains more than one dimension.

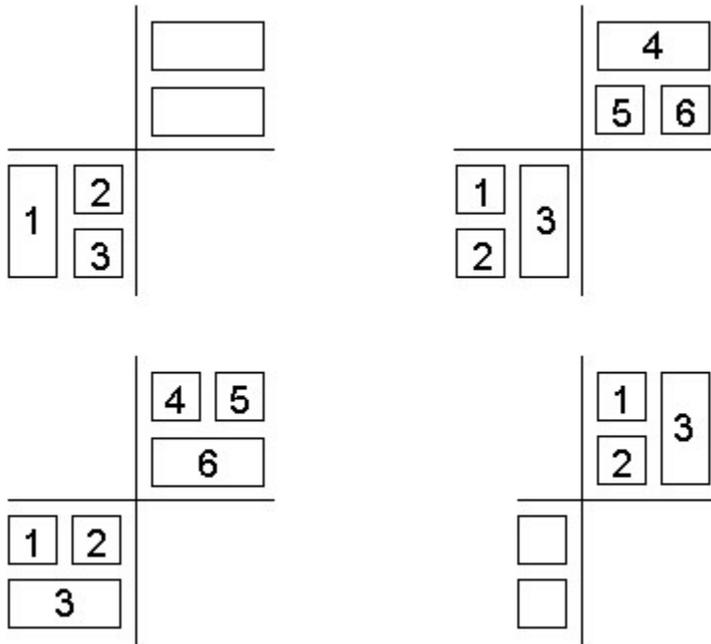


Figure 6. Example of asymmetric sets

Clearing all data from an Exploration View or list view

You can clear all data from a specific Exploration View or list view.

MDX editor

Clearing an Exploration View or list view does not break the link to the datasource. When you clear data in an Exploration View or list view, the button to open the MDX editor is temporarily disabled. This feature prevents other users from viewing the worksheet's MDX expression, which may contain information about the datasource.

The button to open the MDX editor is enabled again if the Exploration View or list view is refreshed by the user that initially cleared the data. When the view is refreshed, the context dimensions will query for the first available member for each subset and update the selections and the MDX expression is updated.

Set element selections

Clearing an Exploration View or list view discards any set element selections. After an Exploration View or list view is cleared, set expressions are reevaluated and the set element selection is defaulted to the first entry upon refresh.

Do not clear an Exploration View or list view if the set element selection state is intended to be preserved. If the first entry is not desired as the default set element selection, structure the set in such a way that the first entry is desirable as the default set element selection, for example, the first leaf entry vs the first total.

Procedure

Use the Task Pane to clear all data (including from the rows, columns, and context drop zones), in a specific Exploration View or list view.

1. In the Task Pane source tree, expand **Current Explorations**.
2. Right-click the Exploration View or list view that you want to clear all data from.
3. Click **Clear Data**.

Commit data in a TM1 Exploration View

After you have entered values in an Exploration View, you can commit your changes to save the values to the TM1 server.

On the IBM Planning Analytics toolbar, click **Commit** ✓. A confirmation dialog box is displayed.

Note: If you have enabled **Hide commit confirmation** in the Options dialog box, the confirmation dialog box is not displayed and the values are committed to the TM1 server. If any errors are found, the Error Report dialog box is displayed.

To preview the changes, click **Preview Changes**. The Commit Preview dialog box displays the data changes, along with any errors. Click **OK**.

To commit the changes, click **Yes**. If any errors are found, the **Error Report** dialog box is displayed.

Note: You cannot undo changes after you have committed them to the TM1 server.

For information about resolving errors, see [“Resolve errors when committing data to a TM1 server”](#) on page 159.

Methods for saving an Exploration View

Planning Analytics for Microsoft Excel provides you with several different methods to save your Exploration Views. You can choose the method that suits your needs the best.

There are three ways that you can save your Exploration Views or list views. The best method for your view or report depends on where they will be opened, what type of data they need to store, and how they will be viewed.

Table 9. Feature comparison of the save types.

	Content Store	MDX view	TM1 Server view
Save location of the view	Planning Analytics Workspace Content Store	TM1 Server	TM1 Server
Can be referenced by TurboIntegrator scripts	✗	✓	✓
Can store alias information	✓	✓	✓
Can store subset information for slicer selection	✓	✓	✓
Can define static, set based or expression based set information by axis	✓	✓	✓
Can store calculations	✓	✓	✗
Can store headers	✓	✓	✗
Can define asymmetric axis	✓	✓	✗
Compatibility with Planning Analytics for Microsoft Excel	Can open and save the view	Can open and save the view	Can open and save the view
Compatibility with Planning Analytics Workspace	Can open and save the view	Can only open the view	Can only open the view
Compatibility with TM1 Web	Not compatible with the view	Not compatible with the view	Can open and save the view

MDX views

An MDX view is a named MDX expression that is stored inside of the TM1 Server. The MDX expression is used to recreate the view. An MDX view is also a known and named object inside of the TM1 Server and can be referenced by TurboIntegrator scripts. An MDX view can store calculations, headers, and other virtual elements. An MDX view can be used to define asymmetric axes.

TM1 Server view

A TM1 Server view is a well defined structure that is stored inside of the TM1 Server. A TM1 Server view's structure gives users the ability to define static, set based, or expression based set information by axis. This includes subset and alias information for all axes. A TM1 Server view can only store information about known elements; a TM1 Server view cannot store calculations or headers. A TM1 Server view cannot be used to define asymmetric axes.

Planning Analytics Workspace Content Store

Saving your Exploration Views to the Planning Analytics Workspace Content Store allows you to save an enhanced view, and share your views between IBM Planning Analytics Workspace and IBM Planning Analytics for Microsoft Excel. When you save your Exploration View to the Planning Analytics Workspace Content Store, the view is stored as an MDX expression. Just like in an MDX view, you can store calculations, headers, virtual elements and define asymmetric axes when you save your Exploration Views to the Planning Analytics Workspace Content Store. Since the Planning Analytics Workspace Content Store is outside of the TM1 Server, it cannot be referenced by TurboIntegrator scripts.

Note: To use the Planning Analytics Workspace Content Store, you must:

- Be a Planning Analytics Workspace licensed user.
- Have Planning Analytics for Microsoft Excel version 2.0.44 or newer, and Planning Analytics Workspace version 2.0.44 or newer.
- Have IBM Planning Analytics version 2.0.7 IF 3 or newer installed. It is recommended that you install IBM Planning Analytics version 2.0.8 or newer.
- Be connected to a TM1OData connection. For more information on TM1OData connections, see [Using Planning Analytics for Microsoft Excel without Performance Manager Hub](#).
- To exchange an Exploration View with Planning Analytics Workspace Local, you must enable the **ENABLE_VIEW_EXCHANGE** parameter. By enabling the **ENABLE_VIEW_EXCHANGE** parameter, you will now be required to log into Planning Analytics Workspace before you can see your list of servers. For more information on the **ENABLE_VIEW_EXCHANGE** parameter and how you can enable it, see [Configure Planning Analytics Workspace Local parameters](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.tm1_inst.2.0.0.doc/c_paw_config_file.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.tm1_inst.2.0.0.doc/c_paw_config_file.html).

This video shows you some of the features and capabilities of the Planning Analytics Workspace Content Store: https://youtu.be/B3G3_kIkJ7Q

Save to the Planning Analytics Workspace Content Store

Save your Exploration View to the Planning Analytics Workspace Content Store to share your view between Planning Analytics for Microsoft Excel and Planning Analytics Workspace.

About this task

This video will guide you through saving views to the Planning Analytics Workspace Content Store: <https://youtu.be/s796eMPgmrs>

With your Exploration View open, follow these steps:

Procedure

1. Open the **IBM Planning Analytics** ribbon.

2. Click the **Save View** icon, in the Exploration section.
3. Click **Save to Content Store**. A **Save View** dialog opens.
4. Give your view a name.
5. Define tags for your view (Optional).
6. Give your view a description (Optional).
7. Select the location where you want to save your view.
Permissions for the view are inherited from the folder that you choose to save it in.
8. Click **Save**.

Results

Your Exploration View is now saved to the Planning Analytics Workspace Content Store and can be shared between Planning Analytics for Microsoft Excel.

Open a view from the Planning Analytics Workspace Content Store

If you or a colleague has saved a view to the Planning Analytics Workspace Content Store, you can open it from Planning Analytics for Microsoft Excel.

About this task

This video will guide you through opening views from the Planning Analytics Workspace Content Store: <https://youtu.be/Cnq8zjv-3iM>

You can open a view that has been saved to the Planning Analytics Workspace Content Store.

Procedure

1. Open the **IBM Planning Analytics** ribbon.
2. Click the **View** icon, in the Add section. The **Open View** dialog opens.
3. Locate the view in the **View** pane.
4. Click the view that you want to open to highlight it.
5. Select the report type that you want the view to be opened as.
6. Click **Select**.

Results

The view is opened as the selected report type.

Set properties

You can set properties for an Exploration View or a list that are specific to a worksheet.

About this task

The settings in the Properties dialog box are specific to a worksheet. For information about setting global options, see [Chapter 5, “Settings,” on page 45](#).

In addition to changing settings, the Properties dialog box enables you to view information about the worksheet including server and package information, and the date the worksheet was created.

Procedure

1. On the IBM Planning Analytics tab, click  **Properties**.
2. To change the starting location of your Exploration View or list, type a new row number in the **Row start** box and a new column number in the **Column start** box.

3. If you are working with a TM1 Exploration View, you can choose whether to process data in either CSV or raw XML format.
 - To choose CSV format for faster processing of large data sets, in the **Request format** drop-down box, click **Unformatted Values**.
 - To choose raw XML format, in the **Request format** drop-down box, click **Formatted Values**.
4. If you are working with an IBM Cognos Analytics List, you can choose whether to process data in either CSV or raw XML format.
 - To choose CSV format for faster processing of large data sets, in the **Request format** drop-down box, click **Unformatted Values**.
 - To choose raw XML format, in the **Request format** drop-down box, click **Formatted Values**.
5. To control how labels appear in nested cells, set the **Default grouping option**.

Note: The **Default grouping option** controls how the Group / Ungroup feature works. For Exploration Views, this is the automatic setting for presentation of metadata in nested rows and columns. For lists, this determines how the Group /Ungroup menu items and buttons work. These settings override the settings in the **Options** dialog box and affect only the current worksheet. You can leave cells ungrouped when you need to use Microsoft Excel lookup functions or you can group cells to provide for greater readability. Changes to the **Grouping option** will be reflected in the worksheet immediately, whereas changes in the **Options** dialog box will only be reflected when a new Exploration View is created.

 - To merge metadata into cells that span nested items and allow for full grouping, click **Merge Cells**.
 - To repeat metadata in individual cells that span nested items, click **Repeat Labels**.
Use this option when you want to use other Microsoft Excel functions on the data.
 - To limit cell metadata and merging to minimize labels, click **Label Top Cell**.
 - To turn grouping off, click **None**.
6. To limit the number of rows displayed, set the **Data Display Row Limit** property.
7. After you are done setting options, click **OK**.

Calculated columns and rows

You can insert any Microsoft Excel calculation, such as AVG, MIN, or MAX into an Exploration View or list. You can reference cells both inside and outside the exploration.

Create a calculated column or row from scratch

You can create a column or row, containing Microsoft Excel calculations, from scratch.

Procedure

1. Insert a blank column or row.
2. Create the calculation in the first cell that applies to the inserted column or row.

You must create the formula for the calculation in the cell closest to cell A1 (the upper left most cell) of the inserted group.
3. After you have created the calculation for a single cell, from the toolbar, click **Use Server formats** to remove custom formatting.

Results

The calculation is propagated to all the inserted cells.

Tip: You can apply conditional formatting to the calculated column or row. Select the column or row. Click **Home** and then click **Conditional formatting**. Use the conditional formatting menu to choose the styles for the cells.

Insert a calculated column or row from existing columns or rows

You can use existing columns or rows in your Exploration View to create a calculated column or row.

About this task

Procedure

1. Create or open an Exploration View.
2. Select two or more column or row headers in the Exploration View.
3. Right-click any of the selected column or row headers to open the context menu.
4. Click **IBM Planning Analytics**.
5. Click **Insert calculation**.
6. Select any of the available calculations.

Results

A new column or row containing your selected calculation is created.

Rename a calculated column or row

You can rename any calculated columns or rows that you have created in an Exploration View.

About this task

By default, when you create a calculated column or row, the column or row is named after the calculation that was used. You can rename your calculated column or row by editing the column or row header.

Procedure

1. Click the header of the calculated column or row that you want to rename.
2. Type a new name for your calculated column or row.
3. Refresh the sheet.

Results

Your calculated column or row is renamed.

Note: You must refresh the sheet every time you rename a calculated column or row, otherwise you will not be able to commit your data.

Change the cube or datasource used by an exploration

You can change the cube or datasource that is used by an exploration.

Before you begin

The information area must be displayed above the Exploration View or list to complete this task. Show the information area by enabling the **Show system and package information in Exploration View or list**

sheet setting in the **Options**. Then click **Refresh**  to see the information area.

Note: Changing the cube or datasource may cause your Exploration View to refresh.

Procedure

1. Open the worksheet that contains the exploration.

2. In the information area above the exploration, double-click the cell that displays the System or Package information.
3. In the **Select package** dialog box, you can change the datasource by using the **System** drop-down to select a new datasource.
4. In the **Select package** dialog box, you can change the cube by expanding one of the models in the main pane and selecting a new cube.
5. Click **OK**.

Bulk update the datasource or TM1 instance for Exploration Views

You can bulk update the datasource or TM1 instance for multiple Exploration Views at the same time.

Before you begin

Ensure that you do not have IBM Planning Analytics for Microsoft Excel signed into any instances of IBM Planning Analytics with Watson while you are running a bulk update.

About this task

To bulk update the datasource or package for your Exploration Views, you need to use the BulkSerializeUtil command. The BulkSerializeUtil command consists of three parts:

- The path to the folder with the books that contain the Exploration Views that you want to change.
- The new datasource URI that you want your Exploration Views to get updated to.
- The TM1 model name in the new datasource URI that you want your Exploration Views to get updated to.

Your BulkSerializeUtil command has the following syntax:

```
=bulkserializeutil(`<path to folder>`,`<new datasource URI>`,`<name of new TM1 model>`)
```

Note: This function uses straight double quotation marks. Do not use curly quotation marks.

Procedure

1. Move all of the books that contain the Exploration Views that you want to update into a single folder.
2. Close any instances of Planning Analytics for Microsoft Excel and Microsoft Excel.
3. Start Microsoft Excel and open a blank book.
4. Click the IBM Planning Analytics with Watson tab.
5. In a cell, enter the BulkSerializeUtil command.
6. Save the sheet to preserve the changes.
7. Refresh the sheet to see the changes applied.

Results

Your screen might flash as the command is being run. When the command is complete, a message is returned in a cell, containing information about the results of the command. The results have the following syntax:

```
<#> Results - Success: <#> Failed: <#> Unknown: <#>
```

- Success indicates that the Exploration View was successfully updated.
- Failed indicates that the Exploration View failed to update.
- Unknown indicates that there was an unknown issue.

Quick Reports

You use Quick Reports to work with IBM TM1 data in Microsoft Excel in a more dynamic way.

You can combine data from multiple data sources in a Quick Report and then enhance the data by using Microsoft Excel formulas, formats, and cell references. When you create or open a Quick Report, the names of the dimensions used in the Quick Report are automatically displayed at the top of the report.

Create a Quick Report

You can create a Quick Report from an Exploration View or from an existing view in the Task Pane.

This video demonstrates how to create Quick Reports: <https://youtu.be/dgqa0A-Ng94>.

After you create a Quick Report, you can change or add members, format the cells, and create charts from the data. For example, you can change members and data using options such as typing the name of a different member in a cell.

You can combine multiple Quick Reports on the same worksheet. Each Quick Report can be based on a different data source. You can provide unique perspectives by creating calculations that reference multiple Quick Reports. Another useful option for multiple Quick Reports on the same worksheet is to use cell references to apply the same filter to more than one Quick Report. For example, you create three Quick Reports on a worksheet to show different views of financial performance by region. The region name appears in cell B4 in the context region on the first Quick Report. In the second and third Quick Reports, you change the region name cell to a cell reference to cell B4. After you create the cell references, you update the first worksheet to show data for a different region, either by dragging a different region to cell B4 or by typing a region name in cell B4. When you refresh the data, all Quick Reports show data for the new region.

Sets are a useful tool for building explorations and Quick Reports with TM1 data. For more information about creating sets, including dynamic sets that can automatically reflect changes in a dimension, see [“Create and edit sets” on page 137](#).

Quick Reports regions

Each Quick Report includes four regions: rows, columns, context, and data. Each region is a named range in Microsoft Excel. For example, the defined name for the rows region of the first Quick Report you add to a worksheet is tm1_O_R. You can use the names when you use Microsoft Excel features such as creating formulas.

To highlight a region on the worksheet, from the Task Pane, right-click a Quick Report in the **Quick Reports** folder and select a region from the **Show Regions** list.

Create a Quick Report

You use a view, Exploration View, or a Quick Report to create a new Quick Report.

A worksheet can contain more than one Quick Report. For information on converting an Exploration View to a Quick Report, see [“Converting a report” on page 79](#)

Create a Quick Report from the source tree

You can create a Quick Report from a view in the source tree of the Task Pane.

1. Log on to a TM1 system and select a data source. For more information, see [“Open a model or package” on page 39](#).
2. Click Task Pane to open the Task Pane. The source tree in the Task Pane displays the cube and related items of the data source, such as views.
3. Expand the **Views** folder.

4. Use one of the following methods to create a Quick Report.

- Drag a view onto a worksheet.

Note: You can also create a Quick Report by dragging an Exploration View from the **Explorations** folder onto a worksheet or by dragging a Quick Report from the **Quick Reports** folder.

- Right-click a view, click **Quick Report**, and select where to place the Quick Report.

Quick Report formatting

By default, a Quick Report that is created from a view in the source tree will use Excel formatting. You can apply server formatting to an existing Quick Report from the Task Pane.

1. Open the Task Pane.
2. Click the **Workbook** tab.
3. Right-click the Quick Report that you want to apply server formatting to.
4. Click **Use server formats**.

Alternative, if you want to use server formats for all future Quick Reports, you must enable **Use server formatting** in the Quick Reports settings. For more information, see [“Use server formatting”](#) on page 62.

Clearing all data from a Quick Report

You can clear all data from a specific Quick Report.

About this task

Use the Task Pane to clear all data from a specific Quick Report.

Procedure

1. In the Task Pane source tree, expand **Quick Reports**.
2. Right-click the Quick Report that you want to clear all data from.
3. Click **Clear Data**.

Add members

You can add members to the rows and columns of a Quick Report. You can add a member from the same dimension or a different dimension.

This video demonstrates how to add members to Quick Reports: <https://youtu.be/gAXNHweN30o>

To add a row, select the cell below the last row title member, type a member name, and then click

Refresh .

To add a column, select the cell to the right of the last column title member, type a member name, and then click **Refresh**.

Note: If the **Use Type-in Refresh** option is enabled, the Quick Report refreshes automatically. You do not need to click **Refresh**. To enable type-in refresh, in the **Task Pane > Workbook** tab, right-click the Quick Report and select **Properties > Use type-in refresh**.

By default, no cell styles are applied to the added values. You can change this behavior by setting the `MapAddedRowColumnStyle` parameter in the `CognosOfficeReportingSettings.xml` file. The possible values for the parameter are as follows:

- `NoStyle`: Do not apply any cell styles to extended values
- `ServerStyle`: Apply server styles to extended values
- `LastRowColumnStyle`: Apply the styles from the last row or column to extended values

Example

Suppose that you have a Quick Report with the following members in the rows and columns:

- Columns: Total Year, Jan, and Feb in cells B7, C7, and D7
- Rows: Existing Stores Revenue, Gross Margin %, and Returns and Allowances in cells A8, A9, and A10

	Total year	Jan	Feb
Existing Stores Revenue	123,072,189	10,197,973	12,597,973
Gross Margin %	36.66%	34.72	34.88
Returns and Allowances	1,815,532	600,295	109,794

To add March to the Quick Report, type the member name, Mar, in cell E7, to the right of Feb.

To add Volume Discount to the Quick Report, type the member name, Volume Discount, in cell A11, below Returns and Allowances.

Click **Refresh** on the Quick Report toolbar. If the **Use type-in refresh** option is enabled, you do not need to click **Refresh**.

The Quick Report refreshes to show values for March and for Volume Discount.

	Total year	Jan	Feb	Mar
Existing Stores Revenue	123,072,189	10,197,973	12,597,973	13074105
Gross Margin %	36.66%	34.72	34.88	41.5098
Returns and Allowances	1,815,532	600,295	109,794	140759.6
Volume Discount	899712.4	74551.7	69551.7	95577.52

By default, the values in the new row and column are not formatted.

Replace members

Planning Analytics for Microsoft Excel includes several options for replacing members in a Quick Report.

About this task

To replace a member in a Quick Report, use one of the following options.

- To replace a member, drag an item from the Task Pane to a cell in the rows region, columns region, or context region. You can replace a member with a member from the same dimension or a different dimension.

For example, the context area shows that the Quick Report is filtered on Price. You drag a different account, Units, to the Price cell to change the context.

- To change members from the same dimension, select a cell in the rows region, columns region, or context region and from the context menu, select **IBM Planning Analytics > Replace Members**. Use the Set Editor to choose members.

For example, the Quick Report shows data for the Europe region. You can use **Replace Members** to add the Americas region. Europe and Americas are both part of the World dimension.

- To replace a member in the rows region, columns region, or context region, type the name of a different member in the cell. You must type the name as it appears in the source tree. You can replace a member with a member from the same dimension or a different dimension.

For example, the Quick Report includes a column for the S Series 2.5L Sedan model. To show data for a different model, you type S Series 3.0L Sedan in the column heading.

Procedure

1. Replace a member in the Quick Report and press **Enter**.
2. Click **Refresh** .

Note: If **Use Type-in Refresh** is enabled, you do not need to click **Refresh**.

Refresh

If the data in your Quick Report has changed, you can refresh the data to ensure that you are working with the latest data. You can refresh data in several ways.

About this task

You can refresh your entire workbook, a worksheet, a report, or just selected cells.

- To update the entire workbook, on the **IBM Planning Analytics** tab, click **Refresh All Data**.

You can choose to **Refresh the data only** or **Refresh the data and report formatting**.

If you choose to also refresh report formatting, formats are updated.

- Quick Reports update their formatting based on a per-Quick Report flag to use server formats (instead of the global flag for explorations) and update formats every time the data is pulled.
- To refresh only the current worksheet, right-click any cell on the worksheet, click **IBM Planning Analytics > Refresh > Refresh worksheet**.
- To refresh a specific report, follow these steps:
 - In a Quick Report, click .
- To refresh only specific cells, right-click a cell or range of cells, click **IBM Planning Analytics > Refresh > Refresh selected cells**.
- To refresh a Quick Report automatically when a context member changes, edit the Cognos TM1Web configuration parameters and set the `RecalcOnDataValidationChange` value to `true`.

For more information, see [Modifying TM1 Web configuration parameters](#).

- To automatically refresh values in a table when a new value is entered, enable the **use type-in refresh** option. You can enable **use type-in refresh** in the **Options** dialog. For more information, see [“Use type-in refresh” on page 62](#).

Note: The type-in refresh option works if an input is made directly to the meta data element. For example, if the user has a formula in the header cell and then changes the driver, type-in refresh will not automatically update the data. In this scenario, the user will need to do an explicit refresh to get the refreshed values based on that change.

For more information, see [“Refresh data” on page 93](#).

Publish, share, and open

You can share Quick Reports with other IBM TM1 users by publishing the workbook to a TM1 Server Application folder.

When you open a Quick Report in IBM Planning Analytics Workspace or in TM1 Web, the Quick Report is displayed as a live worksheet. A live worksheet maintains its connection to the TM1 server. If the data on the server changes, a live worksheet recalculates and reflects the changes. You can refresh or rebuild the Quick Report or the workbook by using the buttons on the worksheet toolbar.

Published Quick Reports can be used as part of a sheet built in IBM Planning Analytics Workspace.

Note:

- If the data in your Quick Report is not recalculating, ensure that the Quick Report is connected to the correct server and that the server is available.
- In order for context members in published Quick Reports to synchronize with other dimensions in IBM Planning Analytics Workspace, SUBNM formulas must be used in defining the context members.
- Quick Report cells containing user formulas are unable to write data back to the TM1 server, once they are opened in a TM1 Web application.

For more information, see [“Publish a workbook to a TM1 Server Application folder” on page 94.](#)

Delete

You can delete a Quick Report from a worksheet.

Procedure

1. In the Task Pane, **Workbook** tab, expand **Quick Reports**.
2. Locate the Quick Report you want to delete.

Tip: You can see where a Quick Report is located in a workbook. Right-click a Quick Report and select **Show Report**.

3. Right-click the Quick Report you want to delete and select **Convert to snapshot**.
4. Click **Yes**.
5. Delete the rows and columns.

Edit

You can edit data in a Quick Report, if you have Write access to the cells and the cells are editable.

If you are using server formats in the Quick Report, cell shading identifies the cells that you can edit.

- Light blue: A consolidated cell. You cannot edit the value.
- Gray: A derived or locked cell. You cannot edit the value.
- White: An editable cell.
- Dark gray: A cell with a hold applied. Place a hold on a cell to exclude it from data spreading. For more information, see [“Edit TM1 data by using data spreading” on page 153.](#)

Planning Analytics for Microsoft Excel offers different ways to work with IBM TM1 data changes. You can determine how your user group is designed to operate based on the options presented on the toolbar. For example, if you have been granted Sandbox capability, you have access to the **New Sandbox** and **Delete Sandbox** options. For more information, see [“Writeback mode” on page 148](#) and [“Virtual sandbox dimensions” on page 150.](#)

To edit a value in a cell, click the cell, type the new value, and then press **Enter**.

To save your changes, you must commit the data to the IBM TM1 server. For more information, see [“Commit data in a Quick Report” on page 124.](#)

If you are using server formats, the cell formatting indicates the state of data changes.

- Bold blue font: The value in the cell has changed but has not been committed to the TM1 server.
- Orange background: The value in the cell has been committed to your sandbox, but has not been committed to Base.

After you commit the changes, the Quick Report displays the updated values in a normal font, indicating that you have saved the changes.

Commit data in a Quick Report

After you have entered values in a Quick Report, you can commit your changes to save the values to the TM1 server.

On the Quick Report toolbar, click **Commit** ✓. The Commit Changes dialog box is displayed.

Note: If you have enabled the **Hide commit confirmation** option, the Commit Changes dialog box is not displayed and the values are committed to the TM1 server. If any errors are found, the Error Report dialog box is displayed.

To preview the changes, click **Preview changes**. The Commit Preview dialog box displays the data changes, along with any errors. To commit valid changes, click **Commit valid**. If any errors are found, the Error Report dialog box is displayed.

To commit changes without previewing them, in the Commit Changes dialog box, choose one of the following options:

- To validate and then commit only the changed data, click **Commit changes**.
- To commit all data in the Quick Report without validating the data first, click **Commit all**. If any invalid values are found, they are displayed. You then have the option to continue and just commit valid data, or to cancel and fix the invalid values.

Note: You cannot undo changes after you have committed them to the TM1 server.

For information about resolving errors, see [“Resolve errors when committing data to a TM1 server” on page 159](#).

Change the cube and datasource used by a Quick Report

You can change the cube and datasource that is used by a Quick Report.

Procedure

1. Click the worksheet that contains the Quick Report.
2. In the **Task Pane, Workbook** tab, expand **Quick Reports**.
3. Right-click the Quick Report that you want to change, and click **Properties**.
The **Properties** dialog box is displayed.
4. Click **Update...**
The **Select package** dialog box is displayed.
5. In the **Select package** dialog box, you can change the datasource by using the **System** drop-down to select a new datasource.
6. In the **Select package** dialog box, you can change the cube by expanding one of the models in the main pane and selecting a new cube.
7. Click **OK** in the **Select package** dialog box.
8. Click **OK** in the **Properties** dialog box.

Show the information header in a Quick Report

You can show or hide the header information in a Quick Report.

About this task

By default, the header information in a Quick Report is hidden. The header information includes the host URL, server name, and the cube name for the Quick Report.

For information on how to enable the information header, see [“Manually enabling features in the tm1features.json file” on page 30](#).

Dynamic Reports

You can use Dynamic Reports to create complex reports that combine the functionality of IBM TM1 with Microsoft Excel features.

Dynamic Reports are implemented through a series of worksheet functions that define the components of a form, such as context members, row members, and display properties. When you convert an Exploration View to a Dynamic Report, the functions are created for you.

Dynamic Reports support features available in explorations and Quick Reports, such as selectable context members, stacked row and column dimensions, expandable/collapsible consolidations (rows only), zero suppression (rows only), and inserting rows and columns (with some restrictions).

You can use a filter by adding the TM1RPTFILTER function, for more information, see [“TM1RPTFILTER” on page 184](#).

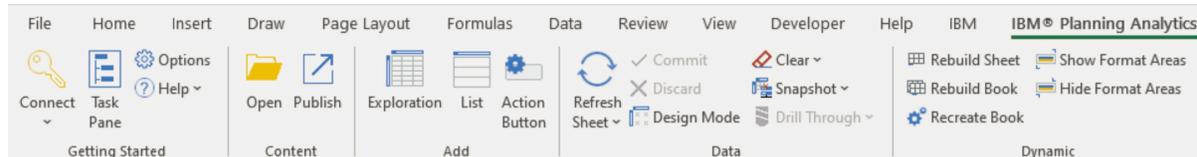
In addition, you can define dynamic formatting for the Dynamic Report by using standard Microsoft Excel format options directly in the worksheet.

Column dimensions are static in Dynamic Reports. You cannot expand or collapse consolidated column members in a Dynamic Report by clicking them. Although the column dimension members are set when you create the Dynamic Report, you can manually edit column members. When you enter a valid member name for a column member, the Dynamic Report returns values from the server.

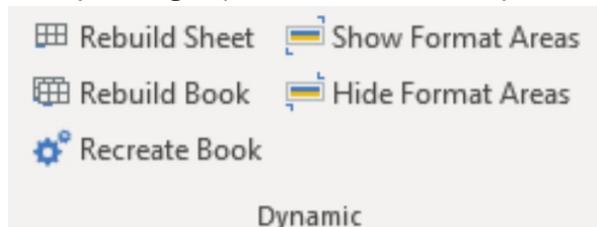
The Dynamic ribbon group

You can use the Dynamic group in the IBM Planning Analytics with Watson ribbon to perform many actions relating to a Dynamic Report.

When you create a Dynamic Report, the IBM Planning Analytics with Watson ribbon changes and includes a Dynamic group.



The Dynamic group contains tools, which you can use to work with your Dynamic Report.



 **Rebuild Sheet** - Use the **Rebuild Sheet** tool to rebuild all Dynamic Reports in the current sheet. To learn more about rebuilding in Dynamic Reports, see [“Refresh, rebuild, or recreate” on page 127](#).

 **Rebuild Book** - Use the **Rebuild Book** tool to rebuild all Dynamic Reports in the current book. To learn more about rebuilding in Dynamic Reports, see [“Refresh, rebuild, or recreate” on page 127](#).

 **Recreate Book** - Use the **Recreate Book** tool to recreate all Dynamic Reports in the current book. To learn more about recreating in Dynamic Reports, see [“Refresh, rebuild, or recreate” on page 127](#).



Show Format Areas - Use the **Show Format Areas** tool to show the format areas of Dynamic Reports in the current sheet. To learn more about format areas in Dynamic Reports, see [“Report format” on page 131](#).



Hide Format Areas - Use the **Hide Format Areas** tool to hide the format areas of Dynamic Reports in the current sheet. To learn more about format areas in Dynamic Reports, see [“Report format” on page 131](#).

Create or add Dynamic Reports

You can create a Dynamic Report from a view or Exploration View that uses TM1 data.

Before you begin

- If you are creating a Dynamic Report from an Exploration View, ensure that your Exploration View does not contain alternate hierarchies. You cannot convert an Exploration View to a Dynamic Report if the Exploration View contains alternate hierarchies.
- Clearing a worksheet that contains a Dynamic Report will not delete the named ranges. Existing named ranges in a worksheet will cause errors if you add a new Dynamic Report to the worksheet. You can either add your Dynamic Report to a new worksheet, or ensure that the worksheet that you're adding the Dynamic Report to does not contain any named ranges.

Procedure

1. To create a Dynamic Report from an Exploration View, on the IBM Planning Analytics tab, on a worksheet that contains an Exploration View, click **Convert To > Dynamic Report** and then select a location.
2. To create a Dynamic Report from a view, right-click a view in the source tree, click **Dynamic Report**, and select an option.

Results

The Dynamic Report is created in a new worksheet.

Note: If you rename the sheet that the Dynamic Report is created on, ensure that the sheet name:

- Starts with a letter, number, or an underscore.
- Does not contain any spaces.
- Does not contain any special characters.
- Does not have the same name as an existing sheet in the workbook.
- Does not resemble a cell address (for example, A\$35 or R2D2).

Add multiple Dynamic Reports

You can add multiple Dynamic Reports to your worksheet.

Before you begin

Adding multiple Dynamic Reports is a great way to view, analyze, and compare data. Before you add multiple Dynamic Reports, it is important to be aware of the following limitations:

- Use a top to bottom design approach. Additional Dynamic Reports should only be added below an existing Dynamic Report.
- Multiple Dynamic Reports cannot exist side by side and the rows of two Dynamic Reports can never overlap.
- Additional Dynamic Reports cannot be added to the left of the first Dynamic Report.

- Multiple Dynamic Reports on the same worksheet will share the same format range. To learn more about formatting a Dynamic Report, see [“Report format” on page 131](#).

Procedure

1. Select a cell below an existing Dynamic Report.
2. Right-click a view in the source tree, click **Dynamic Report**, and select **At current location** or **At specified location**.

Results

An additional Dynamic Report is added to the worksheet.

Note: If the values of your Dynamic Reports seem incorrect after adding multiple Dynamic Reports, ensure that no two Dynamic Reports have overlapping rows.

Insert a Dynamic Report section

You can insert additional sections to your Dynamic Reports.

About this task

Inserting a Dynamic Report section allows you to view, analyze, and compare multiple subsets that share the same context on a sheet.

Procedure

1. Right-click on the Dynamic Report header row.
2. Click **IBM Planning Analytics**.
3. Click **Insert Dynamic Report Section**.
4. Select the subset(s) you want to insert as a Dynamic Report section.
5. In **Number of Rows Below**, define the number of rows below the Dynamic Report that you want the Dynamic Report section to be added.
6. Click **OK**.

Results

The Dynamic Report section is added below the Dynamic Report. If you selected multiple subsets, then multiple Dynamic Report sections are added below the Dynamic Report.

Note: The dimension that is in the control row definition determines the subsets that you can choose to insert as a Dynamic Report section. If you would like to select subsets from a different dimension, you need to update the TM1RPTRW formula of the Dynamic Report.

Refresh, rebuild, or recreate

You can refresh, rebuild, or recreate a Dynamic Report.

Refresh

You can refresh a cell, the worksheet, or the workbook. When you refresh a Dynamic Report, the following actions occur:

- The existing query is run and the physical rows on-screen are refreshed. Transient states, such as toggles, are preserved.
- The data is refreshed from the TM1 server.
- The headers are updated.
- If the number of rows in the data area has changed, or if a computed value in the ID column of the report has changed, the formatting is updated.

Changes that you have made, such as drilling down or changing function parameters, are preserved.

Rebuild

When you rebuild a Dynamic Report, the following actions occur:

- The row set computations from the TM1RPTROW functions are rebuilt.
- The physical rows on-screen are refreshed. Transient states, such as toggles, are not preserved.
- The data is refreshed from the TM1 server.
- The headers are updated.
- The formatting is updated.
- The state of the TM1RPTROW functions in the Dynamic Report is updated. For example, if you change the TM1RPTROW functions to point to a different named set, rebuilding the Dynamic Report drops the existing row set, reevaluates the TM1RPTROW function against the set, and updates the Dynamic Report rows with the result.

Recreate

When you recreate a Dynamic Report, the following actions occur:

- All content across the physical row area is recreated.
- The row set computations from the TM1RPTROW functions are rebuilt.
- The physical rows on-screen are refreshed. Transient states, such as toggles, are not preserved.
- Any updates to the formatting area are fully reapplied.

You need to recreate a Dynamic Report, for example, if you change the format function of the Dynamic Report.

Refresh, rebuild, or recreate from the source tree

You can refresh, rebuild, or recreate your Dynamic Reports from the source tree.

Procedure

1. In the source tree, **Workbook** tab, expand **Dynamic Reports**.
2. Do one of the following actions:
 - To refresh the Dynamic Report, select the Dynamic Report, and then click **Refresh**.
 - To rebuild the Dynamic Report, right-click the Dynamic Report in the tree, and then click **Rebuild**.
Tip: You can also rebuild all Dynamic Reports in a workbook by pressing **ALT+F9**.
 - To recreate the Dynamic Report, right-click the Dynamic Report in the tree, and then click **Recreate**.
Tip: You can also recreate a Dynamic Report by deleting all rows except the first row, and then rebuilding the form.

Refresh, rebuild, or recreate from the IBM Planning Analytics with Watson ribbon

You can refresh, rebuild, or recreate your Dynamic Reports from the IBM Planning Analytics with Watson ribbon.

Procedure

1. In the IBM Planning Analytics with Watson ribbon, **Dynamic Reports** section, do one of the following actions:
 - To rebuild the Dynamic Report, click **Rebuild Book**.
 - To recreated the Dynamic Report, click **Recreate Book**.

2. To refresh the Dynamic Report, click the **Refresh** icon in the IBM Planning Analytics with Watson ribbon, **Data** section, and select one of the options.

Expand and collapse rows

You can expand a consolidated member in a row to view its children.

About this task

Consolidated members that are collapsed have a plus sign (+) to the left of the member name. To expand the row to view the child members, double-click the member name.

Consolidated members that are expanded have a minus sign (-) to the left of the member name. To collapse a consolidated member to hide the child members, double-click the name of the consolidated member.

When you expand or collapse a member, all instances of that member are expanded or collapsed.

Suppress or display zeros

You can selectively suppress or display rows that contain only zero values in a Dynamic Report.

About this task

Zero suppression is controlled by the value of the ZeroSuppression argument to the `TM1RPTVIEW` function. If this argument value is 1, zeros are suppressed in the Dynamic Report; if the argument value is 0, zeros are not suppressed in the Dynamic Report.

Procedure

1. Unhide the rows above the Dynamic Report until you see the cell that contains the `TM1RPTVIEW` function.
2. To suppress zeros, change the second parameter to 1. To show zeros, change the second parameter to 0.

Edit the row set

You can use the Set Editor to modify the row set in a Dynamic Report.

About this task

The rows in a Dynamic Report are defined by a `TM1RPTRROW` function, which is defined when the Dynamic Report is created. When you modify the row set by using the Set Editor, the `TM1RPTRROW` function is updated to reflect your changes.

Procedure

1. Right-click the first (top) row member in the Dynamic Report.
2. Select **IBM Planning Analytics > Edit Set**.
3. Define a set by using the options available in the Set Editor. For more information, see [“Create and edit sets” on page 137](#).
4. Click **Apply and close**.

Change context members

You can access a different view of cube data by changing a member in the context area.

Procedure

1. Double-click a member in the context area.
The Set Editor is displayed.
2. Select a member.
3. Click **Apply and close**.

Insert columns

You can insert columns in a Dynamic Report.

You can insert a column in any of the following locations.

- Directly within the Dynamic Report
- To the right of the Dynamic Report
- To the left of the Dynamic Report

Do not insert a column between two row dimensions in a Dynamic Report.

Inserted columns persist when you refresh or rebuild (ALT+F9) the Dynamic Report.

Insert rows

You can insert rows in a worksheet that contains a Dynamic Report.

You can insert a row in any of the following locations.

- Within the Dynamic Report, outside the data area
- Above the Dynamic Report
- Below the Dynamic Report

Do not insert a row between existing rows in the data area, because this disrupts the row set of the Dynamic Report.

Inserted rows persist when you refresh or rebuild (ALT+F9) the Dynamic Report.

Display the data source or package of a formula

When working in Dynamic Reports and Custom Reports, you can use more than one data source or package. You can synchronize the source tree when moving from cells of one data source or package to another. Synchronizing the source tree enables you to see accurately the dimensional data used to populate the cells.

Right-click a formula cell and click **IBM Planning Analytics > Display Package**. The Task Pane displays the package or data source that was used to create the selected cell.

Change the model and cube used by a Dynamic Report

Update the cube and datasource of a Dynamic Report to switch from a test to a production environment, for example, or to access information from a different set of financial data, such as a submission.

You need to update the formulas in the Dynamic Report to reference a new cube or datasource. If your formulas reference cells to obtain the cube and datasource name, you will need to update the referenced cells.

You need to modify the following formulas:

- TM1RPTVIEW

- SUBNM formulas for context members
- TM1RPTROW for the first row title member
- DBRW formulas for the cells in the data area

Note: You may need to unhide the rows to reveal the format range.

The first parameter of the TM1RPTVIEW formula specifies the model and cube name to use in the Dynamic Report. Make the TM1RPTVIEW formula visible by revealing the format range above the Dynamic Report so that you see the server name and data source name. Edit the TM1RPTVIEW formula to use a different server and data source. For more information on revealing the format range, see [“Report format” on page 131](#).

Context members are defined by SUBNM formulas. The first parameter of each SUBNM formula specifies the model and cube name. Modify the SUBNM formulas to use the new model and cube.

Row title members are defined by a TM1RPTROW formula in the first row title. The second parameter of the TM1RPTROW formula specifies the model and cube name. Modify the TM1RPTROW formula to use the model and cube.

Cells in the data area are populated by DBRW formulas. The first parameter of a DBRW formula specifies the model and cube name. Modify the formulas to use the new model and cube name. Or, if the DBRW formulas reference a cell containing the model and cube name, update the referenced cell.

Tip: You can modify DBRW formulas in a range of cell by using the Function Editor. For more information, see [“Modify a range of DBR and DBRW functions” on page 191](#).

Alternatively, return to the Exploration View that you used to create the Dynamic Report, change the model and cube name, and then convert the Exploration View to a Dynamic Report.

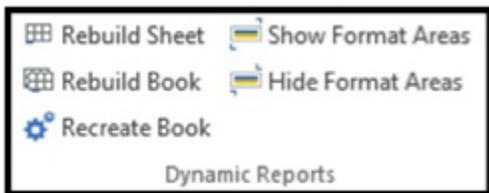
Report format

The formatting in a Dynamic Report is specified by format definitions within a format range. You can change the formatting of a Dynamic Report by changing the cell formatting of format definitions and by adding new format definitions.

You can also follow along by watching this video: <https://youtu.be/qbG98VpYPhE>

The format range is hidden by default. You must reveal the format range before you can modify the default formatting or create new format definitions. To reveal the format range, press Ctrl-A. On the **Home** tab, under **Cells**, click **Format > Hide and Unhide > Unhide Columns**. Click **Format > Hide and Unhide > Unhide Rows**. Repeat and select **Unhide Columns**. Cell A1 will now be visible. For more information about hiding and unhiding rows and columns, see the Microsoft Excel online help.

The format range can also be revealed and hidden by clicking **Show Format Areas** and **Hide Format Areas** from the IBM Planning Analytics ribbon, in the Dynamic Reports section.



Row 1 contains the Begin Format Range label. The last row of the format range contains the End Format Range label. All formatting for the Dynamic Report must be defined between these labels.

The rows between the Begin Format Range label and the End Format Range label contain the default format definitions for the Dynamic Report.

The format label column (typically column A) in the format range contains the format definition labels for each format definition. Format definition labels can be numbers, letters, or strings.

For each data row in the Dynamic Report, the format label column (typically column A) contains a format definition label, which determines the format definition to apply to the row. When you first generate a Dynamic Report, the format definition corresponding to the level of each row set member is applied. Leaf

indicates a leaf level member, while Default indicates a consolidation level greater than the number of level format definitions defined in the format range. For example, if you define format definitions for levels 0 - 5, Default defines the formatting for all other levels.

Example

For example, suppose that you have the following row set.

- World (Level 0)
 - North America (Level 1)
 - South America (Level 1)
 - Argentina (Leaf)
 - Brazil (Leaf)
 - Uruguay (Leaf)

World is a level 0 member in the row set, so the 0 format definition is applied to the World row. South America is a level 1 member, so the 1 format definition is applied. Uruguay is a leaf member of the row set, so the Leaf format definition is applied.

Format definitions

The format definitions in a Dynamic Report are applied based on the return value of an IF function in the format label column (typically column A) for each row in the Dynamic Report.

The IF function uses several worksheet functions. The basic logic of the IF function is as follows:

1. Determine whether the row member is a consolidation.
2. If the row member is a consolidation, determine whether the subset member level of the consolidation is less than or equal to the last level format definition defined in the format range.
 - If the subset member level of the consolidation is less than or equal to the defined format definitions for levels, return the subset member level.
 - If the subset member level of the consolidation is greater than the last format definition for levels, return Default.
3. If the row member is not a consolidation, return Leaf.

The following is an example of the default IF function that is created when you convert an Exploration View to a Dynamic Report. The function TM1RPTTELISCONSOLIDATED determines if the member is consolidated or not. The function TM1RPTTELLEV returns the level of the member. If the level is 6 or greater, the functions returns Default. If the member is not consolidated, the function returns Leaf.

```
=IF(TM1RPTTELISCONSOLIDATED($B$22,$B22),IF(TM1RPTTELLEV($B$22,$B22)<=5,  
TM1RPTTELLEV($B$22,$B22),"Default"),"Leaf")
```

You can change the IF function. The function must return a value that can be matched to an ID in the defined format range area. After you modify the IF function, repair the Dynamic Report to apply the formatting. For more information, see [“Apply format definitions” on page 133](#).

Modify formatting

You can modify the formatting of a Dynamic Report by modifying the cell formatting of format definitions.

When you modify the formatting of a cell in the format range, all cells in the Dynamic Report that use the corresponding format definition are updated when you rebuild or repair the form. You can use the standard Microsoft Excel cell formatting options to change format definitions.

You can also follow along by watching this video: <https://youtu.be/CuVL7yapNuM>

For example, if you modify format definition 1 by applying an orange background to cell C3 and then rebuild the Dynamic Report, all Dynamic Report rows that use format definition 1 display the orange background color in column C.

You can also modify the formatting of Dynamic Reports by modifying the named styles that are used in Dynamic Reports. When you modify a named style, all cells in a workbook that use the named style are updated. You do not need to refresh, rebuild, or repair the Dynamic Reports to apply the change.

For example, the named style that is applied by default to the first row of data in a Dynamic Report is **AF Data 0 - IBM Cognos**. If you change the fill color of this style to green, the change is reflected in all of the cells in your workbook that use the **AF Data 0 - IBM Cognos** style.

You can apply different formatting to each cell in a format definition. For example, you can apply a different background to each cell for format definition 1. You can apply an orange background to cell C3, a blue background to cell D3, and a green background to cell E3. When you rebuild the form, cells with format definition 1 display an orange background in column C, a blue background in column D, and a green background in column E.

Any text or numbers you enter in a format definition row, other than in the format label column (typically column A), are ignored. You can safely enter notes or characters to make it easy to identify the format of any cell in the format range. For example, you can add a note in cell C3 as a reminder that this cell determines the formatting for row title members.

To modify format definitions, reveal the format range, and then apply cell formatting to the cells in the format range.

Note: To reveal the format range, unhide all rows and columns in the worksheet.

To see your changes, rebuild or repair the Dynamic Report.

Create format definitions

You can create format definitions for a Dynamic Report.

About this task

Each format definition must be assigned a unique label, and all format definitions must be inserted between the Begin Format Range and End Format Range labels.

Procedure

1. Right-click the End Format Range label and select **Insert**.
2. Click **Entire Row** and then click **OK**.
A new row is inserted in the format range, inheriting the formatting of the preceding row.
3. In the first column of the format range (typically column A), enter a label for the format definition.
The label must be unique within the format range.
4. Apply formatting to the cells in the new format definition row.

Tip: You can enter notes or characters in columns other than the label column (typically column A) to make it easy to identify the format of cells in the format definition.

5. Apply the format definition to the Dynamic Report. For more information, see [“Apply format definitions” on page 133](#).
6. Rebuild the Dynamic Report by pressing **ALT+F9**.

Apply format definitions

You can apply format definitions to rows in a Dynamic Report. Apply format definitions if you have changed the label of a format definition or if you have created new format definitions.

About this task

If your Dynamic Report uses more than one format definition, the format label column (typically column A) of the first row in the Dynamic Report must contain a function that resolves to one of the format

definition labels in the format range. The format label column is set in the [TM1RPTVIEW](#) function by using a cell reference or a named range.

To maintain dynamic formatting, do not use hardcoded values when you specify format definition labels in the format label formula.

Procedure

1. Click the cell at the intersection of column A and the first data row in the Dynamic Report.
2. Modify the **IF** function to resolve to the format definition labels set in the format range.
3. Repair the Dynamic Report and view the formatting.

For more information, see [“Refresh, rebuild, or recreate” on page 127](#).

Note: If the function in column A resolves to a value that is not used as a format definition label, no formatting is applied to the Dynamic Report row.

Publish

You can share Dynamic Reports with other IBM TM1 users by publishing the workbook to a TM1 Server Application folder.

When you open a Dynamic Report in IBM Planning Analytics Workspace or in TM1 Web, the Dynamic Report is displayed as a websheet. You can refresh or rebuild the Dynamic Report or the workbook by using the buttons on the Websheet toolbar.

For more information, see [“Publish a workbook to a TM1 Server Application folder” on page 94](#).

Usage notes

Be aware of conditions and limitations when you use Dynamic Reports.

- Worksheet names must not include the dash (-) character.

Do not use a dash in the name of the worksheet that contains the Exploration View that you use to generate a Dynamic Report. Also, do not use a dash in a worksheet that contains a Dynamic Report.

- The Sort feature of Microsoft Excel is not supported for Dynamic Reports.
- Dynamic Reports require at least one row dimension.

The Exploration View or list view from which you generate a Dynamic Report must contain at least one row dimension. If the Exploration View or list view does not contain a row dimension, the **Convert to Dynamic Report** option is disabled.

Create a Custom Report

You can create reports by using TM1 worksheet functions to populate the cells of the report.

You can create a Custom Report by using the following methods:

- Converting an Exploration View to a Custom Report
- Converting a view in the source tree to a Custom Report
- Manually entering formulas to build a report

The context members of a Custom Report can be defined by using SUBNM formulas. The data cells can be defined by using DBRW formulas.

If you want to combine TM1 worksheet functions with automatic formatting, consider using a Dynamic Report. For more information, see [“Dynamic Reports” on page 125](#).

Create Custom Reports by using a view

You can create a Custom Report from a view. Views are listed in the source tree in the Views folder.

Before you begin

You have access to a TM1 data source. The data source includes views. The administrator has configured your access privileges.

Procedure

1. Select a TM1 system.
2. Log on to a TM1 server.
3. Select a data source.

The source tree displays the cube and related items of the data source, such as views.

4. Expand the **Views** folder.
5. Right-click a view, click **Custom Report** and choose an option.

What to do next

You can also create Custom Reports from a view opened in the Cube Viewer. See [“Create a report” on page 240](#).

Create Custom Report manually

You can create a Custom Report by entering formulas in cells and by dragging members from the source tree.

For example, you can drag members from the source tree for the rows and columns, and then use DBRW formulas to get data from the cube. You can define context members by using SUBNM formulas, and then reference the SUBNM cells in the DBRW formulas.

You can also copy formulas from other worksheets to build the report. For example, if the context members you need are defined on another worksheet, you can copy the cells to the formula-based report, modify the context members as needed, and reference them in the DBRW formulas.

Change the cube and datasource of Custom Reports

Update the cube or datasource that formulas reference to switch from a test to a production environment. For example, you can update the cube or datasource to access information from a different set of financial data, such as a submission.

Procedure

1. From the worksheet you want to update, log on to the datasource and select the datasource.
2. To update all formulas in the report, do one of the following steps.
 - If you are working with a Custom Report that you created from an Exploration View, edit the **Cube** in the information area above the report. Use the format `server:cube`. `server` represents the name of the datasource containing the cube and `cube` is the name of the cube.
Note: You may need to unhide the rows to reveal the format range. For more information on revealing the format range, see [“Report format” on page 131](#).
 - If you are working with a Custom Report that you created manually, modify the cells where you defined the server name and the cube name.
3. To update specific formulas, locate the formulas and modify the `server:name` parameter.

Tip: Use the Microsoft Excel search and replace function to update embedded references in the text of cell formulas.

Using data cell formulas in non-formula based reports

You can use formulas in your Exploration Views and Quick Reports.

Exploration Views and Quick Reports support the use of formulas in data cells. Formulas can be used to calculate the value of a cell and can write back to the datasource. Your formulas can also reference other cells, including calculations.

Note: Your formulas will be cleared after you commit your data. If you do not want your formulas to be cleared, ensure that the **Preserve user formulas** option is enabled. To learn more about the **Preserve user formulas** option, see [“Preserve user formulas”](#) on page 52.

Sets

Create and edit sets of members in a dimension to limit the number of members that you see in a view. You can also create sets from hierarchies.

This video shows you how to create a simple set.

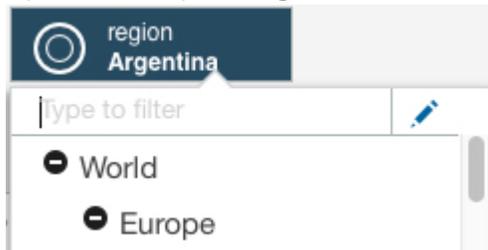
<https://youtu.be/SOf-n-aZaXU>

Edit a set for quick analysis

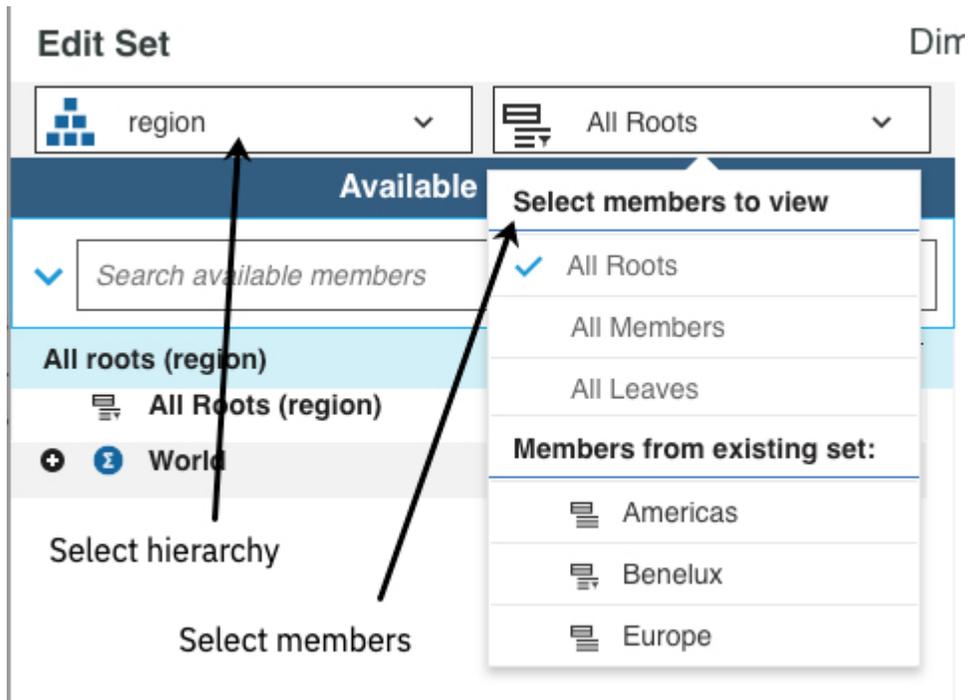
You can edit a set in IBM Planning Analytics Workspace without saving for quick ad-hoc analysis.

Procedure

1. Open the set by clicking the dimension tile in the cube view, and clicking .



2. Display the members that you want to create the set from by selecting from the **Select hierarchy** menu, and the **Select members to view** menu.



3. If your changes are simple, select the members that you want to be in the set in the **Available Members** pane, and click **Replace and close**. The set editor closes and you return to the view, displaying the members that you selected.

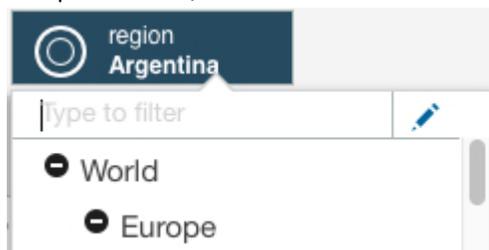
Note: The **Replace and close** button is not available when you create a new set.

Create and edit sets

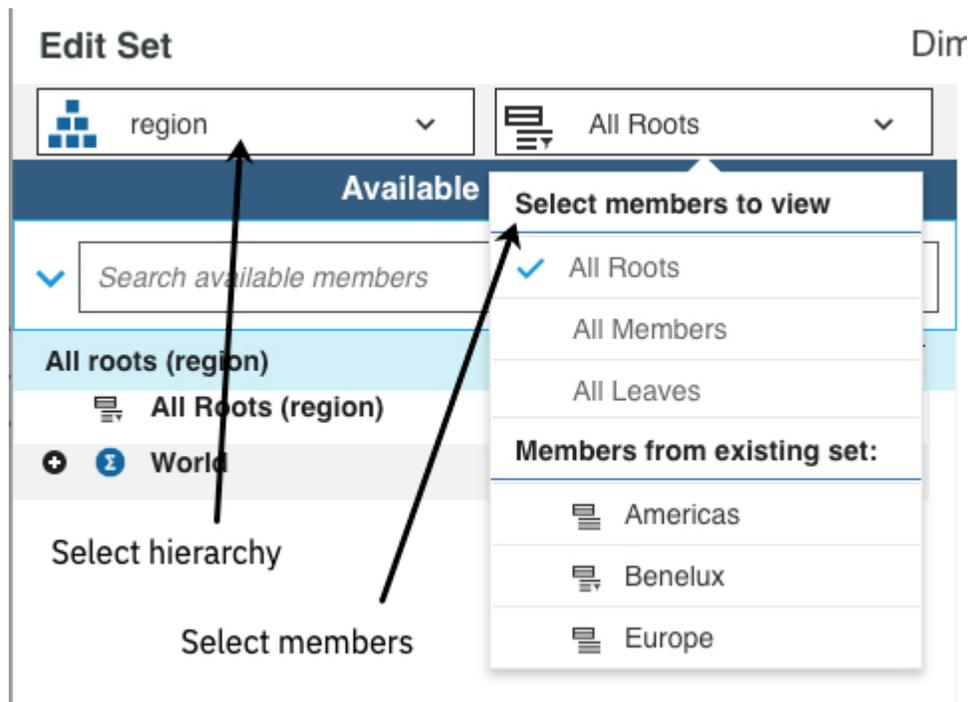
A set is a collection of members in a dimension that limits the number of members that are displayed in a view.

Procedure

1. To open the set, click the dimension tile in the cube view, and click .



2. Display the members that you want to use in the set by selecting from the **Select hierarchy** menu, and the **Select members to view** menu.



3. Select the members in the **Available members** list, then choose one of the following options to add the members to the **Current set**:

- Click  to insert the members into the current set.
- Click  to replace all of the members in the current set.
- To append the members in the **Available members** list to the members in the **Current set**, click , and then click .
- **Tip:** To control the members that are inserted into the set, click the bullet icon  and select one of these options.
 - Member only
 - Children
 - Descendants
 - Leaf nodes
 - Ancestors

Work in the Current set

4. To change the members in the **Current set**, do the following steps.

Change the position of a member

Right-click the member, then click one of the **Move** options. You can only change the position of a member if the set is static. See [“Convert a dynamic set to static”](#) on page 144.

Remove members

To remove all members from the **Current set**, click .

Keep only selected members

5. You can display the **Member ID** or the **Alias** for a member instead of the **Caption**. An alias is an



alternative name for a member. Click and select the display name type.

Apply and save your changes.

6. To save your changes as a new set that can be reused in other views, click **Save**, and give the new set a name.

Select **Share public** to share the set with other users. Clear this option to keep the set private.

7. If you are editing an existing set, you can apply the changes to your view without saving the new set configuration. Click **Apply and close**.

Filter the selection in the set editor

If you have large dimensions, you can make it easier to find what you are looking for in the set editor by filtering the selection in the **Available members** pane.

You can filter the selection in the following ways:

Restrict the content in the set editor to the selected members and their descendants

Select the members in the **Available members** pane, right-click the selection, and select **Keep**.

A selection is created that replaces **All members**. You can search in this selection, and you can use the selection to create a set.

Select one of the default sets

All roots

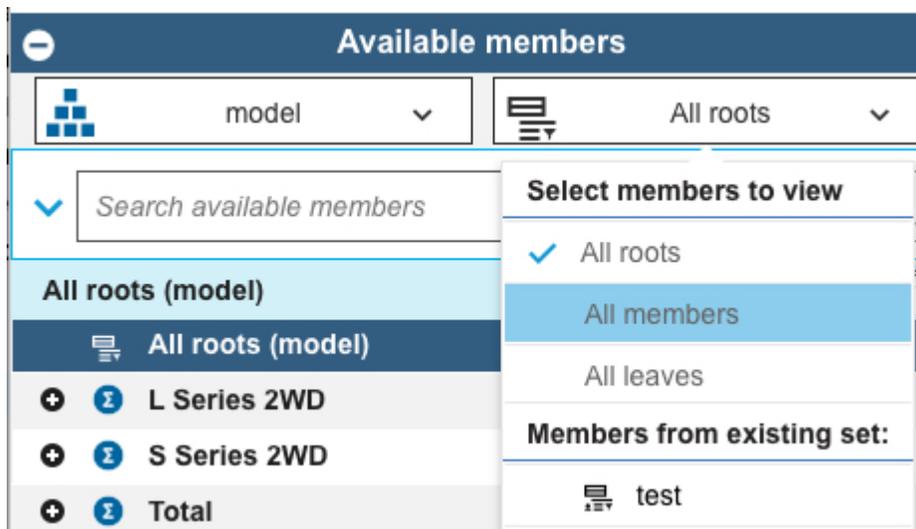
Contains the root members of the hierarchy. The leaf members are hidden but can be displayed by clicking . When **All roots** is searched, all members, including the leaf members, are searched.

All leaves

Contains the leaf members of the hierarchy. When this set is searched, only the leaf members are searched.

All members

Contains all members in the hierarchy, both consolidation and leaf members.



Drill down on one or more members

Select the members in the **Available members** pane, right-click, and select **Drill down**. This option creates a selection that can be searched in, or used to create a set.

You can also double-click a member to drill down.

Expand selected members and show their children

Select the members, right-click, and select **Expand to descendants**. You can also collapse one or more expanded members by selecting the members, right-clicking and selecting **Collapse**.

Show all ancestors

Select the members, right-click, and select **Show all ancestors**. Shows just the selected member and its ancestors. Other members are hidden. This option creates a selection.

Paste members into the set editor

You can paste both member names and aliases into the set editor, in any combination.

When you paste an alias, the associated member name is inserted into the current set, and the alias is displayed only if aliases are enabled in the set editor.

You can paste only member names that exist in the parent dimension. If you try to paste any names that are not members of the parent dimension, an error message displays a list of those names.

Procedure

1. Copy the member names to the clipboard (CTRL+C for Windows, CMD+C for the Apple Mac) from Microsoft Excel, Planning Analytics for Microsoft Excel, a word processor, or email, or from the **Current Set** area.

In a spreadsheet application, names can be aligned on a single row or column, or on a contiguous rectangular range, but there can be no empty cells within the copied selection. Empty cells cause an error when you paste into the set editor.

In other applications, such as a word processor or email, each member name must appear on a separate line or be on a single line that is separated by tabs. You can also copy member names from a table. However, there cannot be any empty strings (a line without a member, a table cell without a member, a tab location without a member) within the copied selection.

2. Use CTRL+V (Windows) or CMD+V (Apple Mac) to paste the member names into the current set.

If you paste into an empty current set, the pasted names become the current set.

If you paste into an existing current set without selecting an existing member as an insertion point, the pasted names are appended to the end of the existing current set.

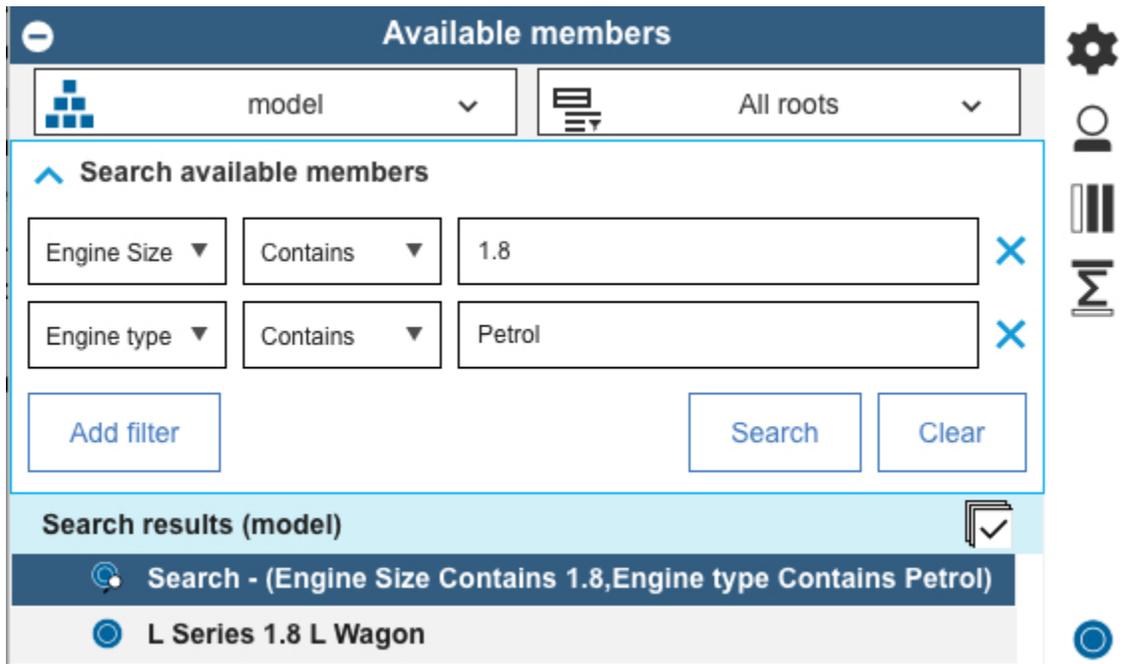
If you select a member in an existing current set as an insertion point, and then paste into the set:

- The pasted names are inserted immediately following the selected member, provided the selected member is a regular dimension member (leaf or consolidation).
- If the selected member is part of a group of members that are returned by a [dynamic query](#) (or MDX statement), the pasted names are inserted after the last group member.

Search in sets

You can search in the set editor when the list of members is large, or you are unsure of an exact member name. You can also search to include members in the set that match specific criteria.

You can filter on name, level, or attribute. For example, filter members by one or more attributes so that you can choose what appears in your tables and charts based on their attributes. The following example shows a set that is filtered on two attributes: Engine type and Engine Size.



When you search for members and save a set that includes the search results, a dynamic set is created which contains a query that is run every time that the set is opened. If the parent dimension for the set contains a new member that matches the search, the new member will be included in the set the next time that the set is used.

For example, using search operators (<, >, <=, =>, <>), you can create dynamic selections based on ranges of levels in your organization, accounts, or other hierarchy.

This video shows you how to use some advanced search features of the set editor to edit a set.

<https://youtu.be/Mp2KDEWQedo>

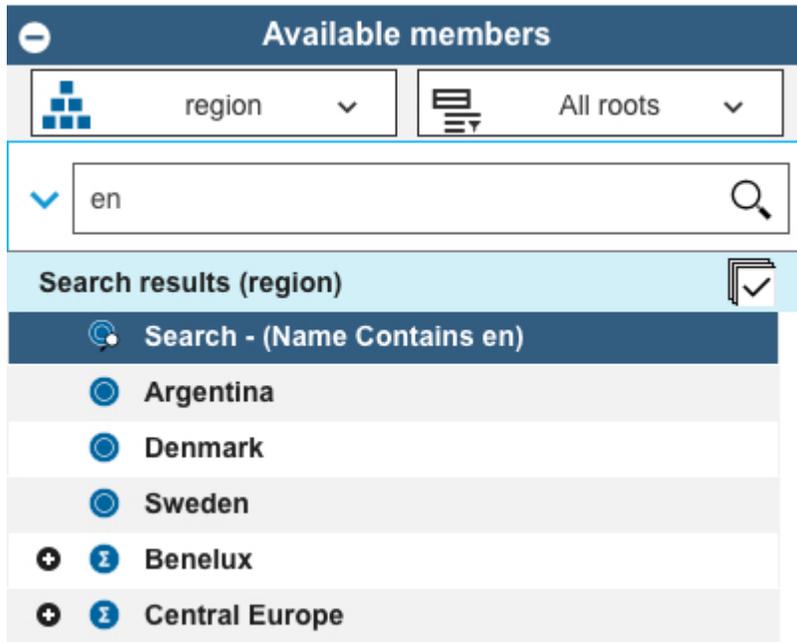
Search for members in a set

You can search in the set editor when the list of members is large, or you are unsure of an exact member name. You can also search to include members in the set that match specific criteria.

Procedure

1. Click the dimension tile and click  to open the set editor.
2. To search for members whose names contain a specific series of characters, type the characters in the **Search available members** box, then click .

The Available Members list shows all members that match the search, and a member that is named **Search** that indicates the search criteria. For example, if you search for the characters en in a set of the Region dimension, you get something like this:



When you add the member **Search - (Name Contains en)** to your set, the set includes all current members that contain en. Additionally, the set will include any future dimension members that contain en, such as Greenland or Venezuela.

3. To search on other criteria, click .
4. Select the type of criteria you want to search for: **Name**, **Level**, or **Attribute**.
5. Select a search operator (**Contains**, **=**, **<>**, **<**, **<=**, **>**, **>=**, **Starts with**, or **Ends with**), then type or select the keyword or value you want to search for.

Tip: If you are searching for a text type attribute and you selected the **=** or **<>** operators, you can select from a list of attribute values from a list. You can also filter the list of values. If you leave the attribute value blank, members with no attribute defined are shown.

6. If you want to add criteria, click **Add filter**, then specify the additional search parameters.
You can search on up to three distinct criteria.
7. Click **Search**.

The **Available Members** list shows all current members that satisfy the criteria that you used, and a member named **Search** that identifies the search criteria.

Related topics:

[“Convert a dynamic set to static” on page 144](#)

You can convert a dynamic set to a static set. When you convert to a static set, the MDX expression that generated the dynamic set is deleted and the set contains only the members that are present at the time of conversion.

Reorder members in a set

Use the set editor to define the order of the members in a set. Only members in a static set can be reordered.

Procedure

1. Open the set editor for the set that you want to reorder.
2. Click **Members (Selection)**.
3. Click **Convert to static set**.
4. In the **Current set** pane, right-click the member that you want to reorder.

5. Reorder the member in the set by selecting **Move to top, Move up, Move down, Move to bottom**.
6. Click **Apply and close**.

Create a dynamic set

A dynamic set uses Multidimensional Expression (MDX) code. When you create a set from the data tree, a dynamic set is created by default.

Dynamic sets update automatically based on the evaluation of an MDX expression. The members in a dynamic set can change when new members are added to (or removed from) the parent dimension of the dynamic set.

This feature is for advanced users only.

You can differentiate between dynamic and static sets by looking at the icons in the data tree, dimension tiles in a view, or the set editor: dynamic  and static  sets.

For more information, see [MDX Function Support](#).

Work through this procedure to find car models that constitute the top 20% of sales in a particular region with the SData database.

Procedure

1. Create a book.
2. Navigate to the SData database, SalesCube cube, and expand **Views**. Right-click the All view and select **Add view**.
3. Click the model dimension tile, and then click .
4. Click **MDX**.
5. Replace the existing MDX expression with this code:

```
TOPPERCENT(TM1FILTERBYLEVEL(DESCENDANTS({[model].[model].[Total]}), 0),
20.000000, [SalesCube].[actvsbud].[actvsbud].[Budget],[region].[region].
CURRENTMEMBER, [account1].[account1].[Units],[month].[month].[Year]))
```

6. Click **OK**, and then **Apply and close** to return to the view.
7. The following steps verify that the models that you see constitute at least 20% of sales.
 - a) Click the Model dimension tile, and then click .
 - b) Set the insertion option  to Member only.
 - c) Move the Total member in the **Available Members** pane over to the **Current Set**.
 - d) Right-click the Total member, then click **Move to top**.
 - e) Click **Apply and close** to return to the view.
 - f) Right-click and select **Show cell value as > % column total**.

The value of the leaf member should be 20% or higher.

Related topics:

[“Convert a dynamic set to static” on page 144](#)

You can convert a dynamic set to a static set. When you convert to a static set, the MDX expression that generated the dynamic set is deleted and the set contains only the members that are present at the time of conversion.

[“MDX string expressions” on page 144](#)

If you are using MDX expressions to create a dynamic set, you must be aware of the parsing rules for string literals. Special characters and escape characters must be handled carefully in MDX string expressions.

MDX string expressions

If you are using MDX expressions to create a dynamic set, you must be aware of the parsing rules for string literals. Special characters and escape characters must be handled carefully in MDX string expressions.

You must use a syntax notation that works correctly for all cases when special characters are embedded in the strings.

Note: Using single-quoted string literals is preferred. However, Planning Analytics also supports double-quoted string literals. Using double-quoted string literals requires care when you use MDX because the JSON parser that is used for TM1 REST API also uses the double quotation mark as a string delimiter.

Example with single quotation marks in a string

Consider the string literal `0'Reilly`.

- Using single-quoted string literals, `0'Reilly` must be represented as `'0'Reilly'`

The string must use a single quotation mark to escape the single quotation mark.

- Using double-quoted string literals, `0'Reilly` must be represented as `"0'Reilly"`

The string must use a back-slash to escape the double quotation mark. The single quotation mark in `0'Reilly` does not need escaping.

Example with double quotation marks in a string

Consider the string literal `0"Reilly`.

- Using single-quoted string literals, `0"Reilly` must be represented as `'0\"Reilly'`

The double quotation mark in `0"Reilly` must be escaped to satisfy the JSON parser.

- Using double-quoted string literals, `0"Reilly` must be represented as `"0\"Reilly"`

The double quotation mark in `0"Reilly` must be double escaped; once for the JSON parser, and again for the MDX parser.

As you can see in these examples, using single-quoted string literals is simpler and preferred.

Convert a dynamic set to static

You can convert a dynamic set to a static set. When you convert to a static set, the MDX expression that generated the dynamic set is deleted and the set contains only the members that are present at the time of conversion.

About this task

Converting a dynamic set to a static set is useful when you have added a calculation to a dynamic set, but want to control the positioning of the calculation in the set. When you add a calculation to a dynamic set, the position of the calculation in the set is determined by the MDX expression and the position cannot be changed. When you convert to a static set, you can move the calculation to any location in the set.

Procedure

1. Open the dynamic set in the set editor.
2. Click **Save** to save the set as static.

View properties and attributes in a set

You can view properties and attributes for members in the set editor.

You can view any defined attributes:

Weight

The weight property controls how a child member rolls up to its immediate parent, whether that child is also a parent of another consolidation or a leaf member. Top level consolidations do not have a weighting.

Level

Show the level of the member in the hierarchy.

Type

See whether a member is consolidated or simple (leaf).

Index

The display order of members in a dimension.

Name

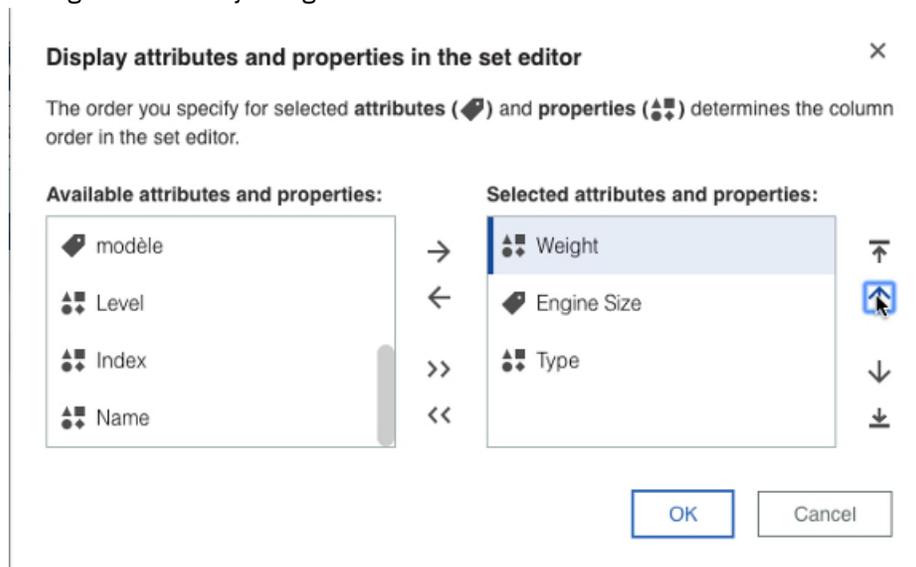
The member ID.

Procedure

1. In the set editor, click .

2. Select the attributes  and properties  in the **Available attributes and properties** pane, and move them across to the **Selected attributes and properties** pane.

You might need to scroll down to view all properties. The order in which the attributes and properties are listed on the right pane determines the order in which they are displayed in the set editor. You can change the order by using the arrows.



Delete a set

You can delete sets that are not currently used in any views. If you are a TM1 administrator, you can delete any public set or any private set that you own. If you are not an administrator, you can delete only private sets that you own.

Procedure

1. In the navigation tree, locate the set you want to delete. The path to a set is **<Database_Name> > Dimensions > <Dimension_Name> > <Dimension_Name> > Sets > <Set_Name>**.
2. Right-click the set, then click **Delete Set**.

Results

After you delete a set, the navigation tree contracts to the database level.

Related topics:

[Understanding Administrative Groups and Authority](#)

Use the keyboard to work in the set editor

You can work in the set editor with the keyboard instead of the mouse.

Navigation and selection overview

Move between enabled items in the set editor

Press the Tab key to move to the next item.

Press Shift+Tab to go to the previous item.

Open a menu

With the focus on the menu, press Enter or the Space bar.

Move through items in a menu and members

Press the up and down arrow keys. To move to a sub menu, press the right-facing arrow key.

Select an option

Press Enter.

Select consecutive members (multi-select)

Highlight the first member that you want to select, hold Shift, and then use the arrow keys to select the next members.

Expand and collapse consolidated members

Press Enter, or the right arrow to expand consolidated members, and press Enter or the left arrow to collapse.

Show a context menu

On a Windows keyboard, press Shift+F10. On an Apple Mac keyboard, press Shift+Fn+F10. Use the up and down arrow keys to move through the items.

Work in attributes menus



Tab to  and press Enter. Press the up and down arrow keys to move through the menu, and press Enter to select an attribute. Tab to **OK** and press Enter to close the menu.

Navigate in the MDX Editor

To move around the controls, press the Tab key to move to the next control and press Shift+Tab to go back to the previous control.

When the focus is inside the rich text editor, on a Windows keyboard, press CTRL+F2 to move to the next control, and Shift+CTRL+F2 to go to the previous control. On an Apple Mac keyboard, press CMD+fn+F2 to move to the next control, and Shift+fn+CMD+F2 to go to the previous control.

Navigate in the set editor by using the keyboard.

Press Tab to navigate through the items in the set editor. To move backwards through the items, hold Shift and press Tab.

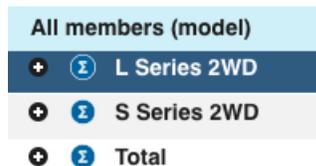
When an area of the screen has focus, it has a contrasting line around it. When you open the set editor, the first highlighted item is the **Available Members** pane.

To open a menu for an item that has focus, press Enter. You can move through the items in the menu by pressing the down and up arrow keys. When a menu item is selected, it has a blue background.

Select members in the Available Members pane by using the keyboard

Tab to the **Available Members** pane. A black line appears around the pane when it has focus.

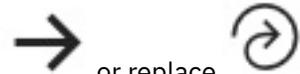
To select members in the **Available Members** pane, press the down and up arrow keys until the member has focus. A member with focus has a dark blue background.



Press Enter to expand a consolidated member, and press Enter again to close it.

To select consecutive members, highlight the first member that you want to select, hold Shift, and then use the arrow keys to select the next members.

When you highlight members, they stay selected so you can select either insert



or replace

Search with filters in the set editor by using the keyboard

To create filters to search for members in the **All members** pane with the keyboard, do the following steps:

1. Press Tab until  has the focus.

Note: Depending on which item in the Set Editor has focus, it can be quicker to use Shift+Tab to move to .

Then, press Enter to display the search filters.

2. To set a filter, with the focus on **Name**, press Enter, then press the down arrow key to move through the **Level** and **Attributes** menu items. Press Enter to select a menu item.
3. If **Attributes** has a sub menu, press the right arrow key to move the focus to the sub menu. Use the up and down arrow key to move through the items, and press Enter to select an item.
4. After you select either **Name**, **Level**, or **Attribute**, press Tab to move to the next filter. Focus on either **Contains**, **=** or **<>** by using the down or up arrow keys, and press Enter. Then, tab to the next field and type the keyword that you want to search on.
5. Tab to **Add filter**, then press Enter to add a filter and repeat the previous steps.
6. To begin the Search, press Tab to go to **Search**, then press Enter.

Modify TM1 data

You can modify data in reports that use an IBM Planning Analytics with Watson data source.

For example, when your TM1 Server Application folder administrator distributes an enterprise-wide plan, you can use IBM Planning Analytics for Microsoft Excel to create an exploration to review, analyze, and update the portion of the plan that is assigned to you.

You can edit TM1 data using the following methods:

- You can edit data in the cells of Exploration Views and Quick Reports.
- You can use data spreading in Exploration Views and Quick Reports to distribute numeric values.
- You can add comments to cells

You can also write back data using TM1 worksheet functions, such as [DBRW](#).

IBM Planning Analytics for Microsoft Excel offers different ways to work with IBM TM1 data changes. The Writeback mode and the Sandbox settings determine how changes to the server data are managed.

Writeback mode

IBM Planning Analytics for Microsoft Excel offers different ways to work with IBM TM1 data changes. The Writeback mode in combination with the Sandbox determines how changes to the server data are managed. Options allow the administrator to mix and match a variety of capabilities so that every installation and every user group can work in the way that is best for them. In IBM Planning Analytics for Microsoft Excel you can hold changes in a private workspace so that you can decide when to write the data changes back to the server and make your changes available to others. This private workspace is called a sandbox. When you commit the data changes that were in your private workspace 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 IBM Planning Analytics for Microsoft Excel uses a change in cell coloring to remind you when your data is not yet merged with the base. Once you commit the sandbox, the cell color is restored to black. For more information, see [“Cell coloring for changed data values”](#) on page 152.

Your administrator assigns the capabilities for each user group using the administration tools in IBM TM1. 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. To learn how to determine your writeback mode and sandbox setting using the toolbar, see [“Toolbar options”](#) on page 149. For details about Capability Assignments, see the IBM Cognos TM1 *Operation Guide*.

Writeback mode settings

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

To have the sandbox capability in IBM Planning Analytics for Microsoft Excel, an administrator must assign you rights in IBM TM1.

Description	Capability
Changes are made directly to the base.	Off

<i>Table 12. Personal workspace writeback mode capabilities (continued)</i>	
Description	Capability
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.	On

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

<i>Table 13. Sandbox capabilities</i>	
Description	Capability
You can name the sandbox and manage multiple sandboxes.	On
Only one default sandbox is available.	Off

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

For example, your user group might offer direct writeback with named sandboxes. This is the default work design used by TM1. It means that 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 use the **Commit** button 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 that 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 that 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 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.

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 capability but deny the Sandbox capability.

Toolbar options

You can determine how your user group is designed to operate based on the options presented on the toolbar. For example, if you have been granted Sandbox capability, you have access to the **Sandbox** part of the toolbar. When you do not see a sandbox list, work with data in Microsoft Excel and then commit changes directly to the IBM TM1 server.

Direct writeback and named sandboxes

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

Table 14. Personal workspace mode and sandbox options

You want to	Personal Workspace Mode	Sandbox
Have data changes update the server immediately. Occasionally, you want to save a set of changes and name them before committing them to the server.	Off	On

The **New** icon indicates that you can create and delete sandboxes. Until you create a sandbox, you are operating in the base.

Direct writeback without sandboxes

In direct writeback mode you do not have access to named sandboxes. You work with data in Microsoft Excel and then click the **Commit Changed Values** icon to commit changes directly to the IBM TM1 server.

To use direct writeback across the entire installation, you can set `DisableSandboxing=T` in the TM1 server configuration file. When sandbox mode is disabled for a server, the Capability Assignments are ignored.

The toolbar in this case does not have any of the sandbox icons, such as **New Sandbox** or **Merge Sandbox**. You have no access to any kind of sandbox.

Virtual sandbox dimensions

With the virtual sandbox dimension feature, you can 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 on top of the base data. The distinction between base data and sandbox data 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 the data in 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 are private to each user and cannot be seen by other users. Your data values are viewable to others only when you merge them back with the base data.

Sandboxes are not stored on the client. They consist of a separate and private area of the server. 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. To make the base model take on the values in the sandbox, you must merge the sandbox values with the base values. After the sandbox data values are committed, they are merged with the base so that the changed values then update and become the base values.

Sandboxes include the following features:

- Private data changes

Sandboxes 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 are identified by a change in cell content colors. The cells change color to remind you that the change has not yet been committed to the base data. After data is committed and processing is complete, 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.

- Manual commit

When working in a sandbox, the **Merge** 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.

- Discard changed values

In a sandbox, the **Discard** icon becomes available and lets you reset the values that you have changed but not committed. When you discard changed values, the values you have not committed are reset to the values in the base data.

- Named sandboxes let you create 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 might have disabled sandboxes for your environment or changed the writeback mode for your user group.

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.

Sandbox limitations

The following are limitations of the sandbox feature in Planning Analytics for Microsoft Excel:

- You can add sandboxes as a dimension in the Cube Viewer. However, if you generate a report from the Cube Viewer, the sandbox dimension will not be present in the generated report.
- Planning Analytics for Microsoft Excel does not fully support the **Sandboxes** dimension.

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 override the values in the base. If the values are entered over a consolidated cell, the data will be automatically spread and immediately recalculated. 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 the sandbox.

Reset data values in a sandbox

Resetting a sandbox clears the data values that you have changed but not committed and resets them back to the current values in the base data.

About this task

For example, suppose you enter values in two cells and commit the changes to the server. You then enter a value in a third cell, but do not commit the change. When you click **Discard Changed Values**, the values you entered in the first two cells are unchanged, but the third cell changes back to the value in the base data.

Procedure

1. From the IBM Planning Analytics tab, click the **Discard** icon.
2. Click **OK**.

Results

The data values in the sandbox that you have changed but not committed are set to the current values in the base data. Any cell coloring is cleared and set to black.

Cell coloring for changed data values

When you enter a new value in a 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 to blue after you press the Enter key. The number changes back to black when you commit changes. 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 default cell coloring that is applied in Planning Analytics for Microsoft Excel when you enter new data values in a sandbox. These color attributes can be changed.

Cell or font color	Description
Black font and orange background	Committed sandbox data that differs from the base.
Blue bold font.	Newly input data. After you type the value and press the Enter key the font turns bold and blue. Other cells that turn blue because of this are formula cells that reference this cell and adopt this change in color as well. Edited cells, dependent or consolidated cells, recalculated cells
White cell background	Leaf input cell
Blue cell background	Consolidated input cell
Gray cell background	Locked cell

Commit changed data from a sandbox to base

You can merge all of the committed data values in your sandbox to the base data. You cannot use the undo command to undo a merge action.

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.

Procedure

1. On the toolbar, click **Sandbox** and select the sandbox whose data you want to merge with the base data.
2. Click **Merge Sandbox with Base**.

Results

- 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 toolbar to create, delete and select the different sandboxes available to you.

Edit TM1 data in reports

In a report that is based on a TM1 data source, you can edit values directly in the cells.

You can edit TM1 data using the following methods:

- You can edit data in the cells of Exploration Views and Quick Reports.
- You can use data spreading in Exploration Views and Quick Reports to distribute numeric values.
- You can add comments to cells

You can also write back data using TM1 worksheet functions, such as [DBRW](#).

Edit data by typing values in cells

You can edit data in the cells of an Exploration View or IBM Planning Analytics for Microsoft Excel, if you have Write access to those cells. The Exploration View interface identifies the cells that are writable by using a special cell format that is customizable.

Procedure

1. To edit a value in a cell, click the cell and type the new value.
2. After entering a new number, press **Enter** or click another cell.

The new number displays in bold and blue, which indicates that there is a new value in this cell. You must commit the data changes to the IBM TM1 server for the change that you made to persist.

3. To save the changes to the TM1 server, click **Commit** ✓.

After you click **Commit**, you have the option to preview information about the changes that will be saved to the TM1 server. You cannot undo changes after saving to the TM1 server.

Results

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

Edit TM1 data by using data spreading

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

Data spreading is available when you are working with TM1 data. Your administrator must also give you capability assignments on the TM1 server for data spreading. For more information about capability assignments, see the *IBM Cognos TM1 Operation Guide*.

Use data spreading in Exploration Views and Quick Reports

You can use data spreading to enter or edit numeric data in an Exploration View or Quick Report by 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.

Procedure

1. Select a cell or range from which you want to initiate data spreading.

You can initiate spreading from a single cell or a single linear range of cells. You cannot initiate spreading from a non-contiguous range of cells, nor can you spread data across multiple individually selected cells or ranges in a worksheet.

2. Right-click the cell or range and click **IBM Planning Analytics > Spread**.

Note: If the **Spread** command is not available, data spreading might be restricted on the server. Ask your administrator to check the capability assignments configured in the data model.

3. Select a data spreading method.

The methods that are available in the **Spreading** dialog box depend on the cells that you selected for data spreading. For example, some methods, such as Equal Across Leaves, are applicable to consolidated cells only.

4. Select an **Update action**.
5. Specify the required values.
For example, if you selected the Growth % method, enter the growth percentage.
6. Click **OK**.

Note: You can also apply data spreading by typing data spreading syntax in a cell.

Exclude cells from data spreading

You can apply a hold to a cell, or a range of cells, to exclude cells from data spreading operations.

About this task

You can apply a hold to consolidation cells and leaf cells.

When a consolidation hold is applied, you can initiate data spreading from a single leaf cell. Based on the data spreading value you apply to the selected leaf cell, the remaining leaf values are updated so that the consolidation value remains unchanged.

For example, you apply a hold on the consolidated cell at the intersection of S Series 1.8L Sedan and 1 Quarter. This consolidation hold keeps the value in the cell constant at 1,000.

	1 Quarter	Jan	Feb	Mar
S Series 1.8 L Sedan	1000	200	300	500
S Series 2.0 L Sedan	6,000	1,000	2,000	3,000
S Series 2.5 L Sedan	4,520	1,310	1,420	1,790

Figure 7. Example hold applied to a consolidation cell

If you initiate proportional data spreading from the cell at the intersection of S Series 1.8L Sedan and Mar and specify a value of 700, the Jan and Feb leaf values are changed proportional to their existing values. Jan has a value of 120 and Feb has a value of 180. The consolidation of the leaves remains 1,000.

	1 Quarter	Jan	Feb	Mar
S Series 1.8 L Sedan	1000	120	180	700
S Series 2.0 L Sedan	6,000	1,000	2,000	3,000
S Series 2.5 L Sedan	4,520	1,310	1,420	1,790

Figure 8. View of unchanged consolidation value

You can apply a hold to both the consolidated cell and one or more leaf cells. Using the original values in the example, you apply a hold to the consolidated cell and a single leaf cell, Jan. When you change Mar from 500 to 700, proportional spreading affects only the Feb cell. The value for Feb changes to 100. The consolidation of the leaves remains 1,000.

Procedure

Right-click a cell and click **IBM Planning Analytics > Set Hold**.

To apply a hold to a range of cells, you must set a hold for each cell in the range separately.

Results

The formatting of the cell changes to show a hold is applied. To change the formatting, modify the **Hold Values - IBM Cognos** style.

To remove a hold, select a cell with a hold applied and click **IBM Planning Analytics > Remove Hold**.

Data spreading methods

IBM Planning Analytics for Microsoft Excel provides a variety of data spreading methods that you can use to distribute numeric data to cells in an exploration. For example, you can use data spreading to evenly distribute a value across a range of cells or to increment all values in a range of cells by a desired percentage.

The methods that are available in the **Spreading** dialog box depend on the cells that you select for data spreading. For example, some methods, such as Equal Across Leaves, are applicable to consolidated cells only.

Proportional

The proportional spread method distributes a specified value among cells proportional to existing cell values.

For example, consider a view in which the values for Argentina in the months January, February, and March are 10, 30, and 60, respectively.

The sum of these values is 100, with the value in January accounting for 10% of the sum, the value in February accounting for 30%, and the value in March accounting for 60%.

When you proportionally spread the value 300 across these cells and select the Replace update action, the result is as follows.

- January contains the value 30, which is 10% of 300
- February contains the value 90, which is 30% of 300
- March contains the value 180, which is 60% of 300

These values are proportionally equivalent to the cube values that existed before you apply data spreading.

Repeat

The repeat method repeats a specified value across cells in a view.

The value you enter repeats across the range of cells that you selected. When you apply the repeat spreading method to a single consolidated cell, the value being spread is distributed proportionally to all leaves of the consolidated cell.

Repeat Across Leaves

The repeat leaves method copies a specified value to the leaves of a consolidation. When you apply this method, you can copy the value to all leaves of the consolidation or only to those leaves that already contain non-zero values.

For example, assume that there are several leaves of Year, Argentina with values.

If you use the repeat leaves method to copy the value 400 to the leaves of Year, Argentina currently populated with non-zero values, the value 400 is copied to all leaves that contained non-zero values.

If you initiate the repeat leaves method from a cell identified by more than one consolidated member, the specified value is copied to all leaves associated with the cell.

Option	Description
Populated Leaf Cells	The specified value is copied only to leaf cells currently containing non-zero values.
All Leaf Cells	The specified value is copied to all leaf cells regardless of current values.

You can apply the Repeat Across Leaves method only to consolidated cells.

Straight

The straight line method populates cube cells by linear interpolation between two specified endpoints. It requires both a start value and an end value.

For example, with the start value of 100 and the end value of 200, the option populates the intervening cells with values at equal intervals between the two endpoints.

You can apply straight line spreading only across single rows or columns, not across rectangular ranges.

% change

The percent change method multiplies the current cell values by a specified percentage. The product of that multiplication can then replace, be added to, or be subtracted from the existing cell values.

When you apply the percent change method and specify a **% Change** value of 10, the system multiplies each cell value by 10% (or .10). If you select the **Add** update action, the product of multiplication is added to the existing cell values. The result is that each cell value is increased by 10%. The percentage change is applied across the range of cells that you selected.

Equal

The equal spread method distributes a specified value equally across the cells in a view.

For example, consider a view where a range of 12 cells is selected.

When you equally spread the value 60 to these cells and select the **Add** update action, the value is equally spread across the range and added to the existing cell values. The result is that each cell value is increased by 5 ($60/12=5$).

The value you entered spreads equally across the range of cells that you selected. When you apply the equal spread method to a single consolidated cell, the value being spread is distributed proportionally to all leaves of the consolidated cell.

Equal Across Leaves

The equal spread across leaves method distributes a specified value equally across all leaves of a consolidated cell. When you apply this method, you can choose to distribute the value to all leaves of the consolidation or only to those leaves that already contain non-zero values.

If you initiate the equal spread across leaves method from a cell identified by more than one consolidated member, the specified value is distributed to all leaves associated with the cell.

Value	Description
Populated Leaf Cells	The specified value is copied only to leaf cells currently containing non-zero values.
All Leaf Cells	The specified value is copied to all leaf cells regardless of current values.

You can apply the Equal Across Leaves method only to consolidated cells.

Growth %

The growth % method accepts an initial value and a growth percentage. By using the initial value as a starting point, this method sequentially increments all values in a range by the specified growth percentage.

You can apply growth % spreading across single rows or columns, not across rectangular ranges.

Clear

The clear method clears values from cells in a view. You can apply this method to either leaf cells or consolidated cells. When you apply the clear method to a consolidated cell, all leaves of the consolidation are set to zero.

Data spreading and hold syntax

You can apply most data spreading and hold methods using a syntax that you enter directly in cells.

You must use the user interface to apply the repeat leaves and equal spread across leaves methods. You must use the user interface to spread across a selected range of cells.

Each data spreading syntax expression consists of a method code, a data action (optional), and method parameters.

For example: s+100

The method code is s, the data action is +, and the method parameter is 100.

The method code is a one- or two-character code for a data spreading method. For example, S is the method code for the equal spread method. For more information, see [“Data spreading and hold syntax reference table”](#) on page 157.

The data action indicates whether spread values will replace, be added to, or be subtracted from the existing cell values.

Replace

If you do not specify an action, the existing cell values are replaced with the spread values.

Add

Plus sign (+) adds spread values to the existing cell values

Subtract

Tilde (~) subtracts spread values from the existing cell values.

The method parameters supply all parameters required to execute a given spreading method. Most methods require only a parameter indicating the value to be spread. The required method parameters for each spreading method are listed in [“Data spreading and hold syntax reference table”](#) on page 157.

Data spreading and hold syntax reference table

The following table describes the data spreading and hold methods that you can apply with the syntax.

Method	Code	Required Method Parameters	Data Action (Optional) *	Example
Proportional Spread	P	Value to be spread	+, ~	P<>100 Proportionally spreads the value 100 to all leaf cells, and replaces the existing cell values.
Equal Spread	S	Value to be spread	+, ~	S+200 Equally spreads the value 200 to all leaf cells, and adds the product of spreading to the existing cell values.

Table 18. Data spreading and hold syntax (continued)

Method	Code	Required Method Parameters	Data Action (Optional) *	Example
Repeat	R	Value to be spread	+, ~	R~50 Subtracts the value 50 from all leaf cells.
Percent Change	P%	Percentage	+, ~	P%+10 Applies a percent change of 10% to all leaf values, adds the product to the existing cell values, and increments all leaves by 10%.
Straight Line	SL	Start Value and End Value	+, ~	SL100:200 Replaces all leaf values, with a start value of 100 and an end value of 200.
Growth %	GR	Start Value and Growth Percentage	+, ~	GR300:25 Applies a 25% growth percentage to the starting value of 300 and replaces all leaf values below the point of insertion.
Clear	C	N/A	N/A	C Clears values from all cells.
Leaf Hold	H	N/A	N/A	H Holds all leaf cells.
Release Leaf Hold	RH	N/A	N/A	RH Releases all leaf holds.
Consolidation Hold	HC	N/A	N/A	HC Holds all consolidated cells.
Release Consolidation Hold	RC	N/A	N/A	RC Releases all holds of consolidated cells.
Release All Holds	RA	N/A	N/A	RA Releases all holds on the cells.

* The default data action is Replace. The spreading syntax uses a tilde (~) to denote the Subtract data action, and a plus sign (+) to denote the Add data action.

Add and view comments in cells

You can add and view comments in TM1 Exploration Views and Quick Reports.

Before you begin

In Microsoft Excel 2013, click **File > Options**, and then click **Advanced**. Under **Display**, select how you want comments to be displayed in workbooks.

About this task

Use comments to indicate the significance of the cell value. For example, state why the variance between forecast revenue and actual revenue for a product is high. You can view all comments that were added to a cell. Use the **Annotations** dialog box to create, view, update, or delete comments.

Hover over a cell with a comment marker to see the comment, the user who entered the comment, and a time stamp.

Procedure

1. To work with comments, right-click a cell, click **IBM Planning Analytics > Annotations**.
2. Use the **Annotations** dialog box to add, view, update, or delete comments.

Resolve errors when committing data to a TM1 server

When you commit data to an IBM TM1 server, the Error Report dialog box displays any errors.

For each error, the **Error Report** dialog box displays an error description and the intersection of members where the error is located. When you click a row of error information, the cursor moves to the related cell, enabling you to correct the error.

Error messages include the following:

- Consolidated: The member is a consolidated member. The cell is read-only.
- Hold: A hold has been placed on the cell. The cell is read-only.
- Incorrect Type: The value you entered does not match the data type of the member. This error occurs, for example, if you enter text in a cell that requires a numeric value.
- Locked: The cell is locked. The cell is read-only.
- Rule Derived: The cell contains a calculated value or a value derived from other cells. The cell is read-only.

Set options for committing data

You can choose to skip the commit confirmation step when committing data. You can also choose to commit valid intersections automatically.

You can hide the confirmation dialog box.

- If you are working with an Exploration View, click **Options**, and then click **IBM Planning Analytics**. Select the **Hide commit confirmation** check box.
- If you are working with a Quick Report, in the Commit Changes dialog box, select **Hide commit confirmation**. When you commit data, the Commit Changes dialog box is not displayed and valid values are sent to the TM1 server. If any errors are found, the Error Report dialog box is displayed.

To turn confirmation back on, click **Options**, and then click **IBM Planning Analytics**. Clear the **Hide commit confirmation** check box. You can also turn confirmation on or off using the `CommitWithoutConfirmation` setting in the `CognosOfficeReportingSettings.xml` file:

```
<setting name="CommitWithoutConfirmation">False</setting>
```

You can choose to commit valid values automatically. In the Error Report dialog box, select **Automatically Commit Valid Intersections**.

To turn this feature off, change the `BulkUploadAutoCommitValid` setting to `False` in the `CognosOfficeReportingSettings.xml` file:

```
<setting name="BulkUploadAutoCommitValid">False</setting>
```

On Windows 7, the `CognosOfficeReportingSettings.xml` configuration file is installed in `c:\Users\[user_name]\AppData\Local\Cognos\Office Connection`.

IBM TM1 functions

You can add formulas that use IBM TM1 functions to reports. You can also convert Exploration Views that use TM1 data to formulas. For advanced analysis, you can create reports that use formulas to populate the cells of a worksheet.

For information about formulas in IBM Cognos Analytics reports, see [“Create a Custom Report” on page 226](#).

TM1 worksheet functions in IBM Planning Analytics for Microsoft Excel

You can use TM1 worksheet functions in IBM Planning Analytics for Microsoft Excel.

You can work with TM1 worksheet functions in the following ways:

- Create an Exploration View and convert it to a Dynamic Report or a Custom Report
- Open a workbook that was created from a slice in TM1 Perspectives.
- Open a workbook that was created using the **Slice to Excel** export option in TM1 Web Cube Viewer.
- Manually add the TM1 worksheet functions to a worksheet.

Things to consider:

- The IBM Cognos Office Reporting TM1 add-in is required to provide access to the TM1 worksheet functions. The add-in is enabled by default when you install IBM Planning Analytics for Microsoft Excel.
- When refreshing a report, you need to be connected to a TM1 server. If you are not connected to a TM1 server, your TM1 worksheet functions will return a #N/A value upon refresh.
- A worksheet can contain only TM1 worksheet functions, or you can add TM1 worksheet functions to a worksheet that contains other explorations or Quick Reports.
- Parameter values are case sensitive, unlike in TM1 Perspectives. If a parameter value is not found, the function returns `RECALC_0_0`.
- If a worksheet function references an object on a remote server, you must prefix the object with the server name and a colon. For example, to refer to the `SalesCube` cube on the `SData` server, use `SData:SalesCube`. To refer to the `Region` dimension on the `SData` server, use `SData:Region`. You must be connected to the server referenced by the function to receive accurate values in your worksheet. If you are not connected to the server, TM1 worksheet functions return `*KEY_ERR`.
- Nesting certain functions is supported if you want to nest more than one function inside of a formula or inside of another function.

Note: If you nest functions, you will not be able to perform data intersection specific actions, such as drill throughs or spreading.

Modify functions by using the Function Editor

You can modify the members that are used in a function by using the Function Editor. You can also modify functions directly, but the Function Editor can be easier to use.

Before you begin

You must be connected to the data source referenced in the `server:cube` parameter.

Tip: To open the data source, right-click the cell and select **IBM Planning Analytics > Display Package**. The source tree displays the data source.

Procedure

1. Click a cell that contains a function and click the Microsoft Excel function button.

The Function Editor is displayed. The **Arguments** list shows the parameter values currently used by the function. The **Formula Result** field will display **RECALC_#_#** as the formula result may change when recalculated.

2. Modify the members that are used in the parameters by using any of the following techniques:

- To specify a value directly, type a member name into the field. For example, to change the member for the first dimension in the cube, type a member name into the first field.
- To use a cell reference, click . Click a cell and then click **OK**.
- To use the set editor, right-click the dimension, select **IBM Planning Analytics > Edit set**. Use the set editor to select a member, and then click **Apply and close**.

Note: You might need to scroll down in the Function Editor to see all of the parameters.

3. Click **OK**.

The function is updated in the worksheet.

Enable and configure TM1 functions

Enable the add-in required to work with TM1 worksheet functions

To work with TM1 worksheet functions in IBM Planning Analytics for Microsoft Excel, the IBM Cognos Office Reporting TM1 add-in must be enabled. The add-in is enabled by default when you install IBM Planning Analytics for Microsoft Excel. If the add-in is disabled, however, you can enable it.

The IBM Cognos Office Reporting TM1 add-in is installed in `[installation_location]\IBM for Microsoft Office`. The file name is `CognosOfficeTM1.xll`.

You can also follow along by watching this video: <https://youtu.be/k8bgqwjk5Yw>

For information about enabling add-ins, see the Microsoft Excel Help.

Before you begin

If installed, disable the IBM TM1 Perspectives add-in. The IBM TM1 Perspectives add-in and the IBM Cognos Office Reporting TM1 add-in cannot be active at the same time.

Configuration settings for working with TM1 worksheet functions

You can configure server connection information and specify the sandbox to use when working with TM1 worksheet functions.

If IBM Planning Analytics for Microsoft Excel does not recognize the TM1 server required by TM1 worksheet functions, you are prompted to select the host and server. The server connection information is saved to the `CognosOfficeXLLSettings.xml` file. On Windows 7, this configuration file is installed to `Users\[user name]\AppData\Local\Cognos\Office Connection`.

When you create a connection to a TM1 server to support working with TM1 worksheet functions, the default connection information does not identify a sandbox. To specify a sandbox, you must edit the connection information in the `CognosOfficeXLLSettings.xml` file to change the default sandbox setting from null to the sandbox name. The following is an example of a connection string showing the default sandbox setting.

```
<userSettings>
<setting name="ServerMap">{"Servers":[{"Name":"SData","RESTuri":null,
  "Sandbox":null}]}
</setting>
</userSettings>
```

Troubleshoot TM1 worksheet functions

Use the information in this topic to help troubleshoot TM1 worksheet functions.

#NAME!

Check that the IBM Cognos Office Reporting TM1 add-in is enabled. For more information, see [“Enable the add-in required to work with TM1 worksheet functions”](#) on page 161.

#VALUE!

The formula could not be solved. Check the syntax. Make sure that you have specified a valid value for all required parameters and in the required order.

#N/A

Check that you are connected and logged in to the TM1 server referenced in the formula.

RECALC_0_0

The calculation is in progress. If the calculation option in Microsoft Excel is set to **Manual**, a refresh of the sheet or the book is required to complete the calculation.

Note: RECALC_0_0 may appear if the calculation was interrupted or canceled.

Blank cell or 0 when a value is expected

One or more objects could not be found.

Check that the objects you specified in the formula are available.

- If the formula references a dimension, verify that the dimension is available on the TM1 Server Application folder.
- If the formula references a member, make sure that the member exists in the dimension you specified.
- If the formula references an attribute, make sure that the attribute exists for the member you specified.
- If the function has an index argument, verify that the value you are using is in range. For example, DIMNM returns a blank cell if the index parameter is 0 or if the index value is greater than the number of members in the dimension.

For example, if a DBRA formula returns an empty cell, perform the following checks:

- Check that the dimension is available on the TM1 Server Application folder.
- Check that the member exists in the dimension.
- Check that the attribute exists for the member.
- Check that the names you are using in the formula match the names on the TM1 Server Application folder and cube exactly.

Tip: To see the attributes of a member, right-click the member in the tree and select **Search Metadata**. The **Name** list contains the available attributes for the member.

Supported IBM TM1 worksheet functions

IBM Planning Analytics for Microsoft Excel supports most TM1 worksheet functions.

DBR

DBR retrieves a value from a specified TM1 cube.

In IBM Planning Analytics for Microsoft Excel, the DBR function is equivalent to the DBRW function. Both functions are optimized to reduce network traffic and improve performance on wide area networks.

When all member arguments (m1, m2, etc.) to the function are leaf members, you can use the DBR function to write values to the specified cube, provided that you have the appropriate access privileges to the relevant cube, dimensions, members, and/or cells.

You can modify the members used in a DBR or DBRW function using the DBR Function Editor. For more information, see [“Modify functions by using the Function Editor”](#) on page 161.

Syntax

```
DBR(server:cube, m1, m2, [...mn])
```

Argument	Description	Required/Optional
server:cube	The name of a TM1 Server Application folder and the name of a cube that is available on the server.	Required
m1,...mn	Dimension member names that define the intersection of the cube containing the value to be retrieved. Arguments m1 through mn are sequence-sensitive. m1 must be a member from the first dimension of the cube, m2 must be a member from the second dimension, and so on. These arguments can also be the names of aliases for dimension members. Numeric member names must be enclosed in double quotation marks.	Required

Example

In this example, the TM1 Server Application folder name is GO_New_Stores and the cube name is Base Sales Forecast. The function returns the value at the intersection of Americas, Department Store, Freight, Corporate Store, Budget version 1, and Jan.

```
DBR("GO_New_Stores:Base Sales Forecast", "Americas", "Department Store",  
"Freight", "Corporate Store", "Budget version 1", "Jan")
```

DBRA

DBRA retrieves the value of a specified member attribute.

The value returned can be either a string or numeric value, depending on the attribute type.

Syntax

```
DBRA(server:dimension, element, attribute)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 Server Application folder and the name of a dimension.	Required
element	A member of the dimension.	Required

Argument	Description	Required/Optional
attribute	The attribute for which you want to retrieve a value. This argument must be an attribute of the member.	Required

Example

In this example, the TM1 Server Application folder name is GO_New_Stores and the dimension name is Month. The function retrieves the value of the startdate attribute for Jan.

```
DBRA("GO_New_Stores:Month", "Jan", "startdate")
```

Example

In this example, the TM1 Server Application folder name is SData and the dimension name is Model. The function returns the value of the Engine Size attribute of the L Series 1.6 L Sedan member.

```
DBRA("SData:Model", "L Series 1.6 L Sedan", "Engine Size")
```

DBRW

DBRW retrieves a value from a specified TM1 cube.

In IBM Planning Analytics for Microsoft Excel, the DBRW function is equivalent to the DBR function. Both functions are optimized to reduce network traffic and improve performance on wide area networks. For more information, see [“DBR” on page 163](#).

Example

In this example, the TM1 server name is GO_New_Stores and the cube name is Base Sales Forecast. The function returns the value at the intersection of Americas, Department Store, Freight, Corporate Store, Budget version 1, and Jan.

```
DBRW("GO_New_Stores:Base Sales Forecast", "Americas",  
"Department Store", "Freight", "Corporate Store", "Budget version 1", "Jan")
```

DBS

DBS sends a numeric value to a TM1 cube.

This function cannot send a string to a cube. To send strings, use the DBSS function.

In IBM Planning Analytics for Microsoft Excel, the DBS function is equivalent to the DBSW function. Both functions are optimized to reduce network traffic and improve performance on wide area networks.

Syntax

```
DBS(value, server:cube, m1, m2[,...mn])
```

Argument	Description	Required/Optional
value	The value being sent.	Required
server:cube	The name of the TM1 server and the cube to which the value is sent.	Required

Argument	Description	Required/Optional
m1, ...mn	<p>The names of members defining the intersection in the cube to which the value is sent.</p> <p>Arguments m1 through mn are sequence-sensitive. m1 must be a member from the first dimension of the cube, m2 must be a member from the second dimension of the cube, and so on. These arguments can also be the names of aliases for dimension members.</p> <p>Numeric member names must be enclosed in double quotation marks.</p>	Required

Example

In this example, the TM1 server name is GO_New_Stores and the cube name is Base Sales Forecast. The function writes the value 5342 to the intersection of Americas, Department Store, Freight, Corporate Store, Budget version 1, and Feb.

```
DBS(5342,"GO_New_Stores:Base Sales Forecast","Americas",
"Department Store","Freight","Corporate Store","Budget version 1","Feb")
```

DBSA

DBSA sends a value to a specified member attribute.

The value sent can be either a string or numeric value, depending on the attribute type.

Syntax

```
DBSA(att_value, server:dimension, member, att_name)
```

Argument	Description	Required/Optional
att_value	The value you want to send. To send the value as a string, use double quotation marks. For example "1.8" is sent as a string value while 1.8 is sent as a numeric value.	Required
server:dimension	The name of the TM1 server and a dimension name.	Required
member	A member of the dimension.	Required
att_name	The attribute to which you want to send a value. att_name must be an attribute of the member specified by the member argument.	Required

Example

In this example, the TM1 server name is Planning Sample. The function writes Jane Smithers to the Manager attribute of the UK member of the business_unit dimension.

```
DBSA("1.8", "SData:Model", "L Series 1.8 L Sedan", "Engine Size")
```

Example

In this example, the TM1 server name is SData. The function writes 1.8 to the Engine Size attribute of the L Series 1.8 L Sedan member of the Model dimension. The value, 1.8, is in double quotation marks because the Engine Size attribute is a text attribute. If the data type of the Engine Size parameter was Numeric, the function would be:

```
DBSA(1.8, "SData:model", "L Series 1.8 L Sedan", "Engine Size")
```

DBSS

DBSS sends a string to a cube of any number of dimensions.

This function cannot send a numeric value to a cube. Use the DBS function to send numeric values.

Syntax

```
DBSS(string, server:cube, m1, m2,...mn)
```

Argument	Description	Required/Optional
string	The string being sent.	Required
server:cube	The name of the TM1 server and the cube to which the string is sent.	Required
m1, ...mn	The names of members defining the intersection in the cube to which the string is sent. Arguments m1 through mn are sequence-sensitive. m1 must be a member from the first dimension of the cube, m2 must be a member from the second dimension of the cube, and so on. These arguments can also be the names of aliases for dimension members. Numeric member names must be enclosed in double quotation marks.	Required

Example

In this example, the TM1 server name is GO_New_Stores and the cube name is New Store Plan. The function writes the value Department Store to the intersection of Americas, 1 (a member in the ID number dimension), Budget version 1, and Retailer Type.

```
DBSS("Department Store", "GO_New_Stores:New Store Plan",  
"Americas","1","Budget version 1","Retailer Type")
```

DBSW

DBSW sends a numeric value to a TM1 cube.

This function cannot send a string to a cube. To send strings, use the DBSS function.

In IBM Planning Analytics for Microsoft Excel, the DBSW function is equivalent to the DBS function. Both functions are optimized to reduce network traffic and improve performance on wide area networks. For more information, see [“DBS” on page 164](#).

Example

In this example, the TM1 server name is GO_New_Stores and the cube name is Base Sales Forecast. The function writes the value 6342 to the intersection of Americas, Department Store, Freight, Corporate Store, Budget version 1, and Feb.

```
DBSW(6342,"GO_New_Stores:Base Sales Forecast","Americas",
"Department Store","Freight","Corporate Store","Budget version 1","Feb")
```

DFRST

DFRST returns the first member of a specified dimension. The first member in a dimension is the member with an index number of 1.

The member with an index number of 1 might not be listed first in the tree. Index numbers are assigned to members when they are added to a dimension. For example, if members were added and then reordered, the first member listed in the tree might not have an index of 1.

To determine the index number of a member use the [“DIMIX” on page 167](#) function.

Syntax

```
DFRST(server:dimension)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the first member in the Retailers dimension, All Retailers. The function returns All Retailers because this member has an index number of 1 in the Retailers dimension.

```
DFRST("GO_New_Stores:Retailers")
```

DIMIX

DIMIX returns the index number of a member within a dimension.

Syntax

```
DIMIX(server:dimension, element)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a member within the dimension. If the member is not a member of the dimension specified, the function returns 0. This argument can also be the name of an alias for a dimension member.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the index number of the Tents member in the Products dimension. If Tents has an index number of 7, for example, the function returns 7.

```
DIMIX("GO_New_Stores:Products", "Tents")
```

DIMNM

DIMNM returns the member of a dimension that corresponds to the index argument.

Syntax

```
DIMNM(server:dimension, index, [Alias])
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
index	A value less than or equal to the number of members in the dimension. The functions returns a blank cell if you enter 0 or if you enter a value greater than the number of members in the dimension.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the name of the member with an index of 7 in the Products dimension. If the Tents member has an index number of 7, for example, the function returns Tents.

```
DIMNM("GO_New_Stores:Products", 7)
```

DIMSIZ

DIMSIZ returns the number of members within a specified dimension.

Syntax

```
DIMSIZ(server:dimension)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the number of members in the Budget version dimension. For example, if the Budget version dimension contains two members, the function returns 2.

```
DIMSIZ("GO_New_Stores:Budget version")
```

DNEXT

DNEXT returns the member name that follows the member specified as an argument to the function.

Syntax

```
DNEXT(server:dimension, element)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the name of the member after Cooking Gear in the Products dimension.

```
DNEXT("GO_New_Stores:Products", "Cooking Gear")
```

DNLEV

DNLEV returns the number of hierarchy levels in a dimension.

Syntax

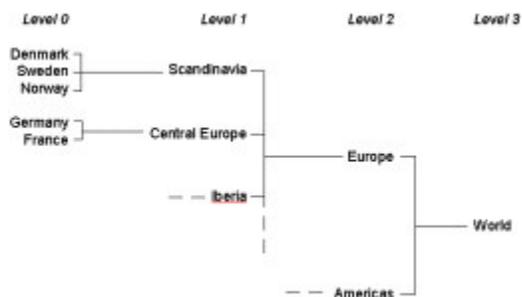
```
DNLEV(server:dimension)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required

Example

This example uses the TM1 server SData and a dimension called Region. In the Region dimension, the various nations (Level 0) add up to regions (Level 1). The regions then add up to super-regions (Level 2), which in turn add up to the world (Level 3).

```
DNLEV("SData:Region")
```



The region dimension has four hierarchy levels (0, 1, 2, and 3). Therefore, in this example the function returns 4.

DTYPE

DTYPE returns information about the specified member. The function returns "C" if the member is a consolidated member, "N" if the member is a numeric member, and "S" if the member is a string member.

Syntax

```
DTYPE(server:dimension, element)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required

Example

In this example, the TM1 server name is SData. The member Europe in the dimension Region is a consolidated member, so the example returns "C".

```
DTYPE("SData:Region", "Europe")
```

In this example, the TM1 server name is GO_New_Stores. If the Tents member contains numeric data, such as product numbers, the function returns N. If the Tents member contains text, such as model names, the function returns S.

```
DTYPE("GO_New_Stores:Products", "Tents")
```

ELCOMP

ELCOMP returns the name of a child of a consolidated member in a specified dimension.

Syntax

```
ELCOMP(server:dimension, element, index)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a consolidated member within the dimension. This argument can also be the name of an alias for a dimension member. If the member is not a consolidated member, the function returns 0.	Required
index	A positive value less than or equal to the total number of children in the specified member. If you enter a value greater than the number of children in the member or if you enter 0, the function returns a blank cell.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the second child member under Europe. If Europe is a consolidated member with the children Central Europe, Northern Europe, and Southern Europe, the function returns Northern Europe.

- Europe
 - Central Europe
 - **Northern Europe**
 - Southern Europe

```
ELCOMP("GO_New_Stores:Country and Region","Europe",2)
```

ELCOMPN

ELCOMPN returns the number of children of a specified member.

Syntax

```
ELCOMPN(server:dimension, element)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a consolidated member within the dimension. This argument can also be the name of an alias for a dimension member. If the member is not a consolidated member, the function returns 0.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the number of child members under Europe.

If Europe is a consolidated member with the children Central Europe, Northern Europe, and Southern Europe, the function returns 3.

```
ELCOMPN("GO_New_Stores:Country and Region","Europe")
```

Canada is not a consolidated member in the Country and Region dimension, so the function returns 0.

```
ELCOMPN("GO_New_Stores:Country and Region","Canada")
```

ELISCOMP

ELISCOMP determines whether element1 is an immediate child of element2 in the specified dimension.

The function returns TRUE if element1 is an immediate child of element2, otherwise the function returns FALSE.

Syntax

```
ELISCOMP(server:dimension, element1, element2)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required

Argument	Description	Required/Optional
element1	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required
element2	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required

Example

The following examples use the GO_New_Stores TM1 server and a dimension called Products with the following structure:

- Total Products
 - Camping Equipment
 - Tents
 - Lanterns
 - Golfing Equipment
 - Putters
 - Golf Accessories

```
ELISCOMP("GO_New_Stores:Products","Tents","Golf Equipment")
```

In this example, the function returns FALSE because Tents is not a child of the Golf Equipment member in the Products dimension.

```
ELISCOMP("GO_New_Stores:Products","Tents","Camping Equipment")
```

In this example, the function returns TRUE because Tents is a child of the Camping Equipment member.

Note that the ELISCOMP function returns TRUE only for immediate children. In the above example, Tents is a child of Camping Equipment. Further, Camping Equipment is a child of Total Products. However, because the function returns TRUE only for immediate children, the following example returns FALSE:

```
ELISCOMP("GO_New_Stores:Products","Tents","Total Products")
```

ELISPAR

ELISPAR determines whether member1 is an immediate parent of member2 in the specified dimension.

The function returns TRUE if member1 is an immediate parent of member2, otherwise the function returns FALSE.

Syntax

```
ELISPAR(server:dimension, member1, member2)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required

Argument	Description	Required/Optional
member1	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required
member2	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required

Example

The following examples use the GO_New_Stores TM1 server and a dimension called Products with the following structure:

- Total Products
 - Camping Equipment
 - Tents
 - Lanterns
 - Golfing Equipment
 - Putters
 - Golf Accessories
 - Mountaineering Equipment
 - Rope

```
ELISPAR("GO_New_Stores:Products", "Mountaineering Equipment", "Tents")
```

In this example, the function returns FALSE because Mountaineering Equipment is not a parent member of Tents in the Products dimension.

```
ELISPAR("GO_New_Stores:Products", "Camping Equipment", "Tents")
```

In this example, the function returns TRUE because Camping Equipment is a parent member of Tents in the Products dimension.

Note that the ELISPAR function returns TRUE only for immediate parents. In the above example, Total Products is a parent of Camping Equipment. Further, Camping Equipment is a parent of Tents. However, because Total Products is not an immediate parent of Tents, the following example returns FALSE:

```
ELISPAR("GO_New_Stores:Products", "Total Products", "Tents")
```

ELLEV

ELLEV returns the level of a member within a dimension.

Syntax

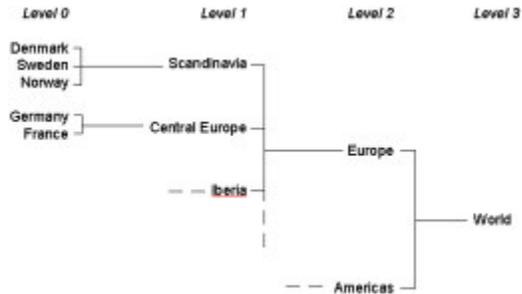
```
ELLEV(server:dimension, element)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required

Argument	Description	Required/Optional
element	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required

Example

These examples use the TM1 server SData and a dimension called Region. In the Region dimension, individual nations (Level 0) add up to regions (Level 1). The regions then add up to super-regions (Level 2), which in turn add up to the world (Level 3).



```
ELLEV("SData:region", "Norway")
```

In this example, the function returns 0 because Norway is a leaf level member of the Region dimension.

```
ELLEV("SData:region ", "Scandinavia")
```

In this example, the function returns 1 because Scandinavia is a Level 1 member of the Region dimension.

```
ELLEV("SData:Region", "Europe")
```

In this example, the function returns 2 because Europe is a Level 2 member of the Region dimension.

ELPAR

ELPAR returns the parent of a member in a specified dimension

Syntax

```
ELPAR(server:dimension, element, index)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required
index	A positive value less than or equal to the total number of unique consolidated members (parents) that use the member argument as a child. Tip: You can use the ELPARN function to find out how many unique parents a member has.	Required

Example

The following examples use the SData TM1 server and a dimension called model with the following structure:

- L Series 2WD
 - L Series 4WD
 - L Series
 - L Series Sedan
 - L Series Wagon
- S Series 2WD
- Total
 - L Series
 - L Series Sedan
 - L Series Wagon
 - S Series
 - T Series

```
ELPAR("SData:model","L Series 4WD",1)
```

In this example, the function returns L Series 2WD, the parent of L Series 4WD.

```
ELPAR("SData:model","L Series",2)
```

In this example, the function returns Total. L Series is a child of two unique parents: L Series 2WD and Total. In the structure of the model dimension, Total appears second, so this is the member returned by the function.

```
ELPAR("SData:model","L Series Wagon",2)
```

In this example, the function returns a blank cell. L Series Wagon appears twice, but in both cases the parent is L Series. Since L Series Wagon does not have a second unique parent, the function returns a blank cell.

ELPARN

ELPARN returns the number of unique parents of a member in a specified dimension.

Syntax

```
ELPARN(server:dimension, element)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a member within the dimension. This argument can also be the name of an alias for a dimension member.	Required

Example

The following examples use the SData TM1 server and a dimension called model with the following structure:

- L Series 2WD
 - L Series 4WD
 - L Series
 - L Series Sedan
 - L Series Wagon
- S Series 2WD
- Total
 - L Series
 - L Series Sedan
 - L Series Wagon
 - S Series
 - T Series

```
ELPARN("SData:model", "L Series")
```

In this example, the function returns 2. In the model dimension, L Series has two unique parents: L Series 2WD and Total.

```
ELPARN("SData:model", "L Series Wagon")
```

In this example, the function returns 1. In the model dimension, L Series Wagon has one unique parent, L Series.

ELSLEN

ELSLEN returns the length of a member name within a dimension, if the member name is a string.

If the member specified is not a member of the dimension specified, or is not a string member, the function returns 0.

If you use an alias in the member argument, the function returns the length of the member name corresponding to the alias.

Syntax

```
ELSLEN(server:dimension, element)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element	The name of a string member within the dimension. This argument can also be the name of an alias for a dimension member.	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns 6. The member Europe is a string with a length of six characters.

```
ELSLEN("GO_New_Stores:Country and Region", "Europe")
```

In this example, the function returns 15. Nordeuropa is an alias of the Northern Europe member. The Northern Europe member is a string with a length of 15 characters.

```
ELSLEN("GO_New_Stores:Country and Region","Nordeuropa")
```

ELWEIGHT

ELWEIGHT returns the weight of a child in a consolidated member.

Syntax

```
ELWEIGHT(server:dimension, element1, element2)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
element1	The name of a consolidated member within the dimension. This argument can also be the name of an alias for a dimension member. If member1 is not a consolidated member, the function returns 0.	Required
element2	The name of a child of the consolidated member. This argument can also be the name of an alias for a dimension member. If member1 is not a parent of member2, the function returns 0.	Required

Example

The following examples use the SData TM1 server and a member called Gross Margin with two child members.

Children of 'Gross margin'		
Name	Type	Weight
Sales	Simple	1
Variable Costs	Simple	-1

```
ELWEIGHT("SData:Account1","Gross Margin","Sales")
```

In this example, the function returns 1. The member Sales, which is a child of Gross Margin, has a weight of 1.

```
ELWEIGHT("SData:Account1","Gross Margin","Variable Costs")
```

In this example, the function returns -1. The member Variable Costs, which is a child of Gross Margin, has a weight of -1.

SUBNM

SUBNM returns the member of a set corresponding to the IndexOrName argument.

If you include the optional alias parameter to this function, the function returns the alias for the selected member.

When you double-click a cell containing a SUBNM function and the data source that contains the SUBNM function dimension is selected, the Set Editor opens.

When you click a cell containing a SUBNM function that references a set, a drop-down arrow is displayed. Click the down arrow to select a different member from the set. This feature is available when you are logged on to a data source that contains the dimension.

Syntax

```
SUBNM(server:dimension, set, IndexOrName, [alias])
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
set	The name of a set in the dimension. If the value of the set argument is an empty string, the value is considered subset all .	Required
IndexOrName	An index into the set or the name of a member in the set. If an index, a positive integer less than or equal to the total number of members in the specified set. If a name, a string representing the name of a member of the set. You can also use the alias of a member.	Required
alias	The name of an alias that exists for the set. If it is used, the specified alias is applied when the Set Editor opens and the function returns the alias for the selected member.	Optional

Example

The following examples use the GO_New_Stores TM1 server, a dimension called Country and Region, and a set called Countries Only.

- Countries Only
 - Americas
 - Central Europe
 - Northern Europe
 - Southern Europe
 - Asia-Pacific

```
SUBNM("GO_New_Stores:Country and Region", "Countries Only", "Americas")
```

In this example, the function returns Americas.

```
SUBNM("GO_New_Stores:Country and Region", "Countries Only",2)
```

In this example, the function returns Central Europe, which is the second member in the Countries Only set of the Country and Region dimension.

The following examples use the Planning Sample TM1 server, a dimension called plan_department, and a set called All Departments. The members in this dimension are named with department ID numbers. The Department alias contains the department names.

The following table lists the members in the All Departments set. The first column lists the member names. The second column shows the Department alias of each member.

member name	Department
1000	Total Organization
100	Sales
200	Marketing
300	Engineering

```
SUBNM("Planning Sample:plan_department","All Departments",
"300","Department")
```

In this example, the function returns Engineering. The third argument is the member name, 300, and the fourth argument, Department, is the name of the alias to retrieve. The Department alias for 300 is Engineering.

```
SUBNM("Planning Sample:plan_department","All Departments",
"100","Department_Spanish")
```

Suppose another alias, Department_Spanish, contains department names in Spanish. In this example, the function returns Ventas. The third argument is the member name, 100, and the fourth argument, Department_Spanish, is the name of the alias to retrieve. The Department_Spanish alias for 100 is Ventas.

When you double-click the cell containing this example, the Set Editor opens. The Available Members list displays the Spanish aliases for the plan_department dimension and its members.

SUBSIZ

SUBSIZ returns the number of members in a dimension set.

Syntax

```
SUBSIZ(server:dimension, set)
```

Argument	Description	Required/Optional
server:dimension	The name of the TM1 server and a dimension name.	Required
set	The name of a set in the dimension. If the value of the set argument is an empty string, the value is considered subset all .	Required

Example

In this example, the TM1 server name is GO_New_Stores. The function returns the number of members in the Countries Only set of the Country and Region dimension. If the set contains six members, for example, the function returns 6.

```
SUBSIZ("GO_New_Stores:Country and Region", "Countries Only")
```

TABDIM

TABDIM returns the dimension name that corresponds to a given index argument.

Syntax

```
TABDIM(server:cube, index)
```

Argument	Description	Required/Optional
server:cube	The name of the TM1 server and a cube name.	Required
index	A positive value less than or equal to the total number of dimensions in the cube. The functions returns a blank cell if you enter 0 or if you enter a value greater than the number of dimensions in the cube.	Required

Example

In this example, the TM1 server name is GO_New_Stores and the cube name is Base Sales Forecast. The Base Sales Forecast cube has the following dimensions: Country and Region, Retailers, Existing Stores Revenue, Store Type, Budget version, and Month. The function returns Store Type, the fourth dimension in the Base Sales Forecast cube with an index number of 4.

```
TABDIM("GO_New_Stores:Base Sales Forecast",4)
```

TM1ELLIST

TM1ELLIST returns a downwards array vector of values. It is useful because you can get a set of element values from a TM1 model by using a single formula.

Note:

- TM1ELLIST does not overwrite or insert into any non-formula space like a Dynamic Report. It is up the workbook designer to consume the plural value response correctly.
- TM1ELLIST returns an array of values, however, only the first element is displayed if the function is placed into a singular value store.

This worksheet function is valid in worksheets only.

Syntax

```
TM1ELLIST(ServerDimension, [SetName], [ElementList],  
[AliasOverride], [ExpandAbove], [MDXOverride], [IndentRate], [IndentCharacter])
```

Argument	Description	Required/Optional
ServerDimension	A dimension, specified using the format server:dimension.	Required
SetName	A named set. If this argument is empty, all elements of the dimension are used.	Optional
Elementlist	An array of values that specifies a list of elements to constitute a set. For example, ElementList can reference a cell range. When this argument is supplied, the named set specified by the SetName argument is ignored. If this argument is empty, the elements from the set specified by the SetName argument are used.	Optional

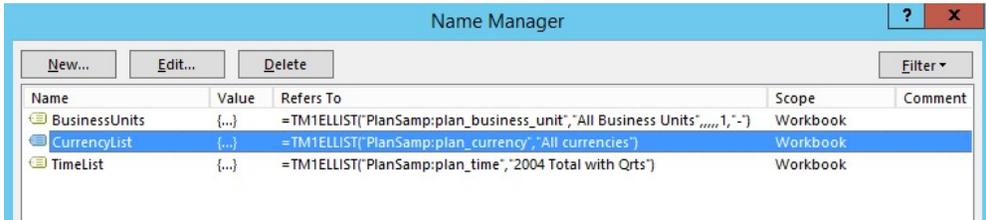
Argument	Description	Required/Optional
AliasOverride	<p>A string that defines the alias used for the set.</p> <p>When this argument is supplied, it overrides the default alias property defined by the subset specified by the SetName argument.</p> <p>If this argument is empty, the alias from the set specified by the SubsetName argument is used.</p>	Optional
ExpandAbove	<p>A Boolean flag to turn on or off the set Expand Above property.</p> <p>When this argument is supplied, it overrides the default Expand Above property defined by the subset specified by the Set argument.</p> <p>If the argument value is 1, consolidated members expand upward when drilling.</p> <p>If the argument value is 0, consolidated members expand downward when drilling. If this argument is empty, the Expand Above property from the subset specified by the Subset argument is used.</p>	Optional
MDXOverride	<p>An MDX statement that applies to the subset specified by the SubsetName/ElementList argument.</p> <p>When this argument is supplied, it overrides the default MDX filter defined by the subset specified by the SetName argument.</p> <p>If this argument is empty or omitted, the members from the set specified by the SetName argument are used.</p>	Optional
IndentRate	<p>An integer value to indicate how many indentations are applied to each level when drilling down on a consolidated member.</p> <p>If the argument value is 0, no auto-indentation is performed. IndentRate is relative to the set level of the set elements.</p> <p>If this argument is empty or omitted, one indentation is applied to each level as you drill down on a consolidated member.</p>	Optional
IndentCharacter	<p>IndentChar sets the symbol used to provide in-string indentation, the default is the en-space character (the normal space symbol).</p>	Optional

Example

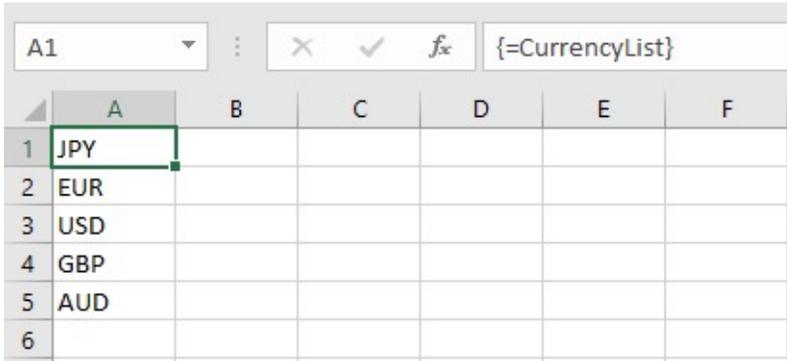
```
TM1ELLIST("PlanSamp:plan_currency","All currencies")
```

TM1ELLIST returns an array of elements based on given arguments.

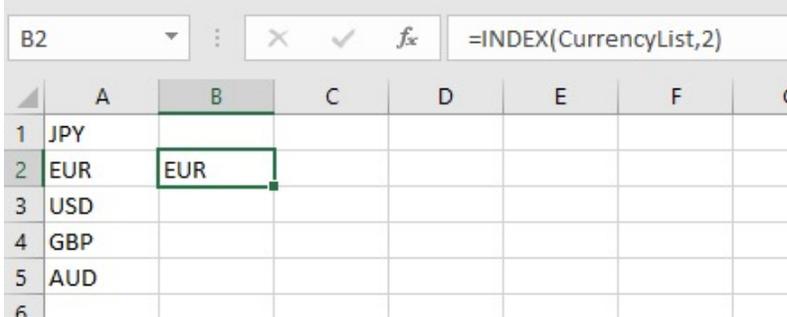
To retrieve all the returned values, a named range can be created in Excel, referring to the formula. To do this, create a named range and enter the TM1ELLIST formula in the **Refers To** column.



Select desired number of cells (based on the return array size) in Excel, type `=[namedrange]`, and hit CTRL+Shift+Enter.



The Excel INDEX function can then be used to extract a single element for the range.



TM1GLOBALSANDBOX

TM1GLOBALSANDBOX returns the current global active sandbox for the user.

Note: This function is valid only in Planning Analytics for Microsoft Excel and in Planning Analytics websheets. It is not supported in IBM TM1 Perspectives.

Syntax

TM1GLOBALSANDBOX(SERVER)

Argument	Description	Required/Optional
Server	The name of the TM1 server.	Required

Example

TM1GLOBALSANDBOX("Planning Sample")

TM1INFO

TM1INFO returns information about the current TM1 version and client.

Note: This function is valid only in Planning Analytics for Microsoft Excel and in Planning Analytics websheets. It is not supported in IBM TM1 Perspectives.

Syntax

```
TM1INFO("Property Name")
```

Argument	Description	Required/Optional
Property Name	The property name can be one of the following: clientversion Returns the full client version number. For example, 10.2.10000 clientversionmajor Returns the major client version number. clientversionminor Returns the minor client version number. clientversionpatch Returns fix pack and hotfix number. client Returns the name of the client. For example, cor or websheet.	Required

Example

```
TM1INFO("clientversion")
```

TM1PRIMARYDBNAME

TM1PRIMARYDBNAME returns the primary TM1 server name that the user is authenticated through, even if the user is implicitly logged into multiple TM1 servers. This function doesn't accept any arguments.

Note: This function is valid only in Planning Analytics for Microsoft Excel and in Planning Analytics websheets. It is not supported in IBM TM1 Perspectives.

Syntax

```
TM1PRIMARYDBNAME()
```

TM1RPTTELISCONSOLIDATED

TM1RPTTELISCONSOLIDATED returns a Boolean value to indicate whether a member in a Dynamic Report is consolidated.

Syntax

```
TM1RPTTELISCONSOLIDATED(RptRowFormula, RowHeaderCell)
```

Argument	Description	Required/Optional
RptRowFormula	An absolute reference to a cell that contains a TM1RPTROW formula.	Required

Argument	Description	Required/Optional
RowHeaderCell	A relative reference to a cell that contains a member from the TM1RPTROW formula.	Required

Example

```
TM1RPTTELISCONSOLIDATED($B$25,$B25)
```

TM1RPTSELLSEXPANDED

TM1RPTSELLSEXPANDED returns a Boolean value to indicate whether or not a member is expanded in a Dynamic Report row set.

Syntax

```
TM1RptElIsExpanded(RptRowFormula, RowHeaderCell)
```

Argument	Description	Required/Optional
RptRowFormula	An absolute reference to a cell that contains a TM1RPTROW formula.	Required
RowHeaderCell	A relative reference to a cell that contains a member from the TM1RPTROW formula.	Required

Example

```
TM1RPTSELLSEXPANDED($B$25,$B25)
```

TM1RPTELLELEV

TM1RPTELLELEV returns an integer value representing a member level within a hierarchy. This function is used in Dynamic Reports.

Syntax

```
TM1RPTELLELEV(RptRowFormula, RowHeaderCell)
```

Argument	Description	Required/Optional
RptRowFormula	An absolute reference to a cell that contains a TM1RPTROW formula.	Required
RowHeaderCell	A relative reference to a cell that contains a member from the TM1RPTROW formula.	Required

Note: In the current release, TM1RPTELLELEV and ELLEV are equivalent. Both functions return the level of a member based on the dimension.

Example

```
TM1RPTELLELEV($B$25,$B25)
```

TM1RPTFILTER

TM1RPTFILTER defines the filter applied to a Dynamic Report column dimension.

Syntax

```
TM1RPTFILTER(ReportView, Tuple, FilterFunction, FilterValue, SortOrder)
```

Argument	Description	Required/Optional
ReportView	A cell reference to a cell that contains a TM1RPTVIEW formula. The filter applies to the view specified by the TM1RPTVIEW formula.	Required
Tuple	A tuple string specifying the member in the column dimension to which the filter applies. For example, [month].[Feb].	Required
FilterFunction	One of the following filter function names: <ul style="list-style-type: none"> • TOPCOUNT • BOTTOMCOUNT • TOPPERCENT • BOTTOMPERCENT • TOPSUM • BOTTOMSUM 	Required
FilterValue	A filter value.	Required
SortOrder	One of the following sort orders: <ul style="list-style-type: none"> • asc: Ascending • desc: Descending • nbasc: Ascending without breaking the hierarchy • nbdesc: Descending without breaking the hierarchy 	Required

Example

```
TM1RPTFILTER($B$4, "[month].[Jan]", "TOPCOUNT", 5, "asc")
```

TM1RPTROW

TM1RPTROW sets the Dynamic Report control row definition. The control row definition governs the behavior of all rows in the Dynamic Report.

Syntax

```
TM1RPTROW(SAFID, ServerDimension, [SetName], [ElementList], [AliasOverride], [ExpandAbove], [MDXOverride], [IndentRate], [AllowDrilling])
```

Argument	Description	Required/Optional
SAFID	A reference to a cell that contains a TM1RPTVIEW formula.	Required
ServerDimension	A dimension, specified using the format server:dimension.	Required

Argument	Description	Required/Optional
SetName	A named set. If this argument is empty, all elements of the dimension are used.	Optional
ElementList	<p>An array of values that specifies a list of members to constitute a set. For example, ElementList can reference a cell range.</p> <p>When this argument is supplied, the named set specified by the SetName is ignored.</p> <p>If this argument is empty, the members from the set specified by the SetName are used.</p>	Optional
AliasOverride	<p>A string that defines the alias used for the set.</p> <p>When this argument is supplied, it overrides the default alias property defined by the set specified by the Set argument.</p> <p>If this argument is empty, the alias from the set specified by the set argument is used.</p>	Optional
ExpandAbove	<p>A Boolean flag to turn on or off the subset Expand Above property. When this argument is supplied, it overrides the default ExpandAbove property defined by the subset specified by the Subset argument.</p> <p>If the argument value is 1, consolidated members expand upward when drilling.</p> <p>If the argument value is 0, consolidated members expand downward when drilling.</p> <p>If this argument is empty or omitted, the Expand Above property from the subset specified by the Subset argument is used.</p>	Optional
MDXOverride	<p>An MDX statement that applies to the set specified by the Set/SetMembers argument.</p> <p>When this argument is supplied, it overrides the default MDX filter defined by the set specified by the set argument.</p> <p>If this argument is empty or omitted, the members from the set specified by the set argument are used.</p>	Optional
IndentRate	<p>An integer value to indicate how many indentations are applied to each level when drilling down on a consolidated member. If the argument value is 0, no auto-indentation is performed.</p> <p>If this argument is empty or omitted, one indentation is applied to each level as you drill down on a consolidated member.</p>	Optional

Argument	Description	Required/Optional
AllowDrilling	<p>A Boolean flag to turn on or off drilling on consolidated members.</p> <p>When this argument value is 1, you can drill down on consolidated members in the Dynamic Report.</p> <p>When this argument value is 0, you cannot drill down on consolidated members in the Dynamic Report.</p> <p>If this argument is empty or omitted, the default behavior is to allow drilling on consolidated members.</p>	Optional

Example

```
TM1RPTROW($B$9,"SData:region",,"$B$17:$B$18",,1,"",5,0)
```

```
TM1RPTROW($B$16,"GO_New_Stores:Retailers",,,,,B$15)
```

TM1RPTTITLE

TM1RPTTITLE defines a Dynamic Report title dimension.

Syntax

```
TM1RPTTITLE(server:dimension,Element)
```

Argument	Description	Required/Optional
server:dimension	A dimension, specified using the format server:dimension.	Required
Element	A cell reference to a cell that contains a SUBNM function that returns a member name.	Required

Example

```
TM1RPTTITLE("SData:model", $C$7)
```

TM1RPTVIEW

TM1RPTVIEW defines the view displayed in a Dynamic Report.

Syntax

```
TM1RPTVIEW(ViewID,ZeroSuppression,TM1RPTTITLE,...)
```

Argument	Description	Required/Optional
ViewID	A name for the view using the format server:cube:unique_id.	Required

Argument	Description	Required/Optional
ZeroSuppression	A Boolean flag to turn on or off the zero suppression property for the view. 1 = on, 0 = off	Required
TM1RPTTITLE	For each title dimension in the Dynamic Report, include a reference to a TM1RPTTITLE function as an argument to TM1RPTVIEW.	Required
FormatRange	The formatting range for the Dynamic Report. You can use a cell reference or a named range for this parameter. When you create a Dynamic Report, a named range called TM1RPTFMTRNG is created to include all formatting range cells. You can use this named range as an argument.	Required
IDColumn	The column in the Dynamic Report that contains format IDs. You can use a cell reference or a named range for this parameter. When you create a Dynamic Report, a named range called TM1RPTFMTIDCOL is created to include all formatting range cells. You can use this named range as an argument.	Required

Example

```
TM1RPTVIEW("SData:SalesCube:6", 0, TM1RPTTITLE("SData:actvsbud", $C$6),
TM1RPTTITLE("SData:model1", $C$7), TM1RPTTITLE("SData:account1", $C$8),
TM1RPTFMTRNG, TM1RPTFMTIDCOL)
```

TM1USER

TM1USER returns the user name of the user currently logged in to TM1 and using the TM1USER function.

If the current user is not connected to a TM1 server, or if the specified server is not running, TM1USER returns an empty string.

Note: If you run TM1USER against a TM1 server that is configured to use Cognos security, the function returns the user name, not the internal user name/CAMID. (In TM1 Perspectives, this function returns the internal user name/CAMID.)

Syntax

```
TM1USER("server")
```

Argument	Description	Required/Optional
server	The name of a TM1 server.	Required

Example

If a user named BrianT is logged in to the GO_New_Stores server, and BrianT runs the TM1USER function, this example returns BrianT.

```
TM1USER("GO_New_Stores")
```

VIEW

VIEW is primarily used for compatibility with IBM TM1 Perspectives worksheets. For example, when you create a slice from a TM1 Perspectives worksheet and open it in IBM Planning Analytics for Microsoft Excel, you might see a VIEW function. The VIEW function defines a view of the cube specified by the server:cube argument.

DBR and DBRW formulas can refer to a VIEW function.

A workbook can contain multiple VIEW functions.

Syntax

```
VIEW(server:cube, m1,m2[,...mn])
```

Argument	Description	Required/Optional
server:cube	The name of the TM1 server and the name of the cube from which to retrieve data.	Required
m1,...mn	Either specific members in the slice to be used as titles, or the string "!". The string "!" indicates that the corresponding dimension is a row or column in the view. Arguments m1 through mn are sequence-sensitive. m1 must be a member from the first dimension of the cube, m2 must be a member from the second dimension, and so on. These arguments can also be the names of aliases for dimension members.	Required

Example

The following examples use the GO_New_Stores TM1 server. The dimensions in this cube are:

- Retailers
- Countries_currency
- Products
- Month
- Budget version
- Store Sales Plan

```
VIEW("GO_New_Stores:Store Sales Plan")
```

In this example, the function defines a view for the Store Sales Plan cube. The cell containing the VIEW function displays GO_New_Stores:Store Sales Plan.

```
VIEW("GO_New_Stores:Store Sales Plan","Department Store",  
"Americas","!", "!", "Budget version 1","Quantity")
```

In this example, the function defines a view as follows:

- Title members: Department Store, Americas, Budget version 1, Quantity
- Rows: Products
- Columns: Month

The cell containing the VIEW function displays GO_New_Stores:Store Sales Plan.

You can also use cell references in a VIEW function:

```
VIEW("GO_New_Stores:Store Sales Plan", "$B$20", "$B$21", "!", "!", "$B$23, $B$24")
```

Suppose that cell B5 contains the VIEW function shown above. You can display data from the view by using a DBR or DBRW function that references the view.

```
DBR(B5, "Department Store", "Americas", "Tents", "Total Year", "Budget version 1", "Quantity")
```

In this example, the DBR function returns the value at the intersection of Department Store, Americas, Tents, Total Year, Budget version 1, and Quantity in the view that is defined in cell B5.

You can also use cell references for some or all of the arguments:

```
DBR(B5, D55, D56, D57, D58, D59, "Quantity")
```

Display the data source or package of a formula

When working in Dynamic Reports and Custom Reports, you can use more than one data source or package. You can synchronize the source tree when moving from cells of one data source or package to another. Synchronizing the source tree enables you to see accurately the dimensional data used to populate the cells.

Right-click a formula cell and click **IBM Planning Analytics > Display Package**. The Task Pane displays the package or data source that was used to create the selected cell.

DBR and DBRW formulas

DBRW formulas are created, for example, when you create a Dynamic Report by converting an Exploration View or Quick Report and when you convert an Exploration View to a Custom Report. DBRW formulas define the data cells. You can also create your own DBR and DBRW formulas.

You can use several techniques to modify DBR and DBRW formulas.

You can modify the members that are used as arguments in DBR and DBRW formulas by using the following methods:

- Drag a member from the source tree onto a cell that contains a DBR or DBRW formula
- Use the Function Editor to modify the members that are used by a formula in a cell.
- Use the Function Editor to modify the members that are used by the formulas in a range of cells.

Modify DBR and DBRW formulas by dragging members from the source tree

You can change the members that are used in a DBR or DBRW formula by dragging members from the source tree.

Before you begin

You can drag members from the source to modify a DBR or DBRW formula when the following conditions are met:

- The DBR or DBRW formula includes a value for the `server:cube` parameter.
- You are connected to the data source referenced in the `server:cube` parameter.

Tip: To open the data source, right-click the cell and select **IBM Planning Analytics > Display Package**. The source tree displays the data source.

Procedure

1. In the source tree, expand a dimension and locate the member that you want to use in the formula.

2. Click and drag the member onto the cell that contains the DBR or DBRW formula that you want to modify.

Results

The formula is updated in the worksheet.

Modify a range of DBR and DBRW functions

You can modify the DBR or DBRW functions that are used in a range of cells by using the DBR Function Editor.

Before you begin

The DBR Function Editor is available when the following conditions are met:

- The first cell in the range contain a DBR or DBRW function.
- All DBR or DBRW functions in the range have the same value for the `server:cube` parameter.
- You are connected to the data source referenced in the `server:cube` parameter.

Tip: To open the data source, right-click the cell and select **IBM Planning Analytics > Display Package**. The source tree displays the data source.

About this task

You can select a range of cells that contain DBRW functions and change one or more members that are used by all of the DBRW functions in the range. Dimensions that have multiple members within the range are not available for editing.

For example, if all DBRW functions in a column use Jan for the Month dimension and Europe for the Region dimension, you can change Jan to Feb and Europe to France. If the member used for the Account dimension varies within the column, the Account field is disabled in the DBR Function Editor. When you click OK, the DBRW functions in the column are updated with Feb and France. All other members that are used by the DBRW functions remain unchanged.

Procedure

1. Select a range of cells.
2. Select the range and select the Insert Function button.
The Excel Function Editor is displayed. The **Arguments** list shows the parameter values that are used by the functions. The members that are common to all of the cells in the range are available for editing.
3. Modify the members that are used in the parameters by using any of the following techniques:
 - To specify a value directly, type a member name into the field. For example, to change the member for the first dimension in the cube, type a member name into the first field.
 - To use a cell reference, click . Click a cell and then click **OK**.
4. Click **OK**.

Note: You might need to scroll down in the Function Editor to see all of the parameters.

The functions are updated in the worksheet.

SUBNM formulas

SUBNM formulas are created, for example, when you create a Dynamic Report by converting an Exploration View or Quick Report and when you convert an Exploration View to a formula-based report. SUBNM formulas define the context members.

You can modify SUBNM formulas by using the set editor or by editing the formula.

You can also create your own SUBNM formulas.

To modify a SUBNM formula, double-click the cell. The set editor opens. Use the set editor to select members, and then click **OK**. The formula is updated.

You can also edit SUBNM formulas manually.

MDX Function Support

All TM1 supported Microsoft-defined and TM1 specific functions are listed in this section.

Support for Microsoft-defined MDX Expressions and Functions

TM1 supports Microsoft-defined MDX expressions and functions. The TM1 implementation of these functions and expressions is based on the definitions in the Microsoft MSDN library, which is available at the Microsoft MSDN website.

Supported Member Expressions

The following MDX member expressions are supported.

- <dimension>.CURRENTMEMBER
- <member>.FIRSTCHILD
- <member>.FIRSTSIBLING
- <member>.LAG
- <member>.LASTCHILD
- <member>.LASTSIBLING
- <member>.LEAD
- <member>.NEXTMEMBER
- <member>.PARENT
- <member>.PREVMEMBER

Supported Member Functions

The following MDX member functions are supported.

- ANCESTOR(...)
- COUSIN(...)
- OPENINGPERIOD(...)
- PARALLELPERIOD(...)

Supported Numeric Functions

The following MDX numeric functions are supported.

- AGGREGATE(...)
- AVG(...)
- CORRELATION(...)
- COUNT(...)
- COVARIANCE(...)
- LINREGINTERCEPT(...)
- LINREGPOINT(...)
- LINREGR2(...)
- LINREGSLOPE(...)
- LINREGVARIANCE(...)

- MAX(...)
- MEDIAN(...)
- MIN(...)
- RANK(...)
- STDDEV(...)
- SUM(...)
- VAR(...)

Supported Set Expressions

The following MDX set expressions are supported.

- <dimension>.MEMBERS
- <level>.MEMBERS
- <member>.CHILDREN
- <member>.SIBLINGS

Supported Set Functions

The following MDX set functions are supported.

- ADDCALCULATEDMEMBERS(...)
- BOTTOMCOUNT(...)
- BOTTOMPERCENT(...)
- BOTTOMSUM(...)
- CROSSJOIN(...)
- DESCENDANTS(...)
- DISTINCT(...)
- DRILLDOWNLEVEL(...)
- DRILLDOWNLEVELBOTTOM(...)
- DRILLDOWNLEVELTOP(...)
- DRILLDOWNMEMBER(...)
- DRILLDOWNMEMBERBOTTOM(...)
- DRILLDOWNMEMBERTOP(...)
- DRILLUPMEMBER(...)
- DRILLUPLEVEL(...)
- EXCEPT(...)
- EXTRACT(...)
- FILTER(...)
- GENERATE(...)
- HEAD(...)
- HIERARCHIZE(...)
- INTERSECT(...)
- LASTPERIODS(...)
- ORDER(...)
- PERIODSTODATE(...)
- TOPCOUNT(...)

- TOGGLEDRILLSTATE(...)
- TOPPERCENT(...)
- TOPSUM(...)
- SUBSET(...)
- UNION(...)

Supported Tuple Expressions

The following MDX tuple expressions are supported.

- <set>.CURRENTMEMBER
- <set>[.ITEM](...)

TM1 specific MDX functions

TM1 supports several TM1 specific MDX expressions. You can apply these expressions while developing MDX applications to run against the server or when creating/editing dynamic subsets in the Expression Window of the Subset Editor.

TM1FILTERBYPATTERN(<set>, <pattern_str>)

This TM1 specific MDX function returns all the members in <set> with names matching the pattern <pattern_str>.

Syntax

The syntax of <pattern_str> is the same used for the Select By Regular Expression option on the Subset Editor.

TM1FILTERBYLEVEL(<set>, <level_number>)

This TM1 specific MDX function returns all the members in <set> of the specified <level_number>.

Syntax

<level_number> is a number specifying the TM1 level number not an MDX level number.

TM1DRILLDOWNMEMBER(<set1>, <set2>|ALL [,RECURSIVE])

This TM1 specific MDX function is similar to the DRILLDOWNMEMBER function from Microsoft , but it has been adjusted to match the functionality of the Expand button {bmct expand_button.bmp} on the Subset Editor.

Syntax

ALL means drilldown all the members in <set1>.

RECURSIVE means that when one member from <set1> is being drilled down upon, every consolidated member resulting from that expansion will also be recursively drilled down until level 0 (TM1 level 0) is reached.

TM1Member

This function returns a member from a specified tuple.

A null member reference is returned when any of the following conditions are encountered:

- A null Tuple parameter
- An out-of-range numeric Index parameter

- A dimension or hierarchy parameter not found in the passed tuple.

Syntax

```
TM1Member(Tuple, MemberSpecifier);
```

Argument	Description
Tuple	An expression that resolves to a tuple.
MemberSpecifier	This parameter can be either a 0-based numeric index into the tuple or the name of a dimension/hierarchy associated with the tuple. See below for examples showing both parameter types.

Example

```
TM1Member ( [model].Members.Item(23) ,0 ) ]
```

This example uses a numeric index into the tuple as the MemberSpecifier argument.

```
TM1Member( [model].Members.Item(23), [Model] ) ]
```

This example uses the name of a dimension associated with the tuple as the MemberSpecifier argument.

TM1SORT(<set>, ASC|DESC)

This TM1 specific MDX function sorts <set> alphabetically.

Syntax

ASC sorts A-Z

DESC sorts Z-A

TM1SORTBYINDEX(<set>, ASC|DESC)

This TM1 specific MDX function sorts <set> by the index value of the members.

Syntax

ASC sorts by ascending index value.

DESC sorts by descending index value.

TM1SUBSETALL([<dimname>])

This TM1 specific MDX function returns the TM1 subset All of <dimname>.

Syntax

```
TM1SubsetAll([<dimname>]);
```

TM1SubsetToSet

This function returns the members of a TM1 subset. TM1SubsetToSet is equivalent to the `<dimension>.<subsetname>` expression, but does not require string literals. Instead, TM1SubsetToSet lets you use expressions that resolve to the appropriate dimension and subset.

If a private and a public subset have identical names, enter the scope parameter to specify the scope of the search as "private" or "public".

Syntax

```
TM1SubsetToSet(Dimension_exp, Subset_exp, Scope);
```

Argument	Description
Dimension_exp	An expression that resolves to a valid TM1 dimension name. Use [dimension] or [dimension].[hierarchy] to specify a dimension.
Subset_exp	An expression that resolves to a valid subset of the dimension returned by Dimension_exp. When resolving an expression for a subset, the server searches first in the private subset list and then in the public list.
Scope (optional)	The subset list to search, which is specified as private or public. Specify public to search the public list only. If this parameter is not specified and a private and a public subset have the same name, the private subset is returned.

Example

MDX sample code with dimension name [Corp Planning Hry] in the last line:

```
{INTERSECT(EXCEPT(DSCENDANTS([Corp Planning Hry].[Fixed Assets]),  
TM1FILTERBYLEVEL(DSCENDANTS([Corp Planning Hry].[Fixed Assets]),0)),{  
TM1SubsetToSet([Corp Planning Hry],"elist")}),[Corp Planning Hry].[FixedAssets]}
```

MDX sample code with fully qualified dimension name [Corp Planning Hry].[Corp Planning Hry] and [Corp Planning Hry].[FixedAssets] in the last line:

```
{INTERSECT(EXCEPT(DSCENDANTS([Corp Planning Hry].[Fixed Assets]),  
TM1FILTERBYLEVEL(DSCENDANTS([Corp Planning Hry].[Fixed Assets]),0)),{  
TM1SubsetToSet([Corp Planning Hry].[Corp Planning Hry],"elist")}),  
[Corp Planning Hry].[FixedAssets]}
```

Example

MDX sample code with two subsets, one private, one public, both named 'MySub' under a Markets dimension. The following queries on columns from [QB] return the content of the private subset:

```
select TM1SubsetToSet( [QBMarkets].[QBMarkets], 'MySub' )
```

Or:

```
select TM1SubsetToSet( [QBMarkets].[QBMarkets], 'MySub', 'private' )
```

The following query on columns from [QB] returns the content of the public subset:

```
select TM1SubsetToSet( [QBMarkets].[QBMarkets], 'MySub', 'public' )
```

TM1TupleSize

This function returns the number of members in a tuple.

Syntax

```
TM1TupleSize(Tuple);
```

Argument	Description
Tuple	An expression that resolves to a tuple. The function returns 0 if the Tuple argument does not resolve to a valid tuple, or if the tuple is null or empty.

TM1 specific MDX expressions

TM1 supports several TM1 specific MDX expressions. You can apply these expressions while developing MDX applications to run against the server or when creating/editing dynamic subsets in the Expression Window of the Subset Editor.

<dimension>.<subsetname>

This TM1 specific MDX expression returns members of <subsetname> in <dimension>.

Syntax

Since the same syntax (<dimension>.IDENTIFIER) is used for members and levels, a subset with the same name of a member or a level will never be instantiated.

When searching for a subset, the server searches first in the private subset list and then in the public list.

<member>.ANCESTORS

This TM1 specific MDX expression returns the ancestors of <member>.

Syntax

For example, assuming the following hierarchy of the Month dimension:

- Year
 - 1 Quarter
 - Jan
 - Feb
 - Mar

The following expression:

```
month.jan.ANCESTORS
```

returns the set

```
{ 1Quarter, Year }.
```

If the member has more than one immediate parent, the expression returns the set containing the first parent in the default hierarchy. Consider a hierarchy of a Region dimension, where the member Belgium has more than one immediate parent, being Benelux and Europe.

The following expression:

```
region.belgium.ANCESTORS
```

returns the set

```
{ Benelux, Europe }.
```

<member>.WEIGHT

This TM1 specific MDX expression returns the weight of <member>.

Syntax

The weighting property controls how a child member rolls up to its immediate parent, whether that child is also a parent of another consolidation or just a leaf member. Top level consolidations do not have weight.

Drill through to detailed data

A TM1 modeler can define drill processes and drill assignment rules for a data source. If the TM1 cube, view, or relational table that you are working on contains drill processes or drill assignment rules, you can drill through certain cells to detailed data.

About this task

Watch this video to see how you can perform a drill through in Planning Analytics for Microsoft Excel:

https://youtu.be/h_nu4wOPTiw

If your TM1 modeler has defined drill processes or drill assignment rules for a TM1 cube, view, or relational table that you're working with, you can drill through on certain cells in your report. Drilling through on a cell provides detailed data on the cell, and shows you information from the data source. You can drill through on cells in Exploration Views, Custom Reports, Quick Reports, and Dynamic Reports.

Note: Non-admin users require the installation of IBM Planning Analytics with Watson version 2.0.3 IF4 or later to use the drill-through feature.

Depending on the data source, you can perform either a **cube drill through** or a **relational drill through**.

A **cube drill through** is a drill through on a TM1 cube or TM1 view data source. The Drill Through Viewer opens when you drill through a cube or view. The Drill Through Viewer is interactive.

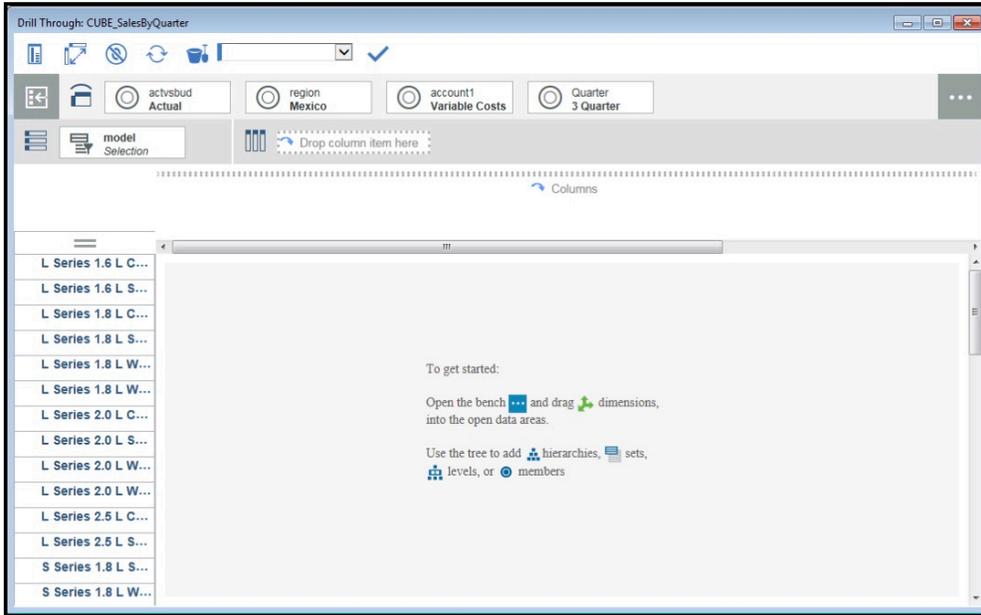


Figure 9. Cube drill through

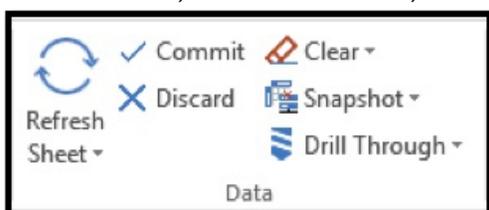
A **relational drill through** is a drill through on a relational table, such as an ODBC or flat file data source. A table viewer opens when you drill through a relational table. The table viewer is non-interactive.

	ActvsBud	Region	Model	Account1	Month	Data
1	Actual	Mexico	L Series 1.6...	Variable Co...	Aug	6255.121
2	Actual	Mexico	L Series 1.8...	Variable Co...	Aug	66.487
3	Actual	Mexico	L Series 1.8...	Variable Co...	Aug	6107.641
4	Actual	Mexico	L Series 2.0...	Variable Co...	Aug	157.811
5	Actual	Mexico	L Series 2.0...	Variable Co...	Aug	8013.225
6	Actual	Mexico	S Series 1....	Variable Co...	Aug	4130.258
7	Actual	Mexico	S Series 2....	Variable Co...	Aug	3419.149
8	Actual	Mexico	S Series 2....	Variable Co...	Aug	4780.411
9	Actual	Mexico	T Series 4....	Variable Co...	Aug	1530.469
10	Actual	Mexico	T Series 4....	Variable Co...	Aug	3051.435
11	Actual	Mexico	L Series 1.6...	Variable Co...	Jul	6945.183
12	Actual	Mexico	L Series 1.8...	Variable Co...	Jul	61.744
13	Actual	Mexico	L Series 1.8...	Variable Co...	Jul	6634.935
14	Actual	Mexico	L Series 2.0...	Variable Co...	Jul	144.586
15	Actual	Mexico	L Series 2.0...	Variable Co...	Jul	7526.122
16	Actual	Mexico	S Series 1....	Variable Co...	Jul	3851.026
17	Actual	Mexico	S Series 2....	Variable Co...	Jul	3723.904
18	Actual	Mexico	S Series 2....	Variable Co...	Jul	4362.173
19	Actual	Mexico	T Series 4....	Variable Co...	Jul	1637.543
20	Actual	Mexico	T Series 4....	Variable Co...	Jul	3105.642
21	Actual	Mexico	L Series 1.6...	Variable Co...	Sep	8299.545
22	Actual	Mexico	L Series 1.8...	Variable Co...	Sep	90.288

Figure 10. Relational drill through

Procedure

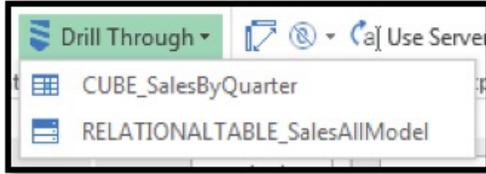
1. Highlight a cell and check to see whether the cell can be drilled on. In the IBM Planning Analytics with Watson ribbon, in the data section, there is an icon for **Drill Through**.



If the **Drill Through** icon is enabled, you can drill through on the highlighted cell.



2. Click the **Drill Through** icon.
3. Click the data source that you want to view the detailed data for.



Results

A drill through view of the data source for the selected cell appears.

Cascading drill through

If your TM1 modeler defined multiple levels of drill processes or drill assignment rules for a TM1 cube, view, or relational table that you're working with, you can successively drill through multiple levels in your report.

About this task

You can successively drill through multiple levels from the Drill Through Viewer or the Cube Viewer.

Procedure

1. Open the Drill Through Viewer or the Cube Viewer.
2. Right-click a drill through capable cell.

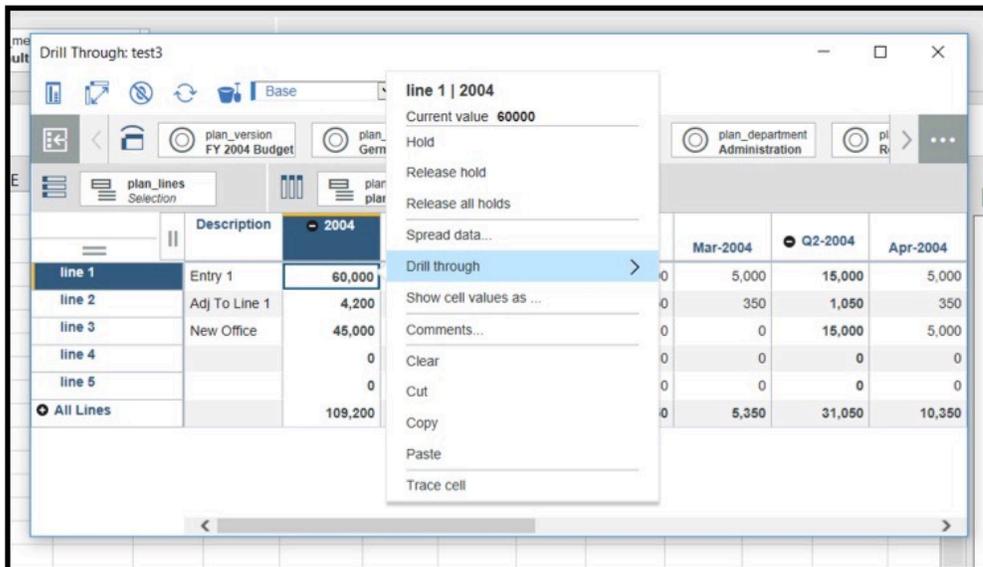


Figure 11. Drill through menu

3. Click **Drill through**.

Note: If the **Drill through** option is disabled, the cell that you right-clicked on does not have drill processes or drill assignment rules set for it.

4. Click the drill process that you want to use.

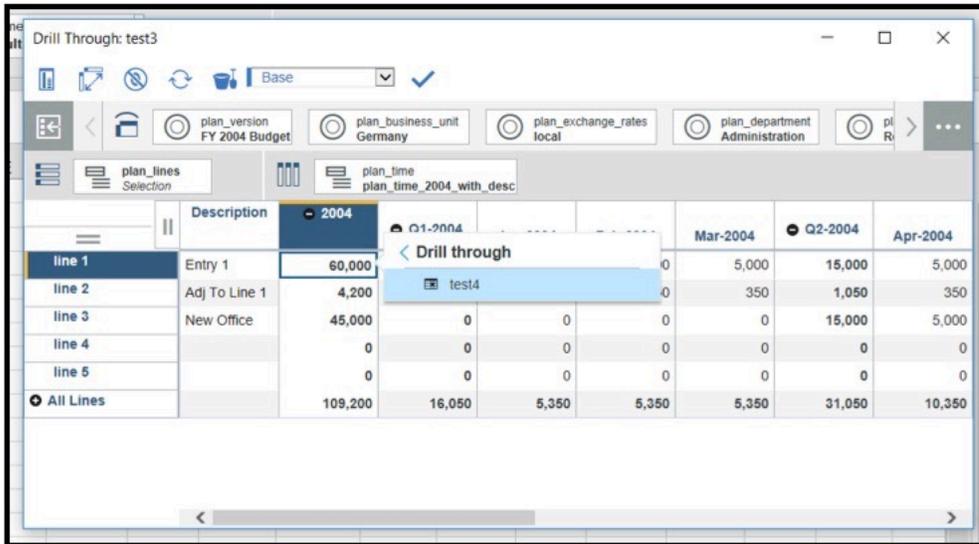


Figure 12. Drill through process

Results

An additional Drill Through Viewer appears.

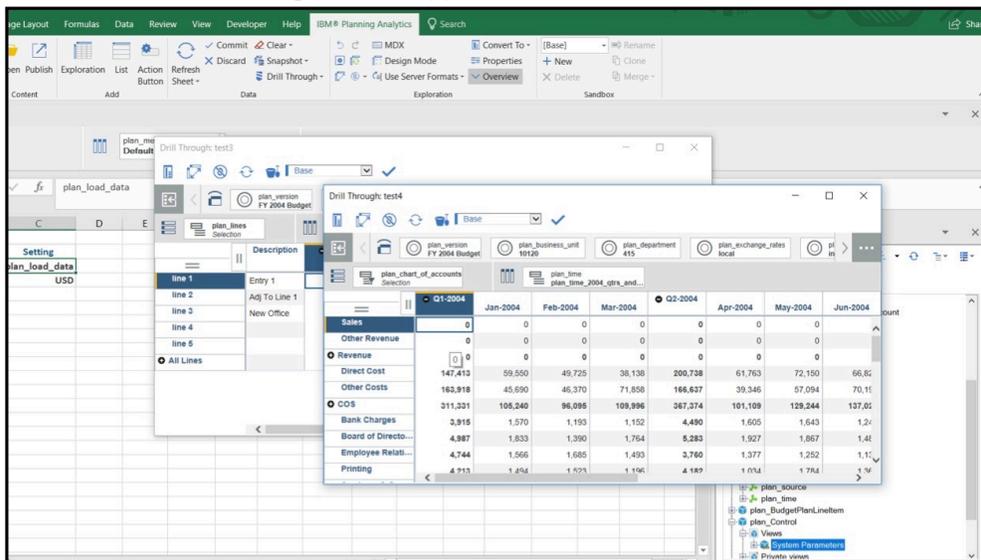


Figure 13. Multiple Drill Through Viewers

What to do next

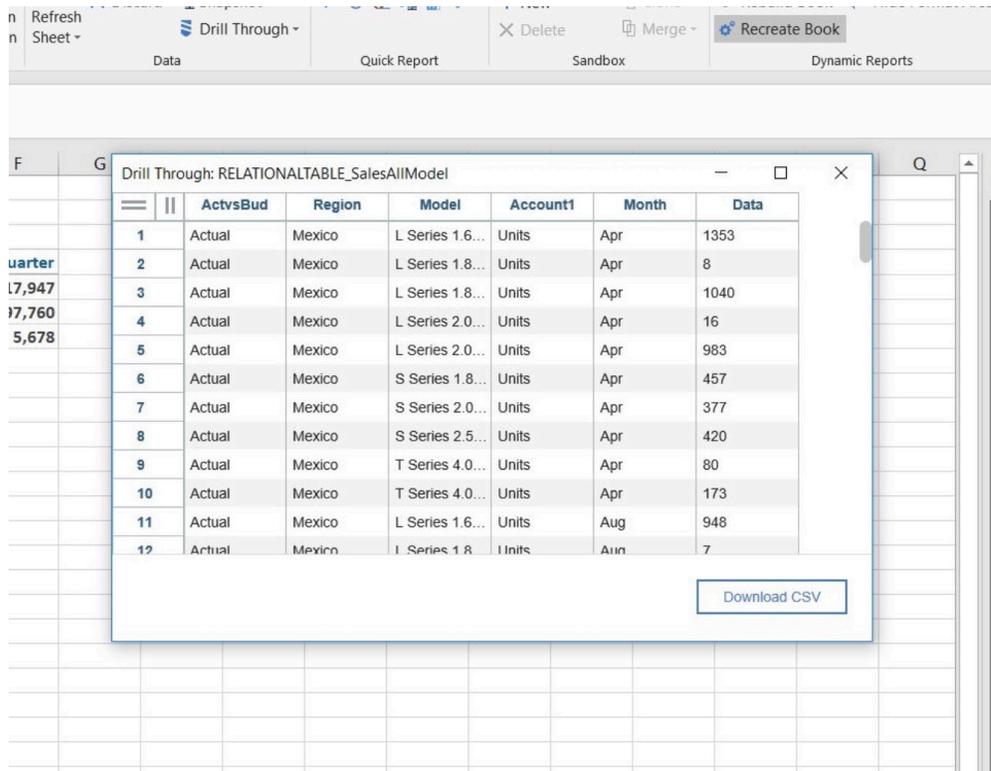
If your TM1 modeler has more levels defined, you can repeat these steps in new Drill Through Viewers to continue drilling. You can also generate reports from any of the Drill Through Viewers.

Save a drill through

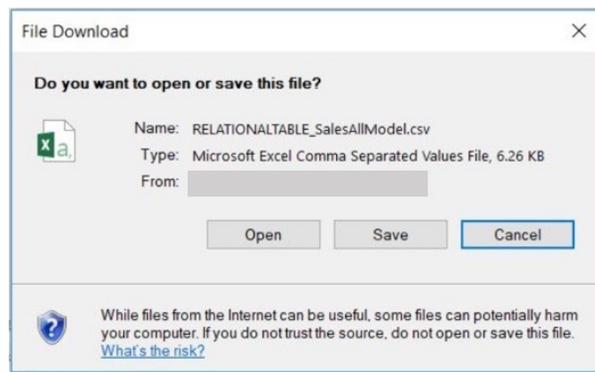
You can save data in a relational drill through as a CSV file.

Procedure

1. Open the drill through table viewer.



2. Click the **Download CSV** button.



3. A prompt appears, asking if you want to open or save the file. Click **Save**.

Results

The data in your relational drill through is saved as a CSV file.

Chapter 8. Explore IBM Cognos Analytics data

Make effective business decisions by exploring data with explorations, views, and reports using IBM Cognos Analytics data.

You can use IBM Cognos Framework Manager packages to create Exploration Views, list views, and custom reports.

Note: IBM Cognos Analytics data modules are not supported in IBM Planning Analytics for Microsoft Excel.

Exploration Views and lists

Use Exploration Views and lists to quickly change how you view performance measures and to show detailed information from your database in rows and columns.

Note: The **Format as Table** feature in Microsoft Excel should not be used with an Exploration View or list. Formatting an Exploration View or list as a table will cause issues with the ability to refresh the data.

Create an exploration

Create explorations of IBM Cognos Analytics data to help you make more effective business decisions by exploring significant company data. To explore IBM Cognos Analytics data, select a package and choose items from that package to place in the rows and columns of the Microsoft Excel worksheet.

Before you begin

Before you can create an Exploration View or list view, the administrator must create a package and publish it to a location to which you have access.

The administrator must create a package in Framework Manager and publish it to a location in the IBM Cognos Connection portal to which you have access. For full access to IBM Planning Analytics for Microsoft Excel, you should be a member of the Express® Authors or Report Administrators role in IBM Cognos Analytics. An administrator must configure these privileges using IBM Cognos Administration.

Procedure

1. Specify the package.
2. Add data items to rows and columns.
3. Add a measure.
4. Optionally, nest and filter data. For more information, see [“Nest rows or columns” on page 211](#) and [“Creating custom filters” on page 220](#).

Results

To format cells in your Exploration View or list view, you can use the IBM Cognos custom styles, such as **Measure - IBM Cognos** or **Calculated Column - IBM Cognos**, in addition to the pre-built Microsoft Excel styles.

You can access the IBM Cognos styles by clicking **Home > Cell Styles**. The IBM Cognos styles are listed along with the pre-built Excel styles. You can modify attributes, such as font and alignment, and then save the changes to a template for re-use.

In Microsoft Excel 2010, a background color that is set using the **Format Cells** command overrides the background color that is set for the cell styles.

To preserve formatting you applied to the exploration, from the **IBM Planning Analytics** tab, click the **Use Server formats** dropdown and select **Use Excel formats**. If you select **Use Server formats**, all custom formatting is removed.

Note: Worksheets containing an Exploration View can only contain the single Exploration View. Combining other report types in a worksheet containing an Exploration View is not supported.

Create a list

Use list explorations to show detailed information from your database, such as customer lists or product lists.

Work with items in a list

Use lists to show detailed information from your database, such as customer lists or product lists.

A list is a report that shows data in rows and columns. Each column shows all the values for a data item in the database or a calculation based on data items in the database. Lists are useful for very large reports that require minimal filtering.

Lists and relational sources

Use lists for relational sources.

Lists and dimensional sources

Avoid using lists with dimensional sources. It is preferable to use Exploration Views with dimensional sources whenever possible, because it will provide much richer filtering capability. However, lists are useful against dimensional sources if there is no measure in the report. Such a report cannot be created as an Exploration View and can only be created as a list.

Work with lists that use IBM Cognos Analytics data

You can explore IBM Cognos Analytics data with lists.

Use list explorations to show detailed information from your database, such as customer lists or product lists. Data sources can be relational, OLAP, or dimensionally modeled relational (DMR).

A list exploration is a report that shows data in rows and columns. Each column shows all the values for a data item in the database or a calculation based on data items in the database. You can create a list to look up the value of an item from the database. It can then supply the value to another worksheet where it can be used for setting a parameter. For more information, see the section on use cases and examples.

Related concepts

[“Insert blank columns” on page 101](#)

Insert a blank column into a list to create white space or to add cell-based calculations. You can use the new column to insert any Microsoft Excel calculation, such as AVG, MIN, or MAX and you can reference cells both inside and outside the list.

Related tasks

[“Create an exploration” on page 203](#)

[“Insert items” on page 215](#)

[“Suppress empty cells” on page 101](#)

[“Create a calculated column or row from scratch” on page 116](#)

[“Add calculated columns in a list” on page 205](#)

[“Nest rows or columns” on page 211](#)

[“Sort a column by names in a list” on page 205](#)

[“Change the cube or datasource used by an exploration” on page 117](#)

You can change the cube or datasource that is used by an exploration.

Sort a column by names in a list

Sorting a column by names makes it easier for you to organize data.

Procedure

1. In the overview area, click the down-arrow of a column box.
2. Click **Sort by names** and select a sort option.

Results

In the overview area, a symbol appears in the column box to indicate a sort is applied. To remove a sort, click the down-arrow and select **Sort by names > Remove**.

Insert blank columns

Insert a blank column into a list to create white space or to add cell-based calculations. You can use the new column to insert any Microsoft Excel calculation, such as AVG, MIN, or MAX and you can reference cells both inside and outside the list.

Right-click a column header in the list where you want to insert a column, and click **IBM Planning Analytics > Insert user row/column**.

A blank column is added next to the selected column.

Add calculated columns in a list

Insert a calculation to make your list more meaningful by deriving additional information from the data source. You can insert calculations in lists that use IBM Cognos Analytics data.

About this task

The list must include a measure. For example, the first column displays Products and the second column displays Revenue.

In addition to simple arithmetic calculations, you can perform the following calculations.

% Of

Calculates the value of a selected member as a percentage of another member, for example, fourth quarter as a percentage of the whole year or actual as a percentage of target.

% Change

Calculates the change in value of a selected member as a percentage, for example, growth from year to year or variance from target.

For information about adding Microsoft Excel calculations, see [“Create a calculated column or row from scratch” on page 116](#).

Procedure

1. Select the headers of the measure columns that you want to use in the calculation.
2. On the list toolbar, click **Insert Calculation** and select the calculation that you want to perform.

Note: Calculations that are not applicable to the items you selected are grayed out.

Results

The calculated column is displayed in the list. You can rename the calculated column. You can also move the calculated column.

Note: To delete a calculation, right-click the calculated column, click **IBM Planning Analytics > Delete**.

Suppress empty cells

Sparse data can result in lists showing empty cells. To remove sparse data in a list, you can suppress empty cells that contain a null or zero value.

Procedure

1. On the **IBM Planning Analytics** tab, click  **Suppression type**.
2. Click **Suppress Rows Only**.

Results

Suppressed items are hidden.

Note: To remove suppression, repeat step 1 and click **No Suppression**.

Clearing all data from an Exploration View or list view

You can clear all data from a specific Exploration View or list view.

About this task

Use the Task Pane to clear all data (including from the rows, columns, and context drop zones), in a specific Exploration View or list view.

Note:

- Clearing an Exploration View or list view does not break the link to the datasource. When you clear data in an Exploration View or list view, the button to open the MDX editor is temporarily disabled. This feature prevents other users from viewing the worksheet's MDX expression, which may contain information about the datasource.
- The button to open the MDX editor is enabled again if the Exploration View or list view is refreshed by the user that initially cleared the data. When the view is refreshed, the context dimensions will query for the first available member for each subset and update the selections and the MDX expression is updated.
- Clearing an Exploration View or list view discards any set element selections.
- After an Exploration View or list view is cleared, set expressions are reevaluated and the set element selection is defaulted to the first entry upon refresh. Do not clear an Exploration View or list view if the set element selection state is intended to be preserved.
- Ensure that the first entry is desired as the default set element selection. If not, structure the set in such a way that the first entry is desirable as the default set element selection, for example, the first leaf entry vs the first total.

Procedure

1. In the Task Pane source tree, expand **Current Explorations**.
2. Right-click the Exploration View or list view that you want to clear all data from.
3. Click **Clear Data**.

Create an Exploration View

Use Exploration Views to quickly change how you view performance measures, such as revenue or budgeted production costs.

Work with IBM Cognos Analytics data

You can explore IBM Cognos Analytics data with Exploration Views.

Use Exploration Views to quickly change how you view performance measures, such as revenue or budgeted production costs.

OLAP (online analytical processing) exploration uses the term slicing and dicing to describe the ease with which you can change context and view details. For example, you look at revenue for the years 2012 to 2015 by sales region. You notice a dip in the revenue for 2014. By clicking 2014, you can drill down to show revenue results by quarter for 2014. You can easily change the view from quarters for 2014 to sales personnel by replacing quarters with sales personnel.

You can compare and manipulate data so that you can better understand relationships between data and the relative importance of individual data items. Whether you want to assess revenue growth or to identify top performers, IBM Planning Analytics for Microsoft Excel provides the filtering and sorting support you need for exploration.

To extend the example of reviewing revenue by sales region and sales personnel, you can add sales targets and then calculate the percentage difference between the sales target and actual revenue for each salesperson. The result indicates who achieved their sales quota as well as who is eligible for a bonus.

For an example about creating a basic Exploration View, see [“Example - evaluate revenue from specific order methods”](#) on page 272.

If you are already comfortable with exploration fundamentals, you may want to refine your Exploration View by using tasks such as filtering data, nesting rows and columns, and inserting calculations.

Work with relational Exploration Views

Relational data in Exploration Views has limitations and differences from dimensional data. One such instance is replacing measures on columns. Measures derived from relational data are stacked blocks. Replacement of the entire stacked block on the grid is not permitted. You would need to do this on the summary bar. This behavior is consistent with query items that are not measures. You may also notice that expand, collapse and totals do not work with relational data sources.

Work with items in an Exploration View

You can manipulate the way rows and columns appear in an Exploration View for more effective comparison.

You can do this by

- nesting rows or columns [“Nest rows or columns”](#) on page 211
- swapping rows and columns [“Swap rows and columns”](#) on page 107
- showing or hiding rows or columns [“Limit items”](#) on page 216

Exploration is a process in which you explore the relationships between items to help understand your business. The Exploration View helps you discover whether the value of one item is associated with that of another.

Comparisons are key elements of nearly every exploration. The following table shows examples of different types of comparisons.

Comparison	Example
Simple comparison	Tents versus sleeping bags
Multiple comparison	Tents versus golf clubs, tees, and golf balls
Multidimensional comparison	Products versus territories, this year-to-date versus last year-to-date

<i>Table 19. Examples of comparisons (continued)</i>	
Comparison	Example
Mixed comparison	Tents versus similar camping products, this year versus last year, and the last quarter versus last year
Summaries of measures at different levels	Tents as a share of camping products, as a share of European sales

Explorations and relational sources

Explorations can be used to transform relational sources into an Exploration View that allows dimensional style layout. Filters for relational explorations are, however, detail filters as opposed to dimensional. If dimensional style layout and filtering are common requirements, we recommend that you create a DMR model for this data source to simplify report creation.

Explorations and dimensional sources

We recommend that you use explorations for dimensional sources. Even if the report has a simple layout with no nesting and measures as columns, the query supports precise filtering if created as an Exploration View.

Select measures

Each Exploration View based on DMR or OLAP packages must contain at least one measure. Only one measure can be dragged to the measure drop zone. If you select more than one measure by placing a measure in a row or column, the measure that is in the measure drop zone becomes the default measure.

Tip: To drag more than one measure to a row or column, you can use Shift+click or Ctrl+click.

Sometimes, when you add measures to columns or rows, you may notice that other items get re-ordered. This is a query framework behavior. Unlike an OLAP data source, DMR data is not returned in a specified order. If a specified order is required, you must edit the specifications in Framework Manager.

Procedure

1. In the source tree, select and drag a measure to the **Measure** drop zone.
 Unlike the **Rows** or **Columns** drop zone, the **Measure** drop zone is available only on the grid and not in the header area. The selected measure appears.
2. Save your workbook.

Results

After you save your workbook, you can publish it to IBM Cognos Connection.

Remove measures

To remove measures from an Exploration View that uses IBM Cognos Analytics data, you must have an active worksheet. After removing a measure from the Measure drop zone, you are able to add back a measure. In addition to the Measure drop zone, which can contain only a single measure, you can add multiple measures to other drop zones.

To replace a measure, you can drag a new measure to any of the drop zones where the measure has been placed. This includes the measure drop zone.

Procedure

To remove a measure from an Exploration View, right-click the cell that displays the measure name, click **IBM Planning Analytics**, and then click **Hide**.

Results

The measures are removed from the measure drop zone in the Exploration View. You can now add one or more measures to the Exploration View.

Insert a hierarchy

You can use a dynamic expression to insert a hierarchy in an Exploration View based on the structure of the metadata tree.

You do this by selecting an insert member option that creates a dynamic expression, such as the **Insert Member With Children** option, and then dragging a node item to either the rows or columns drop zone.

Alternate hierarchies of the same dimension can only be stacked in the same Exploration View. They cannot be nested or used on opposite axes. Alternate hierarchies of the same dimension, for example, **Retailers by Geography** and **Retailers by Type**, do not produce logical results when combined on the same Exploration View as nested items or on opposite dimensions. To combine two alternate views of the same hierarchy, you must model them as separate dimensions. If they are available as separate dimensions, they can be combined on the same Exploration View. For example, it would be possible to place **Retailers by Type** on rows with **Retailers by Geography** on columns, and **Retailers by Type** on rows with **Retailers by Geography** nested on rows.

Procedure

1. In the task pane, click  and select **Insert member with children**.
2. In the source tree, drag the hierarchy that you want to insert to the **Rows** or **Columns** drop zone.

Results

Note: If by using one of the multiple selection techniques, you dragged an item and one of its children to Rows or Columns, you may notice that it appears twice. If this was accidental, you can delete the repeated item. To remove an item, in the work area, right-click the item and then click **Delete**.

The items appear in the Exploration View in their expanded format.

Add calculated rows and columns

Insert a calculation to make your Exploration View more meaningful by deriving additional information from the data source. For example, you create an invoice, and you want to see the total sales amount for each product ordered. Create a calculated column that multiplies the product price by the quantity ordered.

About this task

In addition to simple arithmetic calculations, you can perform the following calculations:

% Of

Calculates the value of a selected member as a percentage of another member, for example, fourth quarter as a percentage of the whole year or actual as a percentage of target.

% Change

Calculates the change in value of a selected member as a percentage, for example, growth from year to year or variance from target.

% Of Base

This calculation is available only if you select two members from different hierarchies, one on rows and the other on columns, for example, each region's contribution (on rows) to a yearly total (on columns).

% Of Parent

This calculation is available only for TM1 data. The % of Parent calculation is available only if you select two members from different dimensions, one on rows and the other on columns. % Of Parent calculates the value of a selected member as a percentage of its parent, for example, January sales as a percentage of sales for the whole year.

After you insert a calculation into an Exploration View, the rows or columns are separated into two distinct blocks of items before or after the inserted row or column. If you want to use the **Expand level / Collapse level** feature, you must do so for each block separately.

When calculations in the rows and columns of an Exploration View intersect, calculations are performed in the following order:

- Addition or subtraction
- Multiplication or division

If both calculations have the same precedence, for example, if they are both functions, then the row calculation takes precedence.

For information about adding Microsoft Excel calculations, see [“Create a calculated column or row from scratch” on page 116.](#)

Procedure

1. Right-click the columns or row headers that you want to use in the calculation.
2. Click **IBM Planning Analytics > Insert calculation** and select the calculation that you want to perform.

Note: Calculations that are not applicable to the items you selected are grayed out.

Results

The calculated row or columns appears in the Exploration View. You can rename the calculated column or row. You can also move the calculated column or row.

Note: To remove a calculation, right-click the calculated row or column header, click **IBM Planning Analytics > Remove**.

Filtering values using context

You can use one or more items to quickly focus your Exploration View on a particular view of the data. This technique is known as filtering using context.

For example, you have an Exploration View showing products in the rows and revenue for different quarters in the columns. To change the context to Asia, you drag Asia from the source tree to the **Context** section of the overview area. The Exploration View then shows only the values for Asia.

Changing context changes the values that appear. It does not limit or change the items in the rows or columns.

You can filter using multiple values in the context area, however, multiple filters are lost when you convert the Exploration View to formulas and start to use cell-based methods. Some context filters cannot be converted to formulas, such as multiple filters from the same dimension and filters from dimensions that are already displayed in the Exploration View.

Procedure

1. In the source tree, select or search for one or more items to filter on.

2. Drag the item that you want to filter on into the **Context** section of the overview area.

A drop-down list box appears under **Context**.

3. Click the item that you want.

The Exploration View shows the results only for the selected item.

Tip: To change context, select a new item from the drop-down list under **Context**.

4. If you want to use a custom set as a filter, drag the custom set from the **Source Tree** to the **Context** section of the overview area.

Insert blank columns or rows

Insert a blank column or row into an Exploration View to create white space or to add cell-based calculations. You can use the new row or column to insert any Microsoft Excel calculation, such as AVG, MIN, or MAX.

About this task

Depending on the type of data, such as relational or asymmetric you experience very different results. Experiment with different approaches to see what makes sense in your environment.

After you insert a row or column into an Exploration View, the rows or columns are separated into two distinct blocks of items before and after the inserted row or column. If you want to use the **Expand level / Collapse level** feature, you must do so for each block separately.

Procedure

1. Right-click a column or row header in the Exploration View where you want to insert a column or row.

If the Exploration View area expands, make sure that it does not overwrite items.

2. Click **IBM Planning Analytics > Insert user row/column**.

A blank column or row appears next to or under the selected column or row.

Results

The blank row or column is added to the Exploration View.

You can leave the row or column blank. You can also populate the blank column or row with a Microsoft Excel calculation. For more information, see [“Create a calculated column or row from scratch” on page 116](#).

Nest rows or columns

You can nest items in an Exploration View to compare information by using more than one item in a column or row. For example, an Exploration View shows the sales by product line for the past fiscal year. You can add an item to further break down the sales by order method. You can also nest rows in a list.

When nesting columns in an Exploration View, there are four distinct drop zones where you can insert a new data item. The drop zone you choose defines the relationship between the data item and the column.

The following relationships are created when you insert a data item as a row:

- Inserting a data item before or after a column creates a parent-child relationship between the data items.

When you insert a data item before a column, the data item becomes a parent to the row. When you insert a data item after a column, the data item becomes a child of the row.

- Inserting a data item before or after a column creates a union relationship between the data items.

The following relationships are created when you insert a data item as a column:

- Inserting a data item before or after a column creates a union relationship between the data item and the column.
- Inserting a data item before or after a row creates a parent-child relationship between the data items.

When you insert a data item before a column, the data item becomes a parent to the column. When you insert a data item after a column, the data item becomes a child of the column.

For example, you have an Exploration View with Product line as rows and Quantity and Revenue as nested rows. For columns, you have Order method with Country or Region as a nested column.

- Product line is a parent to Quantity and Revenue.
- Quantity and Revenue are peers.
- Order method is a parent to Country or Region.

In the overview area, you can drag the boxes that represent the nested items to quickly change the nesting order.

If you nest a row or column, the context menu for **Expand**, **Drill**, and **Explore** does not appear for the outer item when you convert to formulas and use cell-based methods.

Procedure

1. In the source tree, click the item that you want to insert.

Tip: When selecting multiple items, the selected items are placed in the exploration in the order that you click them. To avoid rearranging items after you drag and drop them into the exploration, click the items in the order of placement that you want.

2. Drag the item to the location that you want in the rows or columns.

A highlight bar indicates where you can drop the item.

3. If you are working with a list, to merge cells with the same data, right-click items in the column you want to group, and then click **IBM Planning Analytics > Group/Ungroup**.

Tip: If you add more than one measure to an Exploration View to the same axis, you must add them as a set. Ctrl+click the items or, to add a measure to another measure already in the Exploration View, press the **Ctrl** key while dragging the item to the other measure.

Rearrange nested items

You can rearrange nested items by dragging one item next to another item in a drop zone.

For example, if Products and Regions are nested, you can move Regions to the outside edge.

Procedure

1. Drag an item next to another item within a drop zone or next to a different drop zone.

A highlight bar indicates where you can drop the item.

2. If you are creating a list, to merge cells with the same data, Right-click items in the column you want to group, and then select **IBM Planning Analytics > Group/Ungroup**.

Results

Nested items appear next to each other with nested items replicated for each of the preceding items.

Suppress empty cells

Sparse data can result in Exploration Views showing empty cells. For example, an Exploration View that matches employees with products, results in many rows of empty values for the revenue measure if the

employee does not sell those products. To remove sparse data in an Exploration View, you can suppress empty cells that contain a null or zero value.

When you are working with IBM Cognos Analytics data, totals-based suppression is applied. Totals-based suppression removes rows or columns where the total results in a null or zero value throughout the Exploration View. You cannot remove sparse data from individual rows or columns.

Procedure

1. On the **IBM Planning Analytics** tab, click  **Suppression type**.
2. Choose where to apply the suppression:
 - **Suppress Rows Only**
 - **Suppress Columns Only**
 - **Suppress Rows and Columns**

Results

Suppressed items are hidden.

Note: To remove suppression, repeat step 1 and click **No Suppression**.

Best practices

Exploration Views provide many automatic features so that you can focus on your main purpose, which is to analyze and explore your company data.

This topic applies to Exploration Views that use IBM Cognos Analytics data.

Any charts, cells, or cell-formatting that you introduce onto the worksheet might be overwritten when refreshed data changes the size or the content of the Exploration View. Create headings and charts where expanding data in the cells of the Exploration View do not overwrite items.

In general, use Exploration Views for dimensional data sources. For more information, see [“Work with items in an Exploration View”](#) on page 207.

If you are pulling large quantities of data while you are working on the layout of your Exploration View, you may find that there is a delay. The following techniques help you to eliminate or at least mitigate performance delays.

- On the IBM Planning Analytics toolbar, click  and select **Preview with No Data**. Refresh the data after you have finished designing your worksheet.
- If you are working with dimensional data in an Exploration View, select a measure first. This limits the amount of data and gives you much faster results.
- Lower the maximum number of rows or columns to pull into an Exploration View or list by using the **Data Display Row Limit** option. When you finish the layout, you can set the **Data Display Row Limit** number higher or double-click **More** or **All** to see the remaining rows or columns of data.

Sets

Sets are the basic building blocks of IBM Planning Analytics for Microsoft Excel. A set identifies a group of items from a single hierarchy. You can manipulate the individual sets in the Exploration View.

Sets may be

- nested or stacked in the Exploration View
- used as filters

The following list describes the different kinds of sets you can use.

Simple

A single member and its direct dependents one level down.

Selection-based set

A collection of individual items that you have explicitly selected. The items or members may be selected from one or more levels from the same hierarchy and are not aggregated.

Combination set

A set consisting of more than one simple or selection-based set.

Set properties

You can set properties for an Exploration View or a list that are specific to a worksheet.

About this task

The settings in the Properties dialog box are specific to a worksheet. For information about setting global options, see [Chapter 5, “Settings,”](#) on page 45.

In addition to changing settings, the Properties dialog box enables you to view information about the worksheet including server and package information, and the date the worksheet was created.

Procedure

1. On the IBM Planning Analytics tab, click  **Properties**.
2. To change the starting location of your Exploration View or list, type a new row number in the **Row start** box and a new column number in the **Column start** box.
3. If you are working with a TM1 Exploration View, you can choose whether to process data in either CSV or raw XML format.
 - To choose CSV format for faster processing of large data sets, in the **Request format** drop-down box, click **Unformatted Values**.
 - To choose raw XML format, in the **Request format** drop-down box, click **Formatted Values**.
4. If you are working with an IBM Cognos Analytics List, you can choose whether to process data in either CSV or raw XML format.
 - To choose CSV format for faster processing of large data sets, in the **Request format** drop-down box, click **Unformatted Values**.
 - To choose raw XML format, in the **Request format** drop-down box, click **Formatted Values**.
5. To control how labels appear in nested cells, set the **Default grouping option**.

Note: The **Default grouping option** controls how the Group / Ungroup feature works. For Exploration Views, this is the automatic setting for presentation of metadata in nested rows and columns. For lists, this determines how the Group /Ungroup menu items and buttons work. These settings override the settings in the **Options** dialog box and affect only the current worksheet. You can leave cells ungrouped when you need to use Microsoft Excel lookup functions or you can group cells to provide for greater readability. Changes to the **Grouping option** will be reflected in the worksheet immediately, whereas changes in the **Options** dialog box will only be reflected when a new Exploration View is created.

- To merge metadata into cells that span nested items and allow for full grouping, click **Merge Cells**.
 - To repeat metadata in individual cells that span nested items, click **Repeat Labels**.
Use this option when you want to use other Microsoft Excel functions on the data.
 - To limit cell metadata and merging to minimize labels, click **Label Top Cell**.
 - To turn grouping off, click **None**.
6. To limit the number of rows displayed, set the **Data Display Row Limit** property.
 7. After you are done setting options, click **OK**.

Insert items

You insert items from the source tree as rows and columns in an Exploration View or list to create sets for exploration. A set is a collection of like data. For example, you can have a set of data named years that includes quarters as details.

You can control how items are inserted by setting the insert option on the exploration bar. For an IBM Cognos Analytics data source, you can use the following insert options.

- **Insert Single Member**, which inserts the selected member.
- **Insert Member With Children**, which inserts the selected member and its components to one level as a static set.
- **Insert Member With Dynamic Children**, which inserts the selected member and its components to one level as a dynamic set.

In addition to items from the source tree, you can insert items retrieved in a search.

Note: The default measure specifies the measure to use for an Exploration View if the measure is not set by one of the existing axes. For example, you create an Exploration View with **Products** in the rows and **Quantity Sold** in the columns. You add **Revenue** to the **Measure** drop zone to make it the default measure, but the values in the rows do not change because they refer to the measure **Quantity Sold** in the column axis. However, if you replace the measure **Quantity Sold** with the non-measure **Order Method**, the values now refer to **Revenue** as the default measure.

You can also simultaneously insert all the items of a level [“Insert all the items of a level” on page 216](#), insert some items from a level, or insert items from different levels of the same dimension [“Insert items from multiple levels of a dimension” on page 215](#).

Procedure

1. Select the insert option you want to use.
2. In the source tree, select the items that you want to insert.
3. Drag the items to the desired location in the Exploration View or list.

To add an item to items that already exist in the Exploration View or list, hold down the Ctrl key when dropping items into the drop zones.

A highlighted bar indicates where you can drop the item.

Note: Sometimes, when you add measures to columns or rows, you may notice that other items get re-ordered. This is a query framework behavior. Unlike an OLAP data source, DMR data is not returned in a specified order. If a specified order is required, you must edit the specifications in Framework Manager.

A detail-based set appears in the Exploration View or list.

You can insert items as a selection-based set by pressing Shift+click or Ctrl+click to select multiple items in a dimension and then dragging them to the Exploration View or list. When selecting multiple items, the selected items are placed in the Exploration View in the order that you click them. To avoid rearranging items after you drag and drop them into the Exploration View, click the items in the desired order of placement.

Insert items from multiple levels of a dimension

For a mixed comparison, use selection-based sets to position items adjacent to each other in an Exploration View.

For example, you can select items from a single dimension in the source tree. You can select both contiguous and noncontiguous items from different levels.

After you select items, you can drag the items to the Exploration View.

For groups of items that you use frequently, you can create a custom set to make selection of them easier. For more information, see [“Create and edit sets” on page 137](#).

Procedure

1. In the source tree, expand the dimension to locate the items that you want to insert.
2. Press Shift+click or Ctrl+click to select multiple items in a dimension and then drag them to the Exploration View.

Tip: When selecting multiple items, the selected items are placed in the Exploration View in the order that you click them. To avoid rearranging items after you drag and drop them into the Exploration View, click the items in the desired order of placement.

Results

A selection-based set appears in the Exploration View.

Insert all the items of a level

You can simultaneously insert all the items of a level into an IBM Cognos Analytics exploration. Levels define the way data is grouped in dimensions.

For example, a geographical dimension in a source tree might contain levels for region, country or region, and city. You can click a single region and instantly insert every country or region that belongs to that region into the Exploration View. By expanding the region item, you can display all of the countries or regions within that region. Use this technique to insert members of a single node item.

You can also choose to display all of the countries or regions across regions by inserting a special Level item. Use this technique to insert members at the same level from multiple node items.

Procedure

1. In the source tree, click a single item that contains the detail that you want in the exploration.
2. Optionally, insert members from a single node item.
 - Drag the item to the drop zone in the overview area, such as the **Rows** drop zone.
 - Expand the item.

Tip: To expand or collapse items, right-click the item, click **IBM Planning Analytics**, and then click **Expand / Collapse** or **Expand Level / Collapse Level**. **Expand Level** expands items from the highest level member.
3. Optionally, insert members at the same level from multiple node items
 - In the source tree, click a single item that contains the detail that you want in the Exploration View.
 - From the command area, drag the **Level** item to the drop zone or work area.

Limit items

You can limit the items in an Exploration View or list using a variety of techniques.

You can use the following options with Exploration Views:

- Use zero-suppression to hide rows or columns that contain only missing values.
- From either rows or columns, select the items you want to show in the Exploration View, right-click the cells and select **IBM Planning Analytics > Keep**. The **Keep** option is also available in the set editor.
- Use the **Data Display Row Limit** option to limit the number of rows displayed in the Exploration View. On the IBM Planning Analytics toolbar, click **Options**. Set the number of rows to display in the **Data display row limit** field.

You can use zero-suppression to hide rows that contain only missing values in Lists.

Drill down and drill up

You can drill down and drill up to change the focus of your analysis by moving between levels of information.

Drill down to see more detail. For example, you can drill down to the lowest-level item to examine the impact of a single aspect of your business.

Drill up to compare results. For example, you can examine revenue for a single product and then drill up to see revenue for the entire product line for comparison.

Note: When you drill back up after drilling down, you may lose filters that are applied. For example, you create a filter to include the data for sales regions of the USA and Canada. You drill down on Florida. When you drill up again, the analysis no longer includes Canada in its scope.

Procedure

1. To drill down or up in a single row or column, right-click a cell and then click **IBM Planning Analytics > Drill Down** or **IBM Planning Analytics > Drill Up**.
2. To drill down or up in both a row and column simultaneously, double-click the value at the intersection of the row and the column.

Rows and columns

You can choose the data that you want to appear in the rows and columns of your Exploration Views.

Add objects to rows and columns

Select the data items that you want to appear in the Exploration View or list view. When selecting multiple items, the selected items are placed in the exploration in the order that you click them. To avoid rearranging items after you drag and drop them into the Exploration View, click the items in the desired order of placement. To add an item to a multiple set, hold down the Ctrl key while dragging the item. This appends the new item to the items already in the Exploration View.

You may frequently use items from different query subjects or dimensions in the same reports. Ask your modeler to organize these items into a folder or model query subject and then to republish the relevant package. For example, if you use the product code item in sales reports, the modeler can create a folder that contains the product code item and the sales items you need.

Procedure

1. In the IBM Planning Analytics toolbar, click **Exploration** or **list**.
2. If the **Select Start Location** dialog box appears, type a cell address, such as **\$L\$20** and click **OK**.
You can also click a cell to populate the **Start Address**. For example, you can change the start location to accommodate graphs or other worksheet items.
3. In the source tree, drag each data item to the location in the work area where you want it to appear.

For an Exploration View, drag objects to the **Rows** and **Columns** drop zones, which are located in the header area of the worksheet. Use the **Context** area, to further refine or filter your report.

For a list, drag objects to the **Columns** drop zone, which is located in the header area of the worksheet.

Note:

- To drag more than one item, you can use Shift+click or Ctrl+click to select multiple items.
 - To add an item to items that are already on Columns, hold down the Ctrl key and drop the item onto the existing items.
4. Save your workbook.

Results

Selected items appear in the rows and columns of the report.

After you edit your workbook, you can publish it to IBM Cognos Connection.

Sort rows by values or names

Sorting rows by values or names makes it easier for you to organize and analyze your data.

Sort options differ depending on the type of data source and the type of exploration. For example, in an Exploration View that uses a multidimensional data source, you can sort rows by row name.

Procedure

1. Select a sort option.
 - a) To sort rows based on the values in a column, right-click the column header cell then click **IBM Planning Analytics > Sort by values**.
 - b) To sort rows by row name, right-click a row header cell then click **IBM Planning Analytics > Sort by names**.

You can also sort rows by name using the context-menu from a row or column box in the overview area.

2. Select a sort option.

Results

In the overview area, a symbol appears in the rows or columns box to indicate a sort is applied. To remove a sort, right-click the header cell then click **IBM Planning Analytics > Sort by values or Sort by names > Remove**.

Swap rows and columns

You can swap rows and columns for a different view of your data. For example, the rows contain quarters of the fiscal year and the columns contain products. To track trends over time more easily, you can swap them so that the rows contain products and the columns contain quarters.

Note: When you swap rows and columns in a TM1 Exploration View, sorting and top or bottom filters are removed.

Procedure

Click **Swap Rows and Columns**  on the toolbar.

Tip: You can also use the overview area to swap individual items on rows and columns by dragging the items from one area to the other.

Change the system and data source used by an exploration

You can change the IBM Cognos system that is used by an exploration. You can also change the data source that is used by an exploration.

Before you begin

The information area must be displayed above the Exploration View or list to complete this task. The information area is displayed when **Show system and package information in Exploration View or list**

sheet in the **Options** dialog box is enabled. Then click **Refresh** .

Procedure

1. Click the worksheet that contains the exploration.
2. In the information area above the exploration, double-click the cell that displays the **System**.
Or, if you want to change only the data source or package, double-click the cell that displays the **Package**.
3. In the **Select Package** dialog box, select a system.
4. Select a data source, and then click **OK**.

Custom filters

For IBM Cognos Analytics data sources, you can filter data so that only the data you require appears in the analysis. Add a filter expression to focus a report and minimize processing time by excluding unwanted data. For example, you can filter data to show customers who placed purchase orders that were valued at over one thousand dollars during the past year. When you run the report, you see only the filtered data. Depending on your data, you can specify a filter by using measures, attributes, fields, and calculations and using comparison and logical operators to compare them with a constant, a measure, an attribute, a field, or a cell reference, including a date.

When you define a filter rule by using a label or an attribute, the text is case sensitive. These detail filters, which are applied to the data source, are Boolean expressions used to exclude items based on values.

Use cell references

Cell references can be used anywhere a constant could be used. Cells are read at the time the query is initiated. You can use a text box for typing values or you can use cell ranges, such as J7, \$K\$9 for cells or H3:H20, \$J\$5:\$M\$15 for ranges. Cells can be on another sheet, for example, Sheet2!:B4, Sheet3!D2R2, or even a named range, such as Sheet1!*RangeName*. Blank cells are ignored and invalid numeric values are converted to zero (0). You can create Exploration Views and lists on one worksheet to be used as part of a filter expression in another worksheet. A cell reference used in a numeric or date comparison that does contain a valid value will result in the use of 0 and the current date respectively.

Match data types

If you create a filter for a particular data type, such as a numeric data type, but enter criteria for another data type, such as a string, you receive an error. In general, you must enter values that are consistent with the data type of the item for which you are creating criteria. For example, if you create a filter for a monetary amount, which is numeric, but enter a string value, such as "Yen" you receive the following error:

```
Error 901: QE-DEF-0260 Parsing error before or near position: position of:
"filter(MUN)"
```

The following operators are an exception to the data type rule: IS NULL, IS NOT NULL, LAST N DAYS, and IS IN. In the case of these operators, the target, or second, argument is not a type match with the field, or first argument. In the first two, IS NULL and IS NOT NULL, there are no target arguments. None of these operators can use a database reference as a target argument.

OLAP and DMR data sources

For OLAP and DMR data sources in a list report, criteria are limited to the items that you add to the list itself. To enhance filter capabilities, use lists for relational data sources and use Exploration Views for dimensional sources. Be cautious when mixing context dimensions with filters because they may not yield the result you expect.

In nested explorations using OLAP or DMR data sources, you must apply the filter to the dimension on rows or columns that defined the measure value in the Exploration View. For example, you might have an Exploration View with products and order method on rows, years on columns and quantity sold on

measures. Because order method is the inside edge of the nested rows (it appears after products in the Rows drop zone), you must create the filter using order method.

Focus relational data

You can limit the data in your report with filters or query parameters. The method you choose should depend on the capabilities of the data source, the performance requirements, the persistence of the dataset, and how complex you want the report to be. In IBM Planning Analytics for Microsoft Excel, you must use detail filters for list reports in the relational reporting style. These filters remove rows and columns from your reports.

Before aggregation

For relational data sources, you may also have the option of applying filters before aggregation. Select the **Before aggregation** check box if the field is a measure, however this check box is disabled for non-measures or if the condition is at or below a logical OR operator. In that case, the default is enforced where non-measures are automatically before aggregation and all others are after aggregation.

Combine filters

You can combine filters to create custom AND and OR conditions. When you filter your data based on a number of criteria, there may be filter rules that are optional and filter rules that are required. You use AND to group rules that are mandatory. You use OR to group filter rules that are optional. For example, customers filtered by Revenue > 1000000 AND Discount > .15 gives different results from Customers filtered by Revenue > 1000000 OR Discount > .15. A more complex scenario might require combining both mandatory and optional filter rules.

Filters and calculations

Filters cannot use calculations that reference the set being filtered because this creates a circular reference. Depending on how ranking functions (such as rank or quartile) or percentage functions (such as percent of total) are customized, they may not be available when defining a filter.

IS IN operator

Based on the SQL IN operator, the IS IN operator reduces the need for multiple OR clauses. Use the IS IN operator for numeric and text fields. For numeric fields it would normally be non-measures, such as Year. You can use a text box for typing values or you can use cell ranges, such as J7, \$K\$9 for cells or H3:H20, \$J\$5:\$M\$15 for ranges. Cells can be on another sheet, for example, Sheet2!:B4, Sheet3!D2R2, or even a named range, such as Sheet1!*RangeName*. Blank cells are ignored and invalid numeric values are converted to zero (0). You can create Exploration Views and lists to be used as part of a filter expression in another worksheet. For more information, see the topics on use cases.

Promote filters to a studio

When you promote an Exploration View or a list to a studio, such as Report Studio, the custom filter that used a dimensional data source is recognized as a set expression. Set expressions are calculated sets of members. For example, children ([2015]) is a set expression that displays the child members of 2015. To edit the custom filter in a studio, you must edit it as a set expression using the **Query Calculation** editor. For more information about set expressions, see the user guide for the studio.

Creating custom filters

In IBM Cognos Analysis for Microsoft Excel you can filter data so that only the data you require appears in the analysis. Specifically, you can add a filter expression using measures, attributes, fields, and calculations and using comparison and logical operators to compare them with a constant, a measure, an attribute, a field, or a cell reference, including a date.

If you are working with a dimensional data source, you can also use context filters. For more information, see [“Filtering values using context”](#) on page 210.

Procedure

1. In the drop zone, click the drop-down box of the item you want to filter and then click **Filter > Edit/Add Filter**.

The **Filter** window appears. Based on your selection you are able to select or enter items for **Item**, **Operator**, or **Value**. Criteria for filters are not limited to the items shown on the report.

2. Edit the filter expression and click **OK**.
3. After you have created all the criteria for the custom filter, click **OK**.

Results

After you close the filter window, all cells used in references are selected. This is useful if you want to format these cells to indicate their importance. The filter is applied to the applicable item. If you are working with the **Preview with No Data** option selected, the effects of the filter show when you run the data. The filter tag is displayed next to the item. In the drop-down box, on the **Filter** menu, **Apply filter** is selected.

Tip: To remove a filter, click the drop-down box of the filtered item, and then click **Filter > Apply Filter** to clear the check mark.

Adding a filter line

In the **Filter** window, add filter lines to create criteria for your filter. Each line represents a unique criterion or filter expression.

Before you begin

You must create your filter and be in the **Filter** window to add a filter line.

Procedure

1. Click the **Add a Filter Line** icon.
The **Edit Filter** window appears.

2. Edit the expression.

Click a data item, then click a Boolean operator, and then enter a constant or enter the cell reference that contains the value you want to use in this expression.

3. Click **OK**.

Applying filter criteria before aggregation

If you use a relational data source, to apply the filter criteria before items are summed, you can select the **Before Aggregation** check box in the **Edit Filter** window.

Before you begin

You must create or edit a filter line from a relational data source.

Procedure

1. From the **Filter** window, click the filter line, or if you are creating a new filter, click the **Add a Filter Line** icon.
2. Select the **Before aggregation** check box.
3. Click **OK**.

Grouping filter criteria

To combine filter criteria, group the filter lines. This enables you to create complex filter expressions that rely on multiple data items and values. You can use complex criteria to display ranges of items based on minimum and maximum values that you set in the Filter editor or in the cells of the Microsoft Excel worksheet.

Procedure

1. Ctrl+click the items you want to group.
2. Click the **Group Selected Filter Lines** icon.

Deleting filter criteria

To remove criteria from your filter, you must delete the filter line or group that has that expression in the **Filter** window. If more than one criterion has been grouped, you can delete the entire group.

Procedure

1. To open the **Filter** window, from the toolbar or drop zone, click the **Filter** icon and then click **Edit/Add Filter**.
The Filter window appears.
2. Click the line or group you want to remove.
3. Click the **Delete Selected Filter Line** icon.
This deletes the highlighted line or group.

Ungrouping filter criteria

Ungroup filter criteria if you want to change the order of the criteria, change the Boolean operators, or if you want to delete specific lines from a complex filter.

Procedure

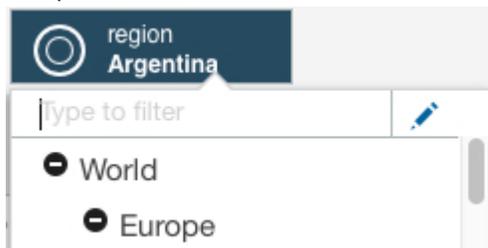
1. To open the **Filter** window, from the toolbar or drop zone, click the **Filter** icon and then click **Edit/Add Filter**.
The Filter window appears.
2. Click the grouped items.
To select multiple items, Ctrl-click each item.
3. Click the **Remove the Group Containing Selected Filter Lines** icon.

Create and edit sets

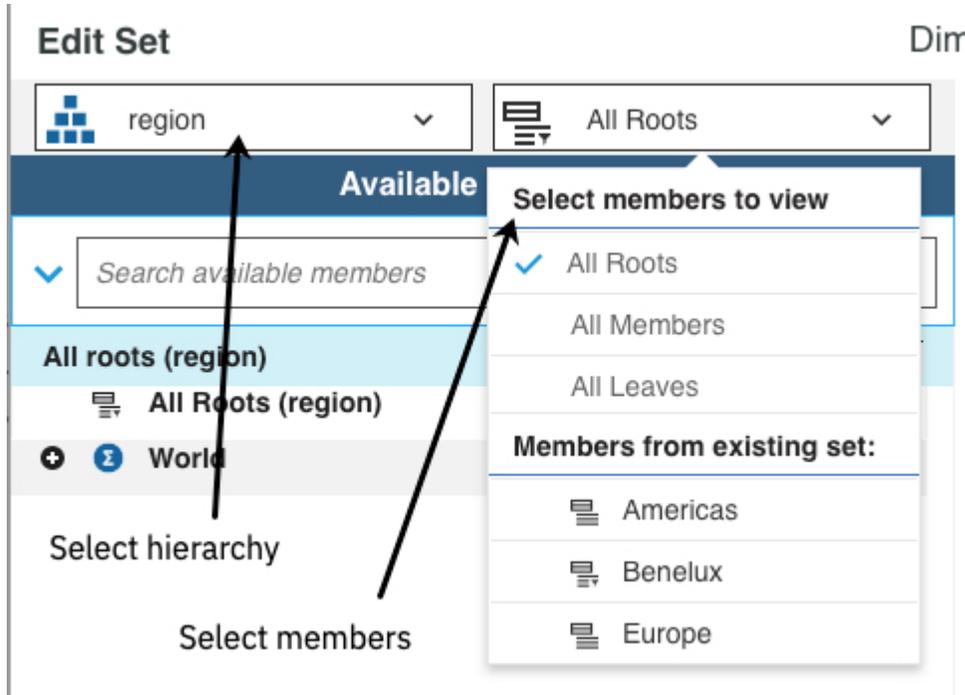
A set is a collection of members in a dimension that limits the number of members that are displayed in a view.

Procedure

1. To open the set, click the dimension tile in the cube view, and click .



2. Display the members that you want to use in the set by selecting from the **Select hierarchy** menu, and the **Select members to view** menu.

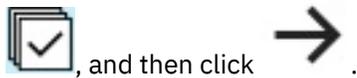


3. Select the members in the **Available members** list, then choose one of the following options to add the members to the **Current set**:

- Click  to insert the members into the current set.

- Click  to replace all of the members in the current set.

- To append the members in the **Available members** list to the members in the **Current set**, click



- **Tip:** To control the members that are inserted into the set, click the bullet icon  and select one of these options.

- Member only
- Children
- Descendants
- Leaf nodes
- Ancestors

Work in the Current set

4. To change the members in the **Current set**, do the following steps.

Change the position of a member

Right-click the member, then click one of the **Move** options. You can only change the position of a member if the set is static. See [“Convert a dynamic set to static” on page 144.](#)

Remove members

To remove all members from the **Current set**, click .

Keep only selected members

5. You can display the **Member ID** or the **Alias** for a member instead of the **Caption**. An alias is an



alternative name for a member. Click  and select the display name type.

Apply and save your changes.

6. To save your changes as a new set that can be reused in other views, click **Save**, and give the new set a name.

Select **Share public** to share the set with other users. Clear this option to keep the set private.

7. If you are editing an existing set, you can apply the changes to your view without saving the new set configuration. Click **Apply and close**.

Creating a custom set by using items in a drop zone

You can specify a name and description for a custom set of data that you may want to reuse later. You can create a custom set using items in a drop zone. Multiple custom sets may be available in a single saved exploration.

You can save custom sets. IBM Planning Analytics for Microsoft Excel creates a folder in your personal folder, My Folders, in the IBM Cognos Connections portal with the same name as the package and saves the custom set information in that folder. The custom set information is not shared among different users, even when they are using the same package. You only have access to your own custom sets.

Custom sets can be used in an Exploration View using dimensionally modeled relational packages or OLAP data sources. They are not available for relational packages. Levels cannot be saved as a custom set.

Procedure

1. When creating a new exploration, select items from a dimension or node in the source tree.

Note: Order of selection is the order in which the items appear in the drop zone and in the custom set.

2. Drag the items to a drop zone.

For an Exploration View, the drop zones are **Columns**, **Rows**, or **Context**. For a list, the drop zone is **Columns**.

3. From the drop zone, click the item drop-down box and then click **Edit Set**.

The **Selection** window is displayed.

To edit custom sets, use the dialog box to move items to or from the Available Members pane to the Selection pane. To limit items in the Available Members pane, click , type a string in the box, and click . To reorder items in the Selection pane, right-click an item to access move options.

4. To save the custom set, click the **Save** or **Save as** icon.

The **Save** window appears.

5. In the **Name** box, type a name for the custom set and click **Save**.

Results

The custom set is saved and is displayed in the source tree in the **Custom Sets** node item. It is saved as part of your workspace and is not available to other users.

Creating a custom set using items in the source tree

You can specify a name and description for a custom set of data that you may want to reuse later. You can create a custom set using items in the source tree. Multiple custom sets may be available in a single saved exploration.

You can save custom sets. IBM Planning Analytics for Microsoft Excel creates a folder in your personal folder, My Folders, in the IBM Cognos Connections portal with the same name as the package and saves

the custom set information in that folder. The custom set information is not shared among different users, even when they are using the same package. You only have access to your own custom sets.

Custom sets can be used in an Exploration View using dimensionally modeled relational packages or OLAP data sources. They are not available for relational packages. Levels cannot be saved as a custom set.

Procedure

1. When creating a new Exploration View or list, Ctrl+click items from a dimension or node in the source tree.

Note: Order of selection is the order that the items appear in the drop zone and in the custom set.

2. Right-click a selected item and then click **New Set**.

The **Selection** dialog box appears.

To edit custom sets, use the dialog box to move items to or from the Available Members pane to the Selection pane. To limit items in the Available Members pane, click , type a string in the box, and click . To reorder items in the Selection pane, right-click an item to access move options.

3. To save the custom set, click the **Save** or **Save as** icon.

The **Save** window appears.

4. In the **Name** box, type a name for the custom set and click **Save**.

Results

The custom set is saved and is displayed in the source tree in the **Custom Sets** node item. It is saved as part of your workspace and is not available to other users.

Insert Microsoft Excel calculations

You can insert any Microsoft Excel calculation, such as AVG, MIN, or MAX into an Exploration View or list. You can reference cells both inside and outside the exploration.

Procedure

1. Insert a blank column or row.
2. Create the calculation in the first cell that applies to the inserted column or row.

You must create the formula for the calculation in the cell closest to cell A1 (the upper left most cell) of the inserted group.

3. After you have created the calculation for a single cell, from the toolbar, click **Use Server formats** to remove custom formatting.

Results

The calculation is propagated to all the inserted cells.

Tip: You can apply conditional formatting to the calculated column or row. Select the column or row. Click **Home** and then click **Conditional formatting**. Use the conditional formatting menu to choose the styles for the cells.

Create a Custom Report

To take full advantage of the features that Microsoft Excel offers when you work with IBM Cognos Analytics data, you can convert an Exploration View to a Custom Report or drag items directly to the cells of a worksheet.

Using Custom Reports

When you use the cells of the worksheet to create a new analysis, you drag labels and items to adjoining cells, either in rows or columns to create a Custom Report. Like Exploration Views, the intersecting cells are used for measures, which will be populated with the actual data.

Note: Cell-based analysis is available for dimensionally modeled relational (DMR) and OLAP data sources only. It does not work with relational data sources and cannot be generated from a list even when using DMR or OLAP packages.

You can also convert an Exploration View to a Custom Report. You can create an Exploration View by using the exploration toolbar and the drop zones and then convert it to formulas. For an example using both methods, see [“Example - evaluate revenue from specific order methods”](#) on page 272.

Formulas

With IBM Cognos Analytics packages, when you drag items from the source tree directly to the cells of a worksheet you create a COGNAME or COGVAL formula. The formula references the item in the database. Because IBM Planning Analytics for Microsoft Excel uses COGNAME and COGVAL as part of its internal processing, do not use either of these strings to name any part of a worksheet or in any part of a cell formula.

COGNAME formulas

COGNAME formulas are used to supply the server, package, and member names to the cells of a worksheet. The COGNAME formula takes three objects: *server*, *package*, and *member unique name* (MUN).

Depending on your server version and type of cube, in addition to the *system* and *package*, you may have other information, such as the date of the last cube update available to you.

The syntax for the COGNAME formula is as follows:

```
=COGNAME("server", "package", "MUN")
```

The arguments in the formula are described as follows.

server

The server object can reference a cell, such as B4, use a named range, or use a literal value with the full path to a gateway, such as `http://sampleserver/ibmcognos/cgi-bin/cognos.cgi`. It can also reference a COGNAME formula that contains the server information.

package

The package object is derived from the package search path, which you can find in IBM Cognos Connection. Because this argument is a literal string, you can embed this information. Or, you can put this information in a cell and reference that cell in the argument. This enables you to switch over from a test system to a production system or to change your package easily. It can also reference a COGNAME formula that contains the package information you want to use.

member unique name

The member unique name supplies information about a particular name you want to display in your workbook, such as Years. You can obtain this information from IBM Cognos Report Studio by right-clicking an object and recording the string, which includes schema.

The following is a sample COGNAME formula from the IBM Cognos sample database

```
=COGNAME("http://sampleserver/ibmcognos/cgi-bin/cognos.cgi", "/content/  
package[@name='Great Outdoors Company']", "[great_outdoors_company].[Years].  
[Years].[Years]->:[PC].[@MEMBER].[Years]")
```

COGVAL formulas

COGVAL formulas are used to supply data to the cells of a worksheet. The COGVAL formula takes three objects: *server*, *package*, and *member unique names of members or measures (MUNs(X))*.

The syntax for the COGVAL formula is as follows:

```
=COGNAME("server", "package", MUN1,MUN2,MUN3,MUNx)
```

The arguments in the COGVAL formula are the same as in the COGNAME formulas.

The following is a sample COGVAL formula from the IBM Cognos sample database

```
=COGVAL("http://sampleserver/ibmcognos/cgi-bin/cognos.cgi", "/content/  
package[@name='Great Outdoors Company']", $A2, C$1, $A$1 )
```

In this example, the cell references supply Products, Revenue, and 2004.

The COGVAL formula does not allow members from the same dimension to be supplied more than once.

Create from scratch

You can create a Custom Report without using an Exploration View. This advanced technique is referred to as cell-based mode. In cell-based mode you drag metadata from the source tree to the cells of the worksheet.

Because there are no drop zones, you must drag objects in such a way that they appear horizontally or vertically to form the rows and columns of the worksheet. In general you must start by building the rows and columns by dragging and dropping headings and then individual or groups of items along the vertical (for example, in the diagram, cells numbered 1.1, 1.2, 1.3, and 1.4) or horizontal (in the diagram, cells numbered 2.1 and 2.2) axis. After you have created this framework, you can drag a measure to the intersecting cell where the row heading and column heading meet (in the diagram, the cell numbered 3).

	A	B	C	D	E
1					
2					
3					
4		3	2.1	2.2	
5		1.1			
6		1.2			
7		1.3			
8		1.4			
9					

Figure 14. Drop zones for cell-based analysis

You can continue to modify the worksheet by editing formulas and applying formatting. By default, data is updated when you edit a formula. To edit formulas without data updates, right-click the worksheet and select **IBM Planning Analytics > Pause formula resolution**. Placeholder symbols (~ ~) appear in data cells when **Pause formula resolution** is selected. When you are ready to show data, right-click the worksheet and select **✓ > Run formula resolution**.

Some of the techniques that you need to remember when working in cell-based mode include the following:

- Leaving blank rows or columns when you create a cell-based analysis disconnects one part of the exploration from another. This leaves cells without data. Only insert a blank row or column after you have created your analysis and initially populated the cells with data. You are then able to insert a single blank row or column for calculations or formatting purposes. Inserting more than one blank row or column disconnects cells when expanding items.

- To change the orientation of items, from vertical to horizontal, while dragging the items, hold down the Ctrl key while dropping items into cells.

Before you can create a cell-based analysis, the administrator must have created a package in IBM Cognos Framework Manager and published it to a location in the IBM Cognos Connection portal to which you have access. For full access to IBM Planning Analytics for Microsoft Excel, you should be a member of the Express Authors or Report Administrators role in IBM Cognos Analytics. An administrator must configure these privileges using IBM Cognos Administration.

For more information on using cell-based mode, see [“Example - using cell-based analysis to create an Exploration View of order method revenue”](#) on page 228.

Example - using cell-based analysis to create an Exploration View of order method revenue

You are a business analyst at the Sample Outdoors Company, which sells sporting equipment. You are asked to analyze the consequences of discontinuing the fax and mail order methods, which are expensive to process.

First you get the items you need and insert them into an Exploration View for further exploration.

Before you can try this example, you must set up the sample packages that come with IBM Cognos Analytics. For more information, see the IBM Cognos Analytics *Administration and Security Guide*.

Procedure

1. Start Planning Analytics for Microsoft Excel
2. In the IBM Planning Analytics, click **Open** .
3. Select the **Great Outdoors Company** package and click **OK**.
Data from the **Great Outdoors Company** package appears in the source tree.
4. Expand the **Retailer** level.
5. From the list of retailers, click **Department Store** and then Shift+click **Warehouse Store**.
6. In a new worksheet, drag the highlighted items to cell D5.

While dragging the items hold down the Ctrl key to reorient the list of items horizontally.

7. Drag the **Order Method** item to cell C6.
8. Right-click cell C6, click **IBM Planning Analytics > Expand > Expand up**.

The Order Method total item shifts down to cell C13. The cells before **Order Method** populate with the components that make up **Order Method** in the hierarchy.

9. Drag **Revenue** from the **Measures** folder to cell C5.

The worksheet is populated with the revenue data.

10. Apply Excel formats to the cells to reflect column and row headings, total fields, and revenue numbers.
11. Click **File** and **Save**.
12. In the **Name** box, type `Order Methods Revenue`.
13. Save the workbook.

Expand items

Expand items to add component members to the Custom Report from hierarchical items that have been placed in the cells of the worksheet.

For an example of using this feature, see [“Example - using cell-based analysis to create an Exploration View of order method revenue”](#) on page 228.

Procedure

1. Right-click the heading cell that contains the item you want to expand, and click **IBM Planning Analytics > Expand**.
2. Choose whether to expand before or after.
 - To expand items before a row, which puts the node item after the expanded items, click **Expand Up**.
 - To expand items after a row, which puts the node item before the expanded items, click **Expand Down**.
 - To expand items before a column, which puts the node item after the expanded items, click **Expand Left**.
 - To expand items after a column, which puts the node item before the expanded items, click **Expand Right**.

Results

Expanded items appear in the rows or columns of the worksheet. Cells are automatically shifted to accommodate the component values.

Drill down

Use the drill down feature to analyze details in a separate drill window.

Procedure

1. Right-click a data cell and click **IBM Planning Analytics > Drill Down**.

The result of the drill appears in a separate drill down window.

2. Click **OK**.

Tip: Alternatively, you can create a new Exploration View that displays the drill results. In the Custom Report, right-click a data cell and click **IBM Planning Analytics > Explore**.

Display the data source or package of a formula

When working in Dynamic Reports and Custom Reports, you can use more than one data source or package. You can synchronize the source tree when moving from cells of one data source or package to another. Synchronizing the source tree enables you to see accurately the dimensional data used to populate the cells.

Right-click a formula cell and click **IBM Planning Analytics > Display Package**. The Task Pane displays the package or data source that was used to create the selected cell.

Change the server and package used by a Custom Report

Update the server and package designation in a worksheet to switch from a test to a production environment or to access information from a different set of financial data, such as a submission. You can update information in cell references and in embedded text.

Procedure

1. From the worksheet you want to update, open the new server and package.
2. From the Information folder, drag the updated server and package metadata to the server or package cell.
3. Optionally, use the Microsoft Excel search and replace function to update embedded references in the text of cell formulas.

Troubleshoot

A problem with Custom Reports occurs when you have one or more COGVALs or COGNAMES that do not return a result (usually because of a bad reference to a COGNAMES with a MUN that does not exist). This can cause not only the incorrect item to fail, but also items that were retrieved in the same batch.

To resolve COGVAL and COGNAMES errors, from the **IBM Planning Analytics** tab on the ribbon, click **Refresh Sheet**. The MUN that is causing any errors becomes a text cell and any cells that use that MUN in a calculation display #ERROR. Use the Microsoft Excel trace feature to locate the bad MUN. Then you can correct the MUN by dragging a new item from the source tree to the cell.

Best practices

The main benefit of working in IBM Planning Analytics for Microsoft Excel in cell-based mode is that the features of Microsoft Excel become more readily available to you during your analysis. You are able to use features, such as formatting, sorting, and creating formulas using individual cells. This section describes some of the ways that IBM Planning Analytics for Microsoft Excel interacts with frequently-used Microsoft Excel features and functions.

Creating a chart

Charts update with new data as long as the data is after the current first cell and before the current last cell.

Cutting and pasting

Copy and paste from the cell, so that other cells that refer to it are updated to point to the new location.

Copying

To copy the exact formula without changing its cell references, copy from the formula bar, not the cell.

Creating formulas

Consider labeling measure and dimension cells so that you can refer to them by name rather than cell location.

If you are building a multisheet report with shared filters, such as date, consider creating a single page with the filters and referring to those shared filters from each sheet.

Prompted metadata in IBM Cognos Analytics packages

Prompts help you to find the information that you need. It is a way for you to define the scope and limit large amounts of data. You can change the behavior of prompts in IBM Planning Analytics for Microsoft Excel by modifying the definition of dimensions or query subjects in the model or other data source.

IBM Planning Analytics for Microsoft Excel uses prompts that are saved in the model or other data source. Prompting is useful for query items, such as ProductTypeCode, whose values are not shown in a report but can be used for filtering data. For these variables, use IBM Cognos Framework Manager to define type-in prompts. The Prompt Info properties in Framework Manager give you the ability to control default filtering and prompting. The properties are used by IBM Planning Analytics for Microsoft Excel to create a filter expression and set the use and display items in a prompt and prompt query.

If you expand an item in the source tree that contains a prompt, input for that item is requested before the item can be added to the work area. Depending on the type of prompt, you generally need to provide a response. If it is a prompt with a default, you must accept the default before dragging the item into the Exploration View, list, or cells of the workbook. Prompt values persist in the report and are saved as part of the query for future use.

Note: IBM Planning Analytics for Microsoft Excel does not support prompt info settings from Framework Manager.

Set options for IBM Cognos Analytics data

System optimization with large data sets

For lists based on IBM Cognos Analytics packages, Planning Analytics for Microsoft Excel can retrieve large data sets in CSV format. This enables Planning Analytics for Microsoft Excel to retrieve these data sets much faster than the standard fully formatted XML results. The CSV request format removes data formatting from the model.

Control data compression for data

Automatic data compression is one way that Planning Analytics for Microsoft Excel decreases processing time for large data transfers from the IBM Cognos Analytics server.

Data compression should be turned on under normal circumstances.

Although compression is turned on by default, you can turn it off by setting the `UseGzipCompression` property to `false` in the `CommManagerSettings.xml` file. By default, the file is located in the Office Connection directory, `C:\Documents and Settings\[user name]\Local Settings\Application Data\Cognos\Office Connection` or `C:\Users\[user name]\AppData\Local\Cognos\Office Connection`.

Turn compression off if you need to run tests or perform troubleshooting. To turn compression off, set the following attribute:

```
<setting name="UseGzipCompression">False</setting>
```

To turn compression on, set the following attribute:

```
<setting name="UseGzipCompression">True</setting>
```

Compression is turned on automatically when you change from RawXML format to CSV format for lists. The global property is not changed, which means that if you turned compression off, that setting is retained for other types of data transfer.

For example, if you have compression turned off and you create a new exploration after making a CSV list request, then your exploration data is still uncompressed.

Chapter 9. Cube Viewer

You can work with data using the Cube Viewer rather than the Microsoft Excel grid. You can compare multiple cube views alongside reports.

You can also generate reports from a cube view. See “Create a report” on page 240 for more information.

You can also follow along by watching this video: <https://youtu.be/3NB3qacenN4>

Procedure

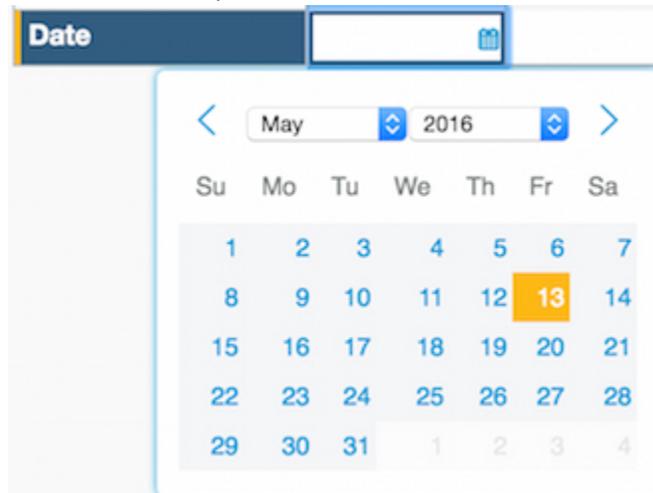
1. Log on to a TM1 system and select a data source.
For more information, see “Open a model or package ” on page 39.
The source tree in the task pane displays the cube and related items of the data source, such as views.
2. In the source tree, navigate to the cube that you want to view, and expand **Views**.
3. Right-click a view and select **Open in viewer**.
A separate Cube Viewer opens. You can position it where you want in the window so that you can view it along side other objects.

Data entry

You can enter data by typing in editable cells.

Cells that are grayed out and have data in italics in them, are read only. Cells can be read-only if you are a viewer, or if the version that you are looking at is locked.

To enter dates, tap in a date cell and select the date.



Some cells have picklists that you can select from. The following image shows a picklist where you can select a performance rating of Good, Average, or Poor.



Aggregated data is shown in bold. If you type data into an aggregated cell, the data is spread to the cells that make up the aggregated cells.

Calculated cells at detail level are colored green. You can't directly update calculated cells by typing data in them.

Note: If all of the descendent detail cells are calculated, then you can't type data into the aggregated cell.

	2016	Q1-2016	Q2-2016	Q3-2016
Division...	9,382,000	2,100,000	2,200,000	2,420,000
Product...	9,527,294	2,195,294	2,250,000	2,420,000
Region ...	9,527,294	2,195,294	2,250,000	2,420,000

The following describes the areas that are referenced in the previous image:

1. Data can be entered in the Division row and in the 2016 column.
2. Aggregate data is bold. You can type data here.
3. Calculated cells are shaded green. You can't type data into calculated cells.

Symbols in cells, such as currency and percentages

In cells that expect numbers, you cannot enter a symbol. For example, in a cell that expects currency in dollars, you enter the dollar amount in numbers, for example, for \$10, enter 10.

If a cell is formatted as a percent %, the value is displayed as a proportion of 1. To enter 5%, you can either type 5% or type 0.05. Both display as 0.05.

Preventing data from changing when data is spread

You can place a hold on a cell if you want to keep the value from changing when data is spread. Right-click the cell, then select **Hold and Release > Hold**. You can still edit the cell directly. Two vertical bars indicate that a hold is active on a cell.

When you place a hold on an aggregated cell, the aggregated value remains constant when you change any of the children. When a hold is in place and you change the value of a child, proportional spreading is automatically applied to the remaining children so that the consolidated value remains unchanged.

To remove holds, right-click any cell, then select **Hold and release > Release all holds**. You can also right-click a cell with an active hold, then select **Hold and release > Release hold** to release a specific hold.

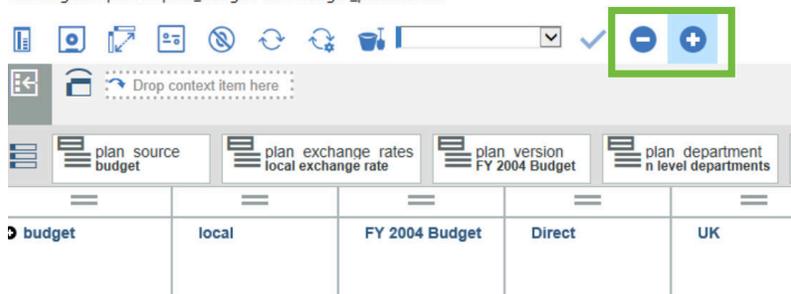
Zeroing data

You can replace data in a book view with zeros by going to a detail cell in the upper right corner and typing 0>|. This copies 0 across rows (>) and columns (|).

Change the font size

You can change the font size in the Cube Viewer to see more data.

If you're working with large dimensions or sets, you can change the font size of the Cube Viewer to display more data. Use the **Zoom in** and **Zoom out** buttons in the toolbar of the Cube Viewer to change the font size.



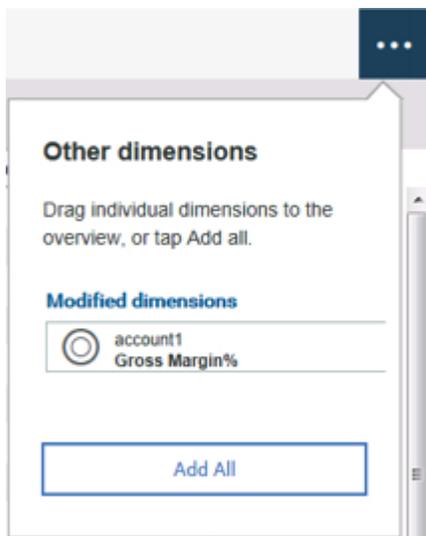
Data display

You can change the position of dimensions in the Cube Viewer.

Dimensions can appear in several positions: on the row axis, on the column axis, or as context.

Procedure

1. To swap the position of dimensions in a cube, drop one dimension directly on top of another dimension.
2. To swap the position of the row and column dimensions, click .
3. To have two or more dimensions on a row, column, or the context area, drop one dimension next to another dimension.
4. Dimensions that are used as context can be visible in the view or can be placed on the bench to save space and to simplify the appearance of the view.



Sort rows and columns

You can sort labels or values in ascending or descending order. You can choose to sort by hierarchy, or to sort breaking the hierarchy.

Procedure

1. To sort by label, right-click either the row selector , or the column

selector , and select the sort option.

2. To sort by value, right-click in the row or column and select the sort option.

3. To sort values within a hierarchy, right-click on the hierarchy label, select **Sort hierarchical**, then choose your option.

Show and hide totals

You can show and hide totals in a view, and choose whether totals are leading or trailing.

Procedure

Right-click either the row  selector, or the column  selector, and select one of the **Show totals** options.

Suppress zeros

You can hide rows and columns in a view that contain only zeros.

Procedure

Click  and choose either rows or columns.

Expand levels

You can expand levels in a hierarchy to a specific depth.

You can expand levels manually by tapping , or by selecting a specific level from the menu.

Procedure

1. To select a specific level to expand from the menu, right-click the member in the row or column that you want to expand.

A member that can be expanded has this icon: .

2. Select **Expand to level**, then select the level.

Display cell values as percentages

You can change the way values are displayed so that values are displayed as percentages of the total.

Procedure

1. Right-click in a cell, and select **Show cell value as**.

2. Select the appropriate option from one of the following:

% row total

Displays all the values in each row as a percentage of the total for the row.

% column total

Displays all the values in each column as a percentage of the total for the column.

% grand total

Displays values as a percentage of the total of all the values or data points in the report.

Advanced - % parent row total

Displays the values in each row as a percentage of the parent.

Advanced - % parent column total

Displays the values in each column as a percentage of the parent

The cells that display a percentage are shaded. This shading indicates that the values in these cells are calculated.

3. To return to the actual cell values, in the **Show cell value** window, select **As-is**.

Drill up or down on members

You can drill down on a consolidated member in a view to view the members of the consolidation and to hide other members by double-clicking on the member.

Procedure

1. To drill up to next level, right-click and select **Drill up**.
2. To remove the drills, right-click and select **View all**.

Hide rows and columns

You can hide rows and columns that are not needed in a view.

Procedure

1. Right-click the columns or rows that you want to hide and select **Hide**.
2. Instead of hiding a member, you can select and right-click rows or columns that you want to keep, and select **Keep**. All other rows or columns are hidden.
3. To unhide columns or rows that are hidden, right-click and select **Unhide all**.

Add a calculation to a view

Member calculations apply to one or more members on either the row or column axis of a view.

About this task

You can create the following calculations with one member selected:

- Rank: ranks the value of the cell, with rank 1 being the highest. This applies to visible numeric values only.
- Absolute value: the non-negative value of the cell.
- Percentage (%) of total: the value as a percentage of the total.
- Percentage (%) of parent: the value as a percentage of the immediate parent.
- Selected member + (plus), -(minus), / (divided by) or * multiplied by a numeric value (or the reverse)

You can calculate the following calculations with two or more members selected,

- Average
- Minimum
- Maximum
- Median

With just two members selected, you can create the following calculations:

- Member 1 * member 2
- Member 1 + member 2
- Member 1 - member 2
- Member 1 / member 2
- Member 1 % change member 2
- Member 1 % of member 2

You can reverse the members in calculations by tapping 

Procedure

1. Right-click the row or column label of the member for which you want to create a calculation.
To create a calculation on multiple members, use CTRL+click or SHIFT+click to select the member labels, and then right-click on one of the selected member labels.
2. Click **Calculations**, then **Create**.
3. Optionally, enter a name for the calculation. This is the name that will appear as a row or column label in your view. If you don't enter a name, a name is assigned.
4. Click the calculation you want to create.
5. If you are creating an arithmetic calculation on a single member, enter the required numeric value.
6. Click **OK**.

Sandboxes

Sandboxes 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. Sandboxes are visible only to you.

Procedure

1. To create a sandbox, click  and tap **Create sandbox**.
2. Name the sandbox.
3. Choose whether you want to create a sandbox from the base data or to create a copy of an existing sandbox, and then click **OK**.

You can now work in the sandbox. You can move between different sandboxes by selecting them from the drop-down list.  version 2

4. When you are satisfied with the data in a sandbox, and you want to commit it to the base, click  **Commit data**.
5. To delete a sandbox, follow these steps.
 - a) Click .
 - b) Select **Delete sandbox**, select the sandbox that you want to remove, and tap **Delete**.

Copy and paste

You can paste values from external applications, or from such as Microsoft Excel.

User interface

Support for the right-click user interface varies by browser. Some browsers display cut, copy, and paste options when you right-click a cell or range of cells; others do not. However, all browsers support keyboard shortcuts:

- **CTRL+x** - cut
- **CTRL+c** - copy
- **CTRL+v** - paste

Paste behavior

When you paste to a single cell, the contents of the clipboard are pasted with the selected cell as the initial insertion point, and the paste operation expands to other cells as required.

When you paste to a selected range of cells, and that range is smaller than contents of the clipboard, you are notified that the paste operation will modify cells beyond the selected range. You have the option of accepting or canceling the paste operation.

There is a 60,000 cell limit for pasting into the Cube Viewer. If you try to paste more than 60,000 cells an error will be displayed.

Data spreading

You can use data spreading options to detail cells to distribute numbers in cells in a grid. For example, you can evenly distribute a value across a range of cells.

You can use data spreading options with copy and paste shortcuts and data entry commands. To find out more, see [“Copy and paste”](#) on page 239 and [“Quick data entry commands”](#) on page 241.

By default, the spreading options replace data, but you can specify + or ~ to add or subtract data instead.

Proportionally spread a value

P

Example: P<>100

Proportionally spreads the value 100 to all detail cells on the row of insertion and replaces the existing cell values.

Equally spread a value

S

Example: S+|^200

Equally spreads the value 200 to all detail cells on the column of insertion, and adds the product of spreading to the existing cell values

Repeat a value

R

Example: R~<50

Subtracts the value 50 from all detail cells to the left of the insertion point.

Apply a percent change

P%

Example: P%+<>10

Takes 10 percent of the cell values and adds it to the existing cell values across the row.

Populate cells by specifying a start and end value (Straight-line)

SL

You specify a start and end value, choose the direction of the spread, and the update action.

Example: SL>100:200

Replaces all detail cell values to the right of insertion with a start value of 100 and an end value of 200. Across 5 detail cells, the values would be:

100, 125, 150, 175, 200.

Apply a linear growth percentage

GR

You specify a start value and a growth percentage.

Example: GR | 300:25

Applies a 25 % growth percentage to the starting value of 300 and replaces all detail values below the point of insertion.

Create a report

You can create an Exploration View, Dynamic Report, Quick Report and a Custom Report from a View in the cube view.

Procedure

1. Open the cube view, and click .
2. Select the kind of report you want to create: Exploration View, Dynamic Report, Quick Report, or Custom Report.

The report is created in an Excel worksheet.

Multiple hierarchies

IBM TM1 dimensions can include one or more hierarchies. Currently, multiple hierarchies can be implemented by using TurboIntegrator or Planning Analytics Workspace.

Exploration Views and Quick Reports can display more than one hierarchy in a dimension.

If you are working in an IBM Planning Analytics with Watson data source where multiple hierarchies are enabled, and are in use, you can do the following tasks in the Cube viewer.

- Remove hierarchies
- Hide a hierarchy control from view and add to the bench.
- Add a new related hierarchy from the same parent dimension to the view
- Replace a hierarchy with a different hierarchy.
- Change the hierarchy in use. For more information on changing hierarchies, see [“Change the hierarchy” on page 73](#).

Note: Do not create Dynamic Reports, or Custom Reports containing multiple hierarchies, as you will get errors.

Procedure

1. In the source tree, navigate to the cube that you want to view, and expand **Views**.
2. Right-click a view and select **Open in viewer**.
3. In the overview, right-click the dimension member, and select one of these options:

Remove this hierarchy

Remove this hierarchy from the view.

Hide from view

Hide this hierarchy control from the view and add to the bench.

Add related hierarchy

Adds a new related hierarchy from the same parent dimension to the view. Select the hierarchy and click **Insert**.

Replace this hierarchy

Replace this hierarchy with a different hierarchy. Choose the hierarchy that you want to replace it with.

Quick data entry commands

You can type a data entry command into a cell in a grid.

You can combine most of these commands with the copy and paste commands and with data spreading techniques. To find out more, see [“Copy and paste” on page 239](#), and [“Data spreading” on page 239](#).

Enter the value in thousands

K

Example: 5K

Enters 5,000

Enter the value in millions

M

Example: 10M

Enters 10,000,000.

Add a number to a cell value

Add, +

Example: Add50

Adds 50 to the cell value.

Subtract a number from the cell value

Subtract, Sub, ~

Important: A minus sign (-) can't be used for subtract because it indicates a negative number.

Example: sub8

Subtracts 8 from the cell value.

Multiply the cell value by a percentage

Percent, Per

Example: per5

Gives 5% of the original cell value

Increase the cell value by a percentage

Increase, Inc

Example: inc10

Increases the cell value by 10%

Decrease the cell value by a percentage

Decrease, Dec

Example: Dec6

Decreases the cell value by 6%

Grow cells by a percentage

Gr

Example: Gr>150:10

Increase the value by 10 percent starting with a value of 150.

Hold the cell value from breakback calculations

Hold, Hol, H, Hc

Hc holds aggregated cells.

Release held cells

Release, Rel, Rh, Rc

Rc releases aggregated cells.

Release all held cells

RA

Set data refresh options for a view

You can set data refresh options for a view directly from the Cube Viewer. These options determine which actions in a view will trigger a data refresh.

About this task

Use the following procedure to set a data refresh behavior for a view:

Procedure

1. Open the Cube Viewer.
2. Click the **Refresh data** icon .
3. Set the data refresh option that you want to apply to the view.

Select **After each context change** to refresh data after actions that change the structure of the view. This includes actions such as:

- swapping rows and columns,
- moving hierarchies between rows, columns, context, and the bench, or
- expanding or collapsing members in the rows or columns.

If you clear this option, you must manually refresh data after modifying the structure of a view.

Defer on leaf data change controls whether direct edits in leaf cells trigger a data refresh. When the option is selected, data is updated when the view is refreshed (either explicitly or by an action that triggers a refresh), and not when data is changed in leaf cells. Clear this option to refresh view data whenever a leaf cell is modified. This option is off by default when you create a new view in a book.

Data is always refreshed immediately in a view with any of the following actions:

- data is entered in consolidated cells,
- data is spread in leaf cells,
- data is spread from the [Spreading](#) dialog, or
- cells are updated from a date picker.

Save a view from the Cube Viewer

You can use the Cube Viewer to save a view as part of the cube.

About this task

By saving your view as part of the cube, you can open your view in TM1 Web and in IBM Planning Analytics Workspace.

Procedure

1. Open the Cube Viewer.
2. Make your changes.

3. Click the **Save** icon.
4. Provide your view with a name.
5. Optional: Select the **Save as private view** check box if you want your view to be hidden from other users.
6. Click **OK**.

Chapter 10. Action buttons

You can create action buttons to run processes, navigate between worksheets, and recalculate worksheets.

Users can access these buttons when working in IBM Planning Analytics for Microsoft Excel or with worksheets in TM1 Web.

You can use an action button to perform any of the following tasks:

- Run a TurboIntegrator process.
- Navigate to another worksheet.
- Run a TurboIntegrator process and then navigate to another worksheet.
- Recalculate a worksheet or rebuild a TM1 Dynamic Report in a worksheet.

For example, suppose that you have a workbook containing many worksheets. The workbook is large and you want to make it easier to use and to maintain.

You can place action buttons on the first sheet to enable users to navigate quickly to the worksheets within the book. You can also configure the action buttons to navigate to a worksheet and then recalculate it.

You can also create a worksheet with action buttons to run the TurboIntegrator processes you use to maintain the reports in the workbook, for example.

You can also use an action button on a worksheet with a Dynamic Report to rebuild the report.

What action buttons do

When you click an action button, the steps that are performed depend on how the action button was configured.

When an action button runs a TurboIntegrator process only, IBM Planning Analytics for Microsoft Excel performs the following steps:

1. If you selected a calculation operation on the Calculate tab, the calculation operation is performed.
2. The TurboIntegrator process is run.
3. The calculation operation that you selected in the Options dialog box for the process is performed.
4. The status message is evaluated and presented.

When an action button navigates to a worksheet only, IBM Planning Analytics for Microsoft Excel performs the following steps:

1. If you selected a calculation operation on the Calculate tab, the calculation operation is performed.
2. The navigation action begins.
3. Context transfers are set into the target workbook. If you specified mappings in the Advanced Options dialog box, the mappings are applied.
4. The target sheet is navigated to.
5. The calculation operation that you selected on the Worksheet tab of the Action Button Properties dialog box is performed on the target worksheet.

When an action button runs a TurboIntegrator process and then navigates to a worksheet, IBM Planning Analytics for Microsoft Excel performs the following steps:

1. If you selected a calculation operation on the Calculate tab, the calculation operation is performed.
2. The TurboIntegrator process is run.
3. The calculation operation that you selected in the Options dialog box for the process is performed.

4. The status message is evaluated and presented.
5. The navigation action begins. The target workbook is opened.
6. Context transfers are set into the target workbook. If you specified mappings in the Advanced Options dialog box, the mappings are applied.
7. The calculation operation that you selected in the Worksheet tab of the Action Button Properties dialog box is performed on the target worksheet.

When an action button recalculates a worksheet or rebuilds a Dynamic Report only, IBM Planning Analytics for Microsoft Excel performs the following steps:

1. The calculation operation that you selected in the Calculate tab of the Action Button Properties dialog box is performed on the worksheet.

Add to a worksheet

You can insert an action button into a worksheet.

Before you begin

You must enable the following Microsoft Excel setting: Trust access to the VBA project object model. This setting is found in Options, Trust Center Settings, Macro Settings.

About this task

When you insert an action button, you configure the action button and set its appearance properties.

The action buttons that you create are listed in the source tree under **Action Buttons**.

You can modify an action button. In the source tree, expand **Action Buttons**. Right-click an action button and select **Edit**.

Procedure

1. Go to the worksheet where you want to add the action button.
2. On the IBM Planning Analytics toolbar, click the **Action Button**  .
The Action Button Properties dialog box is displayed.
3. Select the TM1 Server Application folder where your data is located and connect to the server.
 - a) Select the **TM1 Server**.
For example, if you want to run a TurboIntegrator process that is stored on a different TM1 server, select the server.

You can use a cell reference or a named range to retrieve the TM1 server name dynamically. Click the **Use Reference** check box and then enter a cell or named-range reference.

To select a cell reference, click  and then specify the cell where the server name is located.

To retrieve the server name by referencing a named range, use the following format:

```
=NameOfRange
```

The named range must point to a single cell that contains text for the server name.

- b) If you are not connected to the server that you want to use, click **Connect** and log in.
4. Click the action that you want the action button to perform.
 5. Configure the action button.

For more information, see the following topics:

- [“Run a process” on page 247](#)
- [“Navigate to another worksheet” on page 248](#)

- “Run a process and navigate to a worksheet” on page 251
 - “Recalculate or rebuild a worksheet” on page 251
6. Set the appearance of the action button. For more information, see [“Set the appearance” on page 251](#).
7. Click **OK**.

What to do next

Action buttons can be saved in a workbook. If the saved workbook has Protected View enabled, the user opening the workbook must select the **Enable all macros** option under **File > Options > Trust Center > Trust Center Settings... > Macro Settings**.

Run a process

You can use an action button to run a TurboIntegrator process.

Procedure

1. Create an action button. For more information, see [“Add to a worksheet” on page 246](#).
2. In the Action Button Properties dialog box, click **Run a TurboIntegrator Process**.
The Process tab is displayed.
3. Select the process that you want to run.
 - a) To select a process from the server that is displayed in the **TM1 Server** list, click the **Process** list and select a process.
 - b) To select a process from the current workbook, click the **Process** list and select **Get Process info from Worksheet**. In the **Process Name** box, enter the process name or click  and specify a cell reference or a named range.
4. Specify parameters, if any, for the process. The **Parameters** table shows the available parameters for the process you selected.

To specify a value for a parameter directly, enter the value in the **Value** cell and then press **Enter**.

To use a cell reference or a named range, click the **Value** cell and then click . Specify the cell reference or a named range, and then click **OK**.
5. Click **Options**. The Options dialog box is displayed.
6. Select the calculation operation that you want to occur after the process runs.
 - **Automatically Recalculate Sheet** - Refreshes the data in the current worksheet.
 - **Rebuild Sheet** - Equivalent to **Automatically Recalculate Sheet**. Rebuilds the TM1 Dynamic Report to its original report definition configuration.
 - **None** - Do not recalculation or rebuild the worksheet.
7. Select and type the messages that you want the action button to display.
 - **Show Success Message** - Displays a message after the process runs successfully.
 - **Show Failure Message** - Displays a message if the process does not run successfully.
 - **Show Confirmation** - Displays a confirmation message before the process is run. The user can click **Yes** or **No**.
8. Click **OK**. The Action Button Properties dialog box is displayed.
9. If you want to recalculate or rebuild the worksheet before the TurboIntegrator process runs, click the **Calculate** tab and select an option.
10. Set the appearance of the action button. For more information, see [“Set the appearance” on page 251](#).
11. Click **OK**.

Navigate to another worksheet

You can use an action button to navigate to another worksheet in the same workbook, or to a worksheet in another workbook.

Procedure

1. Create an action button. For more information, see [“Add to a worksheet” on page 246](#).
2. In the **Action Button Properties** dialog box, click **Go to another Worksheet**.

The **Worksheet** tab is displayed.

3. Specify the target workbook.

- To select a workbook on a TM1 server, click **TM1 Applications**. Click **Browse** and select the workbook.

Or, to use a cell reference or a named range for the workbook name, click . The referenced cell or named range must contain the path to the workbook. Start with the first folder name under Applications and use a back-slash \ character to separate folders. Do not include the Applications folder in the path. For example: Planning Sample\Bottom Up Input\Budget Input.

- To select a workbook that is stored on your computer or on the network, click **Files**. Click **Browse** and select the workbook.

Note: If you plan to share your workbook with TM1 Web or IBM Planning Analytics Workspace users, place the target workbook in a shared network location. The location that you specify must be accessible by the server where TM1 Web or IBM Planning Analytics Workspace is running.

4. Specify the target worksheet.

You can use any of the following techniques.

- Click the **Sheet** list and select a worksheet.
- Enter the worksheet name in the **Sheet** field. Use the following format: =SheetName!Cell
- Use a cell reference or a named range, click . Specify the cell reference or a named range, and then click **OK**.

5. Set the following options.

- **Match Title Elements** - Automatically matches and sets the text of the title dimensions in the target worksheet when a user clicks the action button. For more information, see [“Match Title Elements option” on page 250](#).
- **Replace Current Workbook** - Determines whether the target worksheet opens in a new window or in the same window, replacing the source worksheet. For more information, see [“Replace Current Workbook option” on page 250](#).

6. Select the calculation operation that you want performed on the target worksheet.

- **Automatically Recalculate Sheet** - Refreshes the data in the current worksheet.
- **Rebuild Sheet** - Equivalent to **Automatically Recalculate Sheet**. Rebuilds the TM1 Dynamic Report to its original report definition configuration.
- **None** - Do not recalculation or rebuild the worksheet.

7. To map items, click **Advanced Options**.

For more information, see [“Map fields” on page 249](#).

8. If you want to recalculate or rebuild the worksheet before navigating to the target worksheet, click the **Calculate** tab and select an option.

9. Set the appearance of the action button. For more information, see [“Set the appearance” on page 251](#).

10. Click **OK**.

Map fields

When you create an action button that navigates to another worksheet, you can manually map fields between the source worksheet and the target worksheet. You can map dimensions, cells, and values from the source worksheet to the target worksheet.

Note: Manual mapping is applied after any automatic mapping has been applied by the **Match Title Elements** option.

To map fields, click **Advanced Options** on the Worksheet tab in the Action Button Properties dialog box.

The Advanced Options dialog box includes a grid where you define the mapping of fields between the source and target worksheets. Use the **Add** and **Delete** buttons to manage the rows in the grid.

You map the source worksheet to the target worksheet by setting values for the source type, source object, target type, and target object in the Advanced Mapping grid.

Use the following steps to configure advanced mapping:

1. Indicate the type of object to map by setting the **Source Type**.
2. Determine the value for the type of object you are using by setting the **Source Object**.
3. Indicate the type of cell to map by setting the **Target Type**.
4. Indicate where to insert the value from the source object by setting the **Target Object**.
5. Repeat these steps to create more mapping configurations.

Source Type

The **Source Type** field represents the type of object for the value you want to map.

- **SUBNM** - Indicates that you are mapping from a cell that contains a title dimension in the source worksheet.
- **Selected DBRW** - Indicates that you are mapping from a cell that contains a DBRW formula in the source worksheet.
- **Value** - Indicates that you will enter a string or numeric value to send to the target worksheet.

Source Object

The **Source Object** field takes a value, or a Microsoft Excel expression that evaluates to a value, depending on what you selected in the **Source Type** field.

- If **Source Type** is set to **SUBNM**, specify the name of the title dimension that exists in the source worksheet.
- If **Source Type** is set to **Selected DBRW**, specify the name of a row or column title dimension that exists in the source worksheet.
- If **Source Type** is set to **Value**, enter a string or numeric value to send to the target worksheet.

Note: You can also retrieve these values from the source worksheet by using a cell reference or a named range.

Target Type

The **Target Type** field specifies the type of cell in the target worksheet where the value from the **Source Object** field will be inserted.

- **SUBNM** - Indicates that the target is a title dimension in the target worksheet.
- **Named Range** - Indicates that the target is a named range in the target worksheet.
- **Range** - Indicates that the target location is a cell in the target worksheet.

Note: If you set **Target Type** to either **Named Range** or **Range**, any pre-existing data or formula in the target cell will be overwritten when you click the action button. If the target cell contains a DBRW function, then the function will be lost and the cell will not be able to connect to, read from, or write to the IBM TM1 server.

Target Object

The **Target Object** specifies the location in the target worksheet where the value from the source object will be inserted. This location can be the name of a title dimension, a specific cell location, or a named range in the target worksheet, depending on what you selected for **Target Type**.

- If **Target Type** is set to **SUBNM**, specify the name of the title dimension in the target worksheet. When Target Type is set to SUBNM, you must also enter a value for the **Subset** and **Alias** fields.
- If **Target Type** is set to **Named Range**, specify the name of the range in the target worksheet.
- If **Target Type** is set to **Range**, specify the cell location in the target worksheet.

You can enter a value for the target object by entering the location value directly. Or, you can use a cell reference or a named range to retrieve the location.

- Entering a value directly: To identify a location in the target worksheet, enter the value directly into the **Target Object** field without the equal sign =. For example, enter C3 to identify the location of the target object as the cell C3 of the target worksheet.
- Using a cell reference or a named range: To reference a cell in the source worksheet that contains a location for the target object, include the equal sign =. For example, the cell A1 in the source worksheet might contain the value C3 to represent the cell location for the target object in the target worksheet.

Match Title Elements option

The **Match Title Elements** option automatically matches and sets the text of the title dimensions in the target worksheet when a user clicks an action button to navigate to the target worksheet.

The **Match Title Elements** option is displayed on the Worksheet tab of the Action Button Properties dialog box.

When the **Match Title Elements** option is enabled, the dimensions in the source and target worksheets are automatically matched by the SUBNM and DBRW functions as follows:

- TM1 automatically matches title dimensions in the source and target worksheets based on the SUBNM formula in a cell.

For example, when the same dimension exists in both the source and target worksheets, the member selected in the source worksheet is set for the same dimension in the target worksheet. When a column is selected in the source worksheet, it matches to the column with the same title dimensions in the target worksheet.

- TM1 automatically matches the row and column dimensions of the currently selected DBRW cell in the source worksheet to the matching title dimensions in the target worksheet, if they exist.

For example, if Operating Expense and Feb-2015 are the row and column dimension members for the currently selected member in the source worksheet, when navigating, these dimension members are matched to the title dimensions in the target worksheet. If the row Operating Expense and the column Feb-2015 are both selected in the source worksheet, the DBRW cell is the cell that exists in both the Operating Expense row and the Feb-2015 column. The row and column dimensions of the DBRW cell are matched to title dimensions in the target worksheet.

Replace Current Workbook option

The **Replace Current Workbook** option determines whether the target worksheet is opened in a new window or in the same window, replacing the source worksheet.

The **Replace Current Workbook** option is displayed on the Worksheet tab of the Action Button Properties dialog box.

For example:

- If **Replace Current Workbook** is not selected (default) and you are working in TM1 Web, then the source worksheet remains open and the target worksheet opens in a new tab.

- If **Replace Current Workbook** is selected and you are working in TM1 Web, then the source worksheet is replaced by the target worksheet on the same tab and a new tab does not open.

Important: If you enable the **Replace Current Workbook** option, remember to save your workbook before you test the new button. You could lose your changes if you click the button and cause the current workbook to close.

Run a process and navigate to a worksheet

You can configure an action button to run a TurboIntegrator process and then navigate to another worksheet.

Procedure

1. Create an action button. For more information, see [“Add to a worksheet” on page 246](#).
2. In the Action Button Properties dialog box, click **Run a Process, then go to another Worksheet**.
The Process tab is displayed.
3. Select the process that the action button will run. See [“Run a process” on page 247](#).
4. Select the worksheet to which the action button will navigate. See [“Navigate to another worksheet” on page 248](#).
5. Set the appearance of the action button. For more information, see [“Set the appearance” on page 251](#).
6. Click **OK**.

Recalculate or rebuild a worksheet

You can use an action button to recalculate or rebuild a worksheet, without running a TurboIntegrator process or navigating to a new worksheet. You can also use the Calculate tab to select the calculation operation that you want the action button to perform before running a TurboIntegrator process or navigating to another worksheet.

Procedure

1. Create an action button. For more information, see [“Add to a worksheet” on page 246](#).
2. In the Action Button Properties dialog box, click **Calculate/Rebuild Only**.
The Calculate tab is displayed.
3. Select the calculation option that you want to use.
 - **Automatically Recalculate Sheet** - Refreshes the data in the current worksheet.
Note: The **Automatically Recalculate Sheet** option does not refresh Exploration Views or Quick Reports.
 - **Rebuild Sheet** - Equivalent to **Automatically Recalculate Sheet** and also rebuilds the TM1 Dynamic Report to its original report definition configuration.
 - **None** - Do not recalculate or rebuild the worksheet.
4. Set the appearance of the action button. For more information, see [“Set the appearance” on page 251](#).
5. Click **OK**.

Set the appearance

You can set the appearance of action buttons. You can set the caption, background picture, and other visual features for the action button.

In the Action Button Properties dialog box, click the **Appearance** tab to adjust the appearance of the button.

The Appearance tab has the following options:

- **Caption** - Sets the caption text that displays on the button.

Tip: Use a single space character if you want to have a blank caption. Leaving the caption empty may result in the action button caption appearing as "Run" when opened in other applications.

- **Resize Button to Caption** – Adjusts the size of the button to fit the caption.
- **Font** - Displays a font dialog box where you can change the font type and size of the button caption.
- **Show Background Image** - Use this option to select a background image for the button. Click **Browse** to select an image file (bmp, gif, or jpg format). The image will be stretched to fit the size of the button.
- **Display as Hyperlink** - When enabled, this option displays the button as a hyperlink with blue, underlined text instead of as a standard button. This option is not available if **Show Background Image** is selected.
- **Preview** - This area shows an example of what the button will look like.
- **Colors** - Use these options to set text and background colors for the button. Click the color sample to display a Color dialog box where you can select a standard color or define a custom color. If you select **Display as Hyperlink**, the color options do not apply.

Edit, copy, rename, or delete

You can modify, copy, rename, or delete an action button.

Modifying, copying, or deleting an action button is easy and can be performed from the task pane. Start by showing your available action buttons.

1. Ensure that the task pane is open.
2. Click the **Workbook** tab.
3. Expand **Action buttons**.

Modify

To modify an action button, right-click the action button in the source tree and select **Edit**.

Copy

To copy an action button, drag and drop the action button from the source tree onto the worksheet.

Note: Action buttons cannot be copied to another workbook. Copying an action button will not copy the visual formatting of the action button.

Rename

To rename an action button, right-click the action button and type the new name. To refresh the name in the Action buttons list, right-click **Action buttons** and then click **Refresh list**.

Delete

To delete an action button, right-click the action button in the source tree and select **Delete**.

Locate

To see where an action button is located in a workbook, right-click the action button and select **Select**. If you do not see your action button in the source tree, right-click **Action buttons** and then click **Refresh list**.

Chapter 11. IBM Planning Analytics for Microsoft Excel API

Using an application programming interface (API), you can automate the refreshing or publishing of content.

You can use the API to create a scheduled batch program to refresh content on a daily, weekly, or monthly basis so that, as your period data changes, the affected files are kept up-to-date.

You can call the API within Microsoft Excel workbooks using VBA or using VBS and a command line interface. For these types of automation to work, you must register one or more macros within the workbook.

If you have IBM Cognos Office installed, you can also use the API in Microsoft Word and Microsoft PowerPoint.

When using sample macros and script files as part of your own processing functions, remember that the API is accessible only as user defined functions (UDFs). UDFs are functions created in Visual Basic for Applications (VBA). In this case, however, the UDFs are created within the IBM Cognos solution and are called from VBA.

To help you understand what is possible using this API, several samples are provided. You can use the samples to help you create your own solutions.

- Creating VBA macros
- Passing parameters, leveraging VBS and the command line interface

In addition to these capabilities, you can schedule scripts, either ones that you create or the samples, to run as a batch process at a set time.

To use automation, you must set your macro security to an appropriate level in your Microsoft application. You can set the macro security level using one of the following options depending on your version of Microsoft Office.

- Change the security level of your Microsoft application to medium or low.
- Change the trusted publishers setting of your Microsoft application so that installed add-ins or templates are trusted.

Planning Analytics for Microsoft Excel API documentation

Visit <https://ibm.github.io/paxapi/> to see the documentation for the Planning Analytics for Microsoft Excel API.

Report issues

Any issues or errors related to the Planning Analytics for Microsoft Excel API documentation can be reported in [GitHub](https://github.com/IBM/paxapi/issues) (<https://github.com/IBM/paxapi/issues>).

To report any issues or errors related to Planning Analytics for Microsoft Excel API features or functionality, use the IBM Planning Analytics Community (<https://community.ibm.com/community/user/businessanalytics/communities/community-home?CommunityKey=8fde0600-e22b-4178-acf5-bf4eda43146b>).

Chapter 12. Tutorials, examples and exercises

Improve your IBM Planning Analytics for Microsoft Excel skills and knowledge with tutorials, examples, and exercises.

Tutorials

Getting started in Planning Analytics for Microsoft Excel is easy. Going through these tutorials will help you make sense of the features that are offered in Planning Analytics for Microsoft Excel and how you might use them in your work.



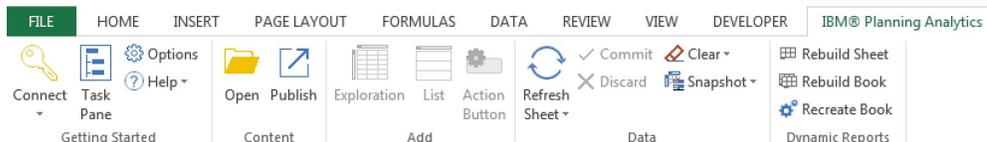
In this tutorial, you are a new hire and you're just starting your job as a business analyst at an automotive company. Your position requires you to analyze existing data, edit reports and create new reports by using Planning Analytics for Microsoft Excel. You are familiar with Microsoft Excel, but you never used Planning Analytics for Microsoft Excel before and have little data modeling knowledge. This series of tutorials will guide you through the basics of Planning Analytics for Microsoft Excel and help to on your way to becoming a star business analyst.

Get started

You sit down at your desk with your morning coffee. You're the new business analyst. Excited to make a good first impression, you immediately turn on your computer and open Microsoft Excel; the emails from Mom can wait. The user interface is familiar but there's a new tab. Let's get started.

Procedure

1. Open Microsoft Excel.
2. Click the **IBM Planning Analytics** tab.



The Planning Analytics for Microsoft Excel ribbon displays commands for starting Planning Analytics for Microsoft Excel, logging on to IBM TM1 systems, setting options, opening reports that are published to an IBM TM1 server, and so on. Report-specific sections might appear here as well when you're working in them.

What to do next

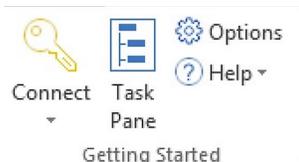
It is difficult to analyze data and create reports when you have no data to analyze. Continue by adding a system with data sources to connect to.

Add a system

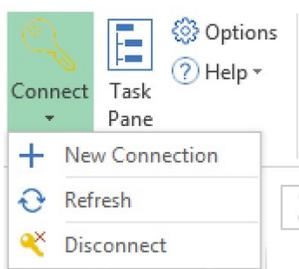
To get started with Planning Analytics for Microsoft Excel, you need to add a system and connect to a data source. The data source is where the data you'll be importing to analyze will come from.

Procedure

1. Click **Connect**.

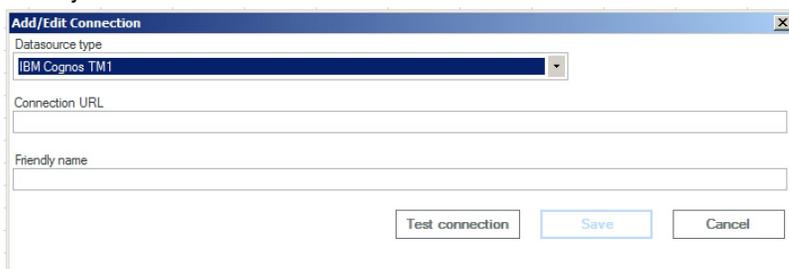


2. Click **New Connection**.



Unless a data source was already configured by your administrator, you need to add a data source before you can connect to one.

3. Define the **Datasource type**, the **Connection URL**, and a **Friendly name** to help you easily remember what your data sources are for.



If you're not sure of the **Datasource type** and **Connection URL**, ask your administrator.

4. Click **Test connection**.

This step ensures that the connection to the data source is accurate and live.

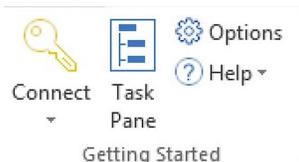
5. Click **Save**.

Connect to a data source

Now that you have your connection set up, it's time to connect to a data source.

Procedure

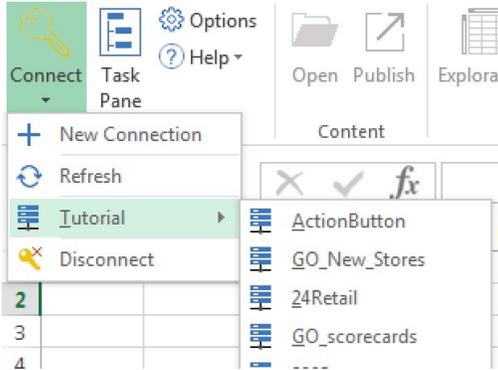
1. Click **Connect**.



2. Hover your cursor over the connection.



3. Click **SDataHierarchies**.



4. Log in to the data source by using your credentials.

Sign in to IBM

Enter IBMid or email [Forgot your IBMid?](#)

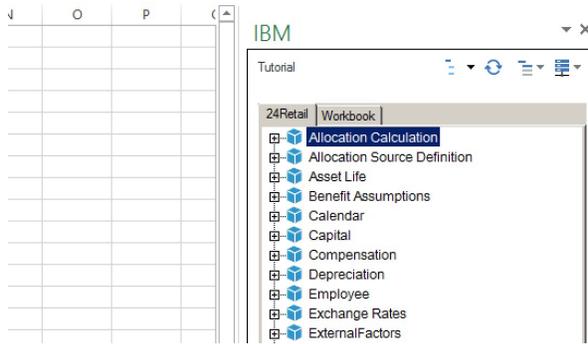
Continue

New? [Create an IBMid.](#)

Results

You are now connected to a data source and the IBM task pane is opened on the right of the screen.

The IBM task pane opens when you connect to a data source in Planning Analytics for Microsoft Excel. You can change the position of the IBM task pane by clicking near the top of the task pane and dragging it to another area on the screen.



The IBM task pane is where your workbooks are organized and where you can find a tree for all of your views, cubes, dimensions, measures, and members. If you're unfamiliar with these terms, watch this video on the basics to modeling and modeling concepts: <https://youtu.be/5GOjioIcs8g>

First assignment: Create and customize an Exploration View



You receive an email from your manager. It's your first assignment!

Hi,

Welcome to the team! As you know, this company sells vehicles world-wide. We are currently reviewing our sales for 2014.

Please send a report that shows the following:

- Only sales for convertibles and sedans
- Only sales in Europe
- Only the actuals
- The quarters in the columns
- Data from 2014

You can find the data you need in the SDataHierarchies data source.

Regards,

Your manager

Now that you have your assignment, it's time to get to work.

Views

Check for existing views

You have your first assignment. Your manager asked you to check for a report that analyzes sales in 2014. Start by checking whether such a view already exists.

Procedure

1. The top of the IBM task pane contains two tabs; **SDataHierarchies** and **Workbook**. Click the **Workbook** tab.

The Workbook tab shows all of the Dynamic reports, Action buttons, Explorations, and Quick reports that you have in your workbook. As you can see, no reports are currently in your workbook. No problem, you can create one yourself.

2. Click the **SDataHierarchies** tab.

That's a lot of content. The cube icon  indicates that the item is a cube, and the dimension icon  indicates that the item is a dimension. Notice that there's a cube that is named "WorldSales". That looks like it might have what you need.

What to do next

Impress your manager by creating an Exploration View from the **2014F** view.

Create a new view

Procedure

1. Expand **WorldSales**.

Notice that there's a new type of icon. This icon is the views icon . This item contains views that are in this particular cube. You want to see whether there's already an existing view that has the report you're looking for.

2. Expand **Views**.

Another new type of icon! This is the icon for individual views . If you expand an individual view, you can see the content inside of the view. The **2014F** view looks like it's just what you need. Now how do you create a report from it?

3. Drag **2014F** and drop it into the workspace area.

Dragging a view into the workspace area creates a list view.

Results

Congratulations on creating your first list view. List views are good for showing data with little formatting. List views are good for simple analyzes with simple data. But you didn't get hired for simple reports. And you sure aren't going to show a list view to your manager as your first report! You're going to re-create this report as an Exploration View.

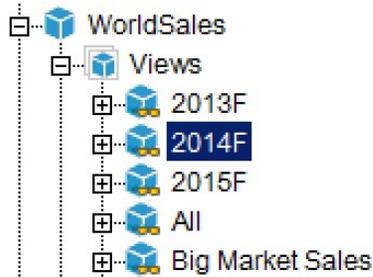
Create an Exploration View from an existing view

Exploration views are great for exploring data in a pivot table style format. They're easy to manipulate and can be changed dynamically.

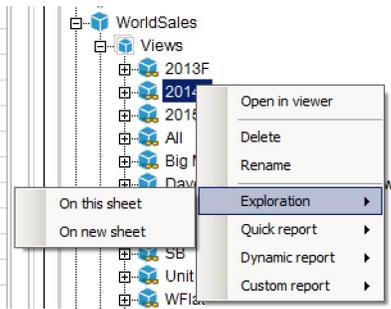
In the last tutorial, you created a list view. But you want something more powerful. Something that more closely resembles a pivot table. The Exploration View is perfect for that.

Procedure

1. Under the **SDataHierarchies** tab, expand **WorldSales > Views**.

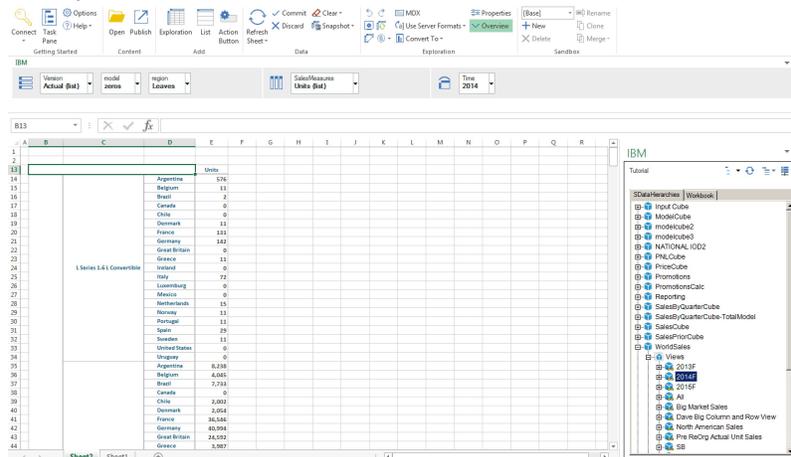


2. Right-click **2014F**.
3. Hover your cursor over **Exploration view**.
4. Click **On new sheet**.



Results

An Exploration View is created from the **2014F** view.



What to do next

Your Exploration View is great, but it does not meet the requirements from your manager. Next, you will customize the Exploration View to meet your manager's needs.

Customize Exploration Views

Exploration Views are flexible reports. Exploration Views allow for exploring data in a pivot style format. Perfect for quickly customizing your Exploration View for the manager.

Have a look at the Exploration View you created from the **2014F** view. It is huge. Scroll down the report and you see that the report contains a number of things that your manager did not ask for: sales for wagons, the budget, sales for Canada, and so on. A summary of the report's content is presented in the overview bar below the ribbon:



The rows drop zone  contains sets that are found in the rows of the Exploration View. The columns drop zone  contains sets that are found in the columns of the Exploration View. The context drop zone  contains sets that make up the context of the report. From the overview bar, you can edit the sets that are contained in the Exploration View.

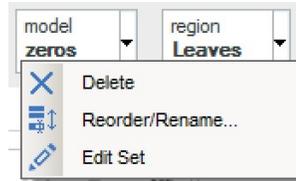
Insert and replace members into a set

Your Exploration Views looks great, but it shows all model types instead of just convertibles and sedans. Change that now by inserting and replacing members in the model set.

Procedure

1. Right-click the **model** set in the rows drop zone.

2. Click **Edit Set**.



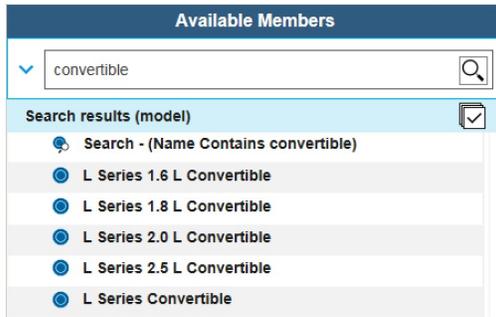
The set editor opens for the **model** set. You use the set editor to customize which members are displayed in your Exploration View.

Note: Your manager wants to see data for convertibles and sedans.

3. Input convertible in the search bar and then press enter.



The search results now contains only members with the word convertible in their names.

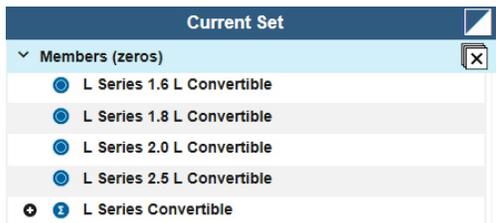


4. Click **Search - (Name Contains convertible)**

This member contains every search result member and dynamically updates if the set changes.

5. Click the replace set icon .

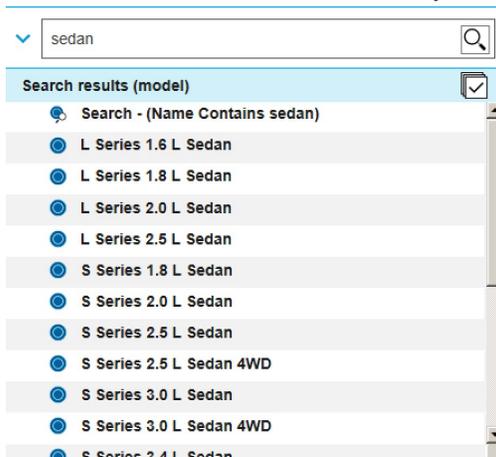
The replace set icon replaces the entire current set with the member that you selected from the available members section.



6. Input sedan in the search bar and then press enter.



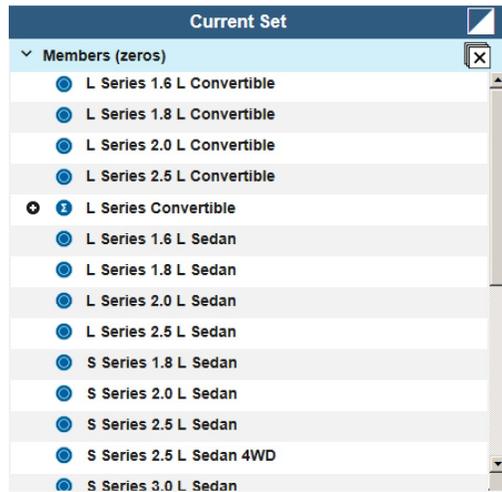
The search results now contains only members with the word sedan in their names.



7. Click **Search - (Name Contains sedan)**

8. Click the insert icon →

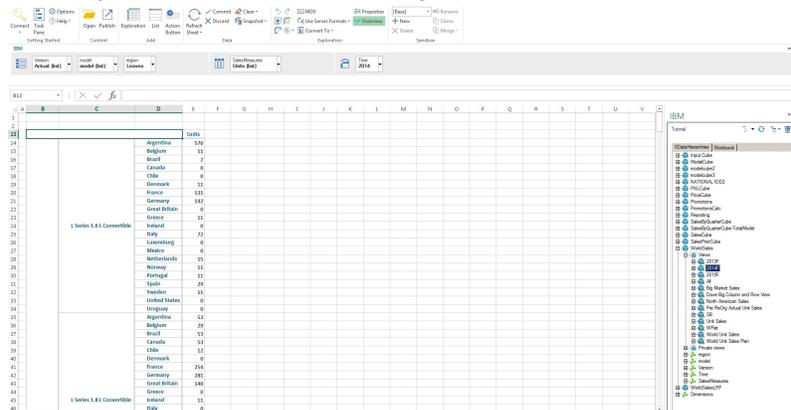
The insert icon inserts the selected members into the current set.



9. Click **Apply and close**.

Results

Your Exploration View contains only data for convertibles and sedans.



What to do next

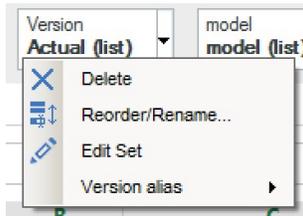
Your Exploration View contains data for the actuals and the budget. Your manager wants to see data for the actuals. In the next tutorial, you will be removing a member from the set editor.

Remove members from a set

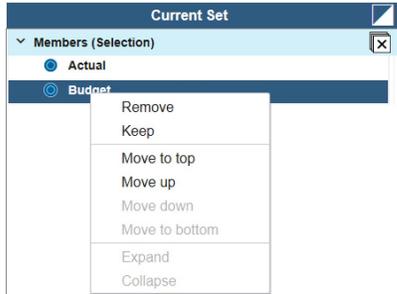
Your manager wants to see just the data for the actuals, but your Exploration Views contains both the actuals and the budget. You need to remove the budget member from the Version set in the set editor.

Procedure

1. Right-click the **Version** set in the rows drop zone.
2. Click **Edit Set**.



3. Right-click **Budget** under **Current Set**



4. Click **Remove**.

5. Click **Apply and close**.

Results

Your Exploration View contains only data for the actuals.

What to do next

Your Exploration Views looks good, but you still need to show only Europe. In the next tutorial, you will be expanding a set to show specific levels in a set.

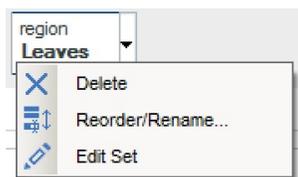
Expand levels in a set

Your Exploration Views contains both the actuals and the budget. Remove the budget member from the Version set in the set editor.

Procedure

1. Right-click the **regions** set in the rows drop zone.

2. Click **Edit Set**.

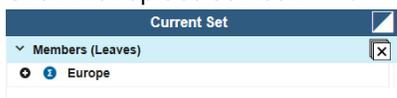


3. Expand the **World** member under **Available Members**.

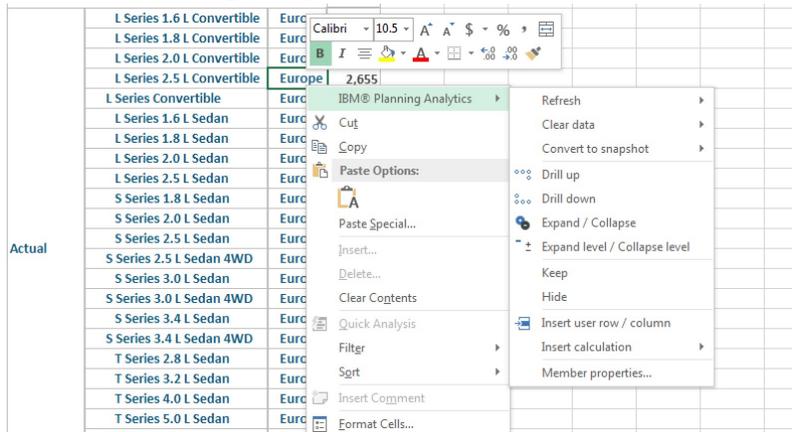
4. Click **Europe**.



5. Click the replace set icon .



- Click **Apply and close**.
- Right-click any **Europe** cells in the workspace.
- Click **IBM Planning Analytics**.



- Click **Expand / Collapse**.

Results

Your Exploration View shows data for only the Europe member with the member expanded.

L Series 1.6 L Convertible	Europe	457		
	Scandinavia	34		
	Benelux	27		
	Islands	0		
	Central Europe	273		
	Iberia	40		
	Southern Europe	83		
L Series 1.8 L Convertible	Europe	747		
	Scandinavia	0		
	Benelux	60		
	Islands	151		
	Central Europe	536		
	Southern Europe	0		
L Series 2.0 L Convertible	Europe	1,212		
	Scandinavia	0		
	Benelux	126		
	Islands	0		
	Central Europe	1,087		
	Southern Europe	0		

What to do next

Your Exploration Views is almost complete. Next, add quarters to the columns.

Use the drop zones

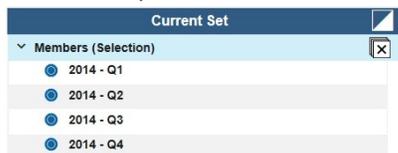
Your Exploration Views is almost complete. Add the quarters for 2014 to the columns.

Procedure

- Drag the **Time** set from the context drop zone into the columns drop zone.

			2015	2015 - Q1	2015 - Jan	2015 - Feb	2015 - Mar	2015 - Q2	2015 - Apr	2015 - May	2015 - Jun	2015 - Q3	2015 - Jul	2015 - Aug
L Series 1.6 L Convertible	Europe		5	1	0	0	0	1	0	0	0	1	0	0
	Scandinavia		0	0	0	0	0	0	0	0	0	0	0	0
	Benelux		0	0	0	0	0	0	0	0	0	0	0	0
	Islands		0	0	0	0	0	0	0	0	0	0	0	0
	Central Europe		3	1	0	0	0	1	0	0	0	1	0	0
L Series 1.8 L Convertible	Iberia		0	0	0	0	0	0	0	0	0	0	0	0
	Southern Europe		1	0	0	0	0	0	0	0	0	0	0	0
	Europe		9	2	1	1	1	2	1	1	1	2	1	1
	Scandinavia		0	0	0	0	0	0	0	0	0	0	0	0
	Benelux		1	0	0	0	0	0	0	0	0	0	0	0
L Series 2.0 L Convertible	Islands		2	0	0	0	0	0	0	0	0	0	0	0
	Central Europe		6	2	1	1	1	2	1	1	1	2	1	1
	Iberia		0	0	0	0	0	0	0	0	0	0	0	0
	Southern Europe		0	0	0	0	0	0	0	0	0	0	0	0
	Europe		14	4	1	1	1	4	1	1	1	4	1	1
L Series 2.0 L Convertible	Scandinavia		0	0	0	0	0	0	0	0	0	0	0	0
	Benelux		1	0	0	0	0	0	0	0	0	0	0	0
	Islands		0	0	0	0	0	0	0	0	0	0	0	0
	Central Europe		13	3	1	1	1	3	1	1	1	3	1	1

2. Right-click the **Time** set.
3. Click **Edit Set**.
4. Expand **2014** from the Available Members section.
5. Select **2014 - Q1, 2014 - Q2, 2014 - Q3, 2014 - Q4**.
6. Click the replace set icon .



7. Click **Apply and close**.

Results

Your Exploration View contains the quarters for 2014 in the columns.

What to do next

Your Exploration View is complete. Time to share it with your manager.

Share your work

About this task

Now that you have your first report created, it is time to share it with your manager. You can either save the workbook as an Excel file and send that, or you can publish it to the server you are connected to.

Share your report by publishing it to the server

About this task

Publishing your reports to a server is easy and is a great way to share your analysis with colleagues!

Procedure

1. Click **Publish**.
2. Select a TM1 connection.
3. Select a TM1 Server Application folder.
4. Select a folder.
5. Type a name for the workbook.

6. Select **Make public**

7. Click **Publish**.

Results

Your workbook is ready to be viewed by your manager and colleagues. They can view the workbook and contribute to it as well.

Automate your work by using the IBM Planning Analytics for Microsoft Excel API

You're a few weeks into your new job, using Planning Analytics for Microsoft Excel and you're noticing that you're creating countless reports and repeating the same multi-step tasks over and over. Fortunately, Planning Analytics for Microsoft Excel features an IBM Cognos automation API, which helps users automate many of their tasks.

You log onto your computer and notice an email from your boss:

Hello,

Good work on the 2014 sales report! I now need you to create some reports for me.

Every year we send out a report to the sales, marketing, and engineering departments.

Can you create a report based on the Goal Input view for each of these departments?

You can find the Goal Input view in the plan_BudgetPlan cube, located inside of the Planning Sample server.

Thanks,

Your manager.

This is the perfect time to use the IBM Cognos automation API. Let's get started.

Setting up for the API

Before you can use the IBM Cognos automation API, you need to add a reference, which connects to IBM Cognos automation. You need to open the **Visual Basic Editor**, add a reference to IBM Cognos automation, and then access the IBM Cognos automation API.

About this task

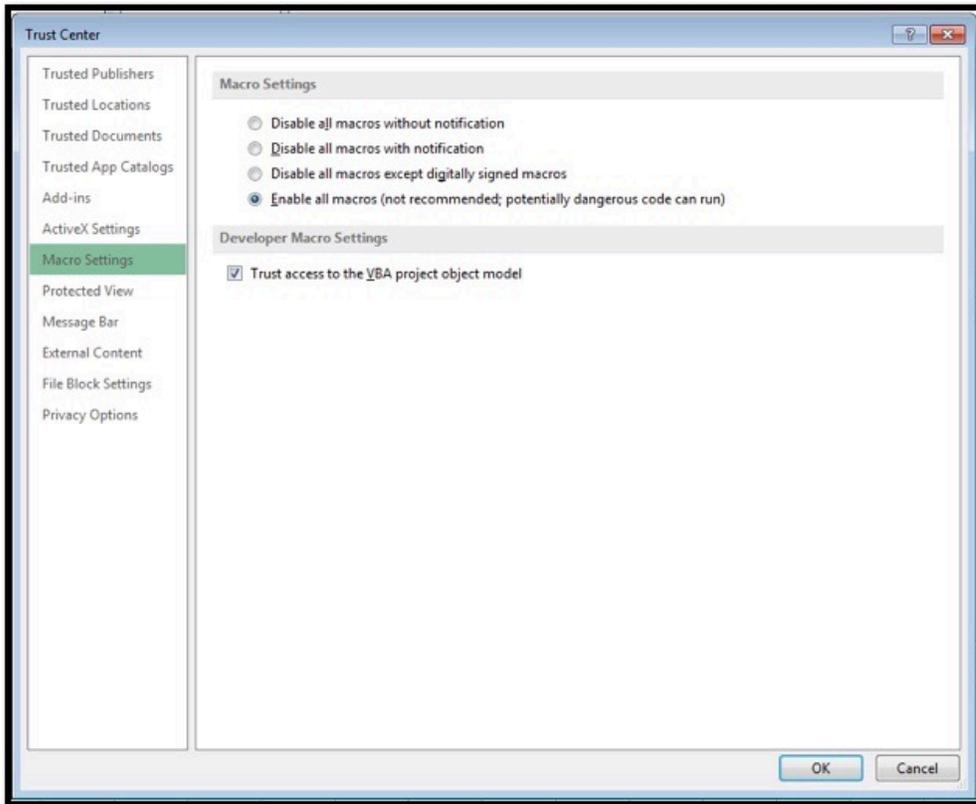
https://youtu.be/IiGv_1tnIn4

Adjusting the Trust Center settings

Some settings in the Microsoft Excel **Trust Center** may need to be adjusted in order to use the IBM Cognos automation API.

Procedure

1. Open a new Microsoft Excel workbook.
2. Click **File > Options > Trust Center > Trust Center Settings... > Macro Settings**.
3. Select **Enable all macros** and enable **Trust access to the VBA project object model**.



4. Click **OK**

Results

Your **Trust Center** settings are now optimized for the IBM Cognos automation API.

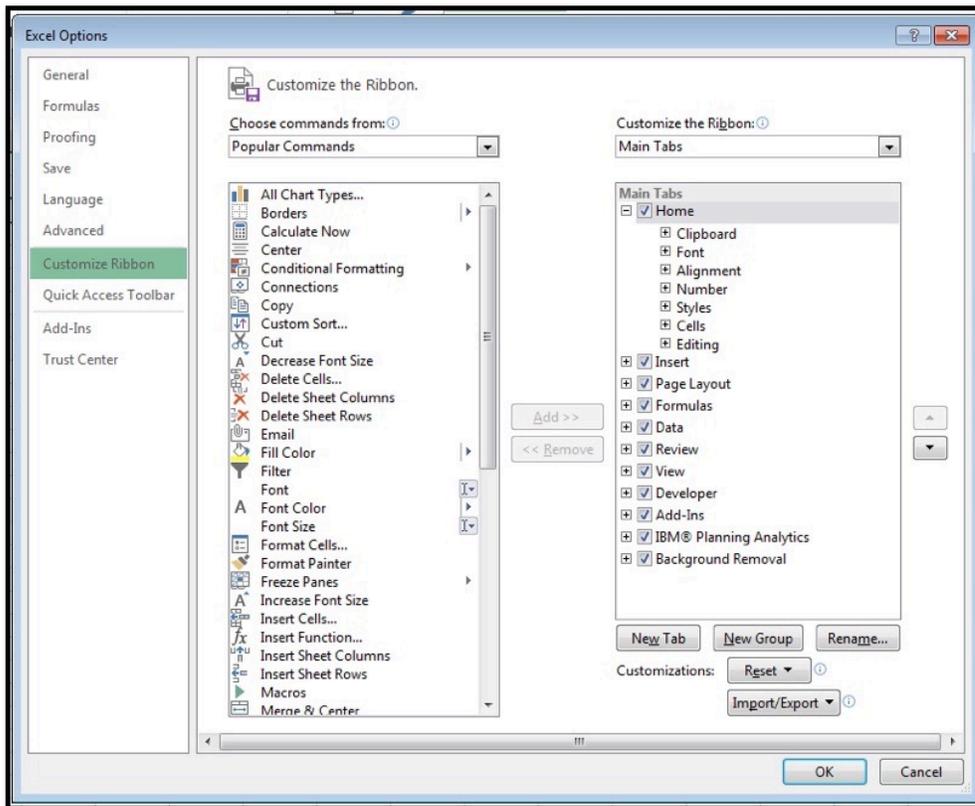
Note: Remain on the **Options** dialog as you'll need it for the next step.

Opening the Visual Basic Editor

IBM Cognos automation and the IBM Cognos automation API functions are called by using macros in VBA. The following steps show you how you can open the **Visual Basic Editor** and start by using VBA macros.

Procedure

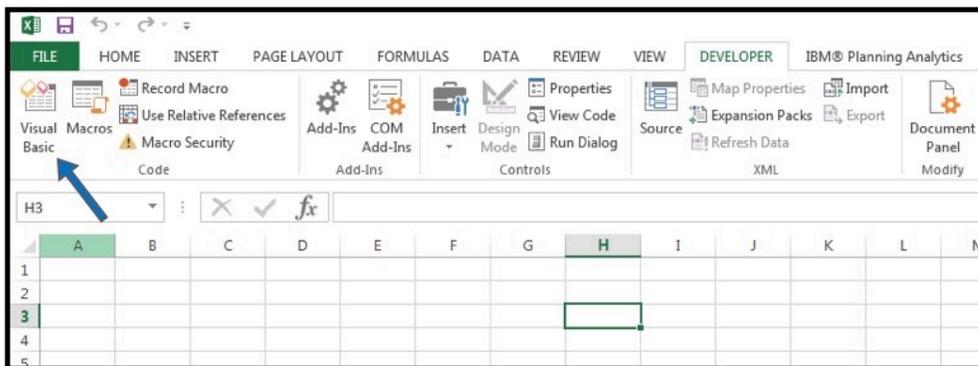
1. From the **Options** dialog box, click **Customize Ribbon**.
2. If it is not already, select the check box for the **Developer** tab, in the **Main Tabs** pane.



3. Click **OK**.

A new tab titled **DEVELOPER** is shown in the Microsoft Excel ribbon.

4. Click **DEVELOPER > Visual Basics**.



Results

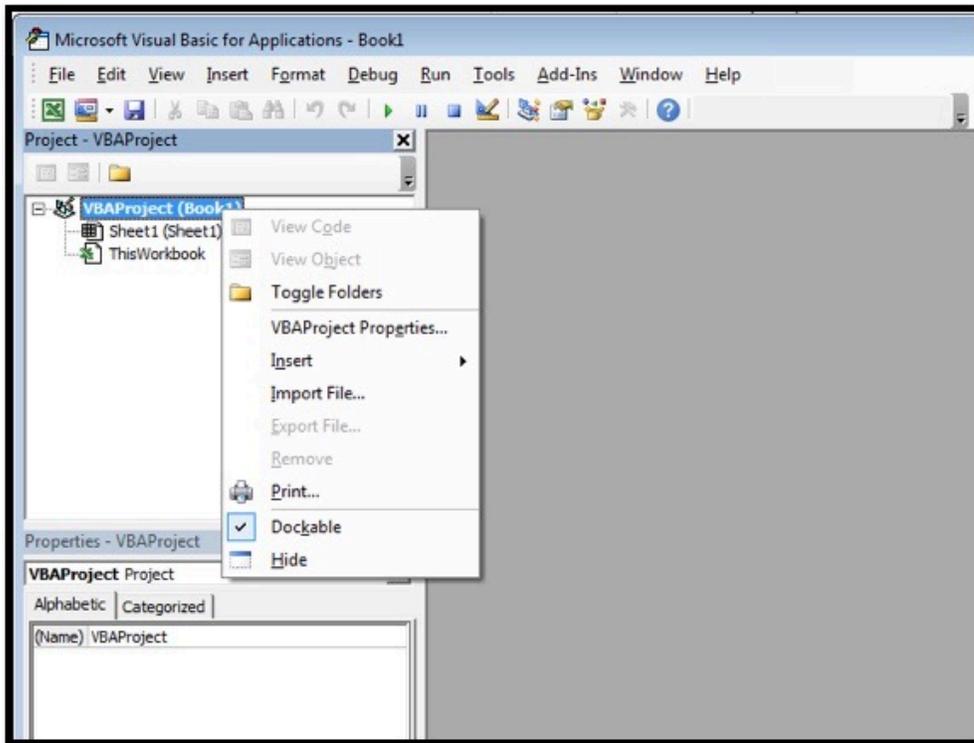
The **Visual Basic Editor** opens.

Adding a reference to IBM Cognos automation and accessing the IBM Cognos automation API

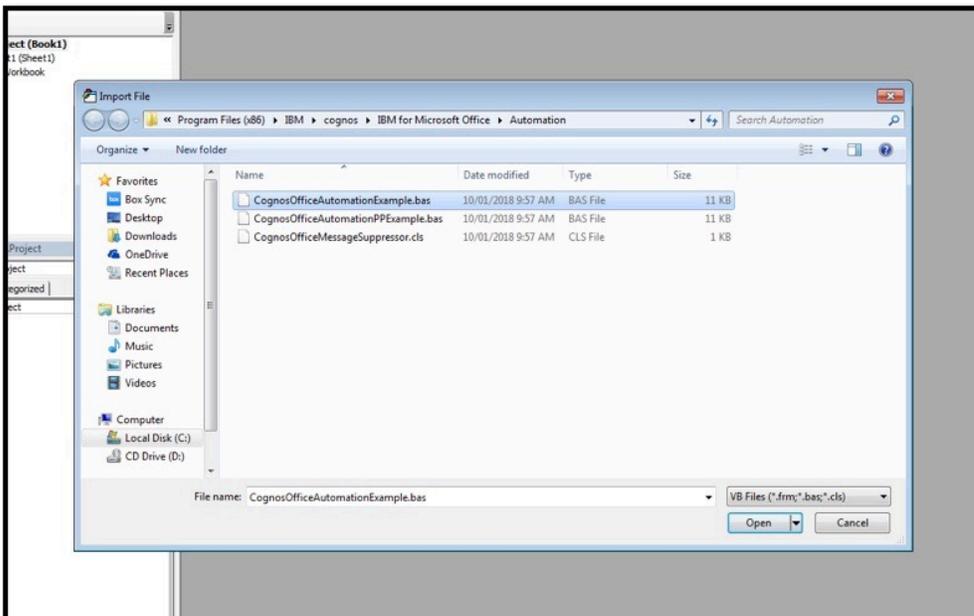
Now that you have the **Visual Basic Editor** open, you can establish a reference to IBM Cognos automation and access the IBM Cognos automation API.

Procedure

1. Right-click **VBAProject** and then click **Import File....**



2. Browse to the IBM Planning Analytics for Microsoft Excel installation directory.
3. Browse to the **/Automation** folder.
4. Highlight **CognosOfficeAutomationExample.bas** and click **Open**.



5. Repeat steps 1-3.
6. Highlight **CognosOfficeMessageSuppressor.cls** and click **Open**.
7. Close the **Visual Basic Editor**.
8. Save the workbook as an **Excel Macro-Enabled Template**.

What to do next

Add IBM Cognos automation API functions to automate your tasks.

Add and execute IBM Cognos automation API functions

Now that you have set up your environment for the IBM Cognos automation API, it's time to add and execute some API functions.

About this task

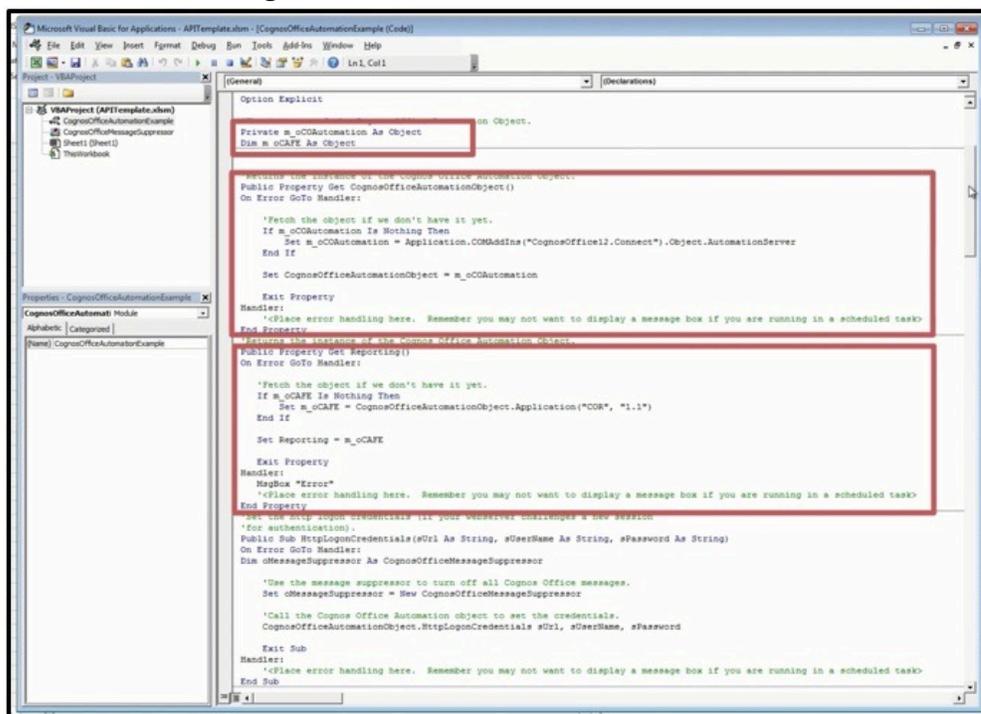
<https://youtu.be/wYELTIAEqts>

Double-check the references to the IBM Cognos automation API

You might run into some trouble if you're missing some references to the IBM Cognos automation API. Let's double check those first.

Procedure

1. Open the template file that you created in the last tutorial.
2. Log into the Planning Sample server. This is the server/datasource which contains the view that you'll be creating multiple Exploration Views from.
3. Click the **DEVELOPER** tab.
4. Click **Visual Basic**.
5. Double-click **CognosOfficeAutomationExample.bas** in the Project pane to open it.
6. Check for the following:



```
Option Explicit
Private m_oCOAutomation As Object
Dim m_oCAFE As Object

'Fetches the instance of the Cognos Office Automation Object.
Public Property Get CognosOfficeAutomationObject()
On Error GoTo Handler:
'Fetch the object if we don't have it yet.
If m_oCOAutomation Is Nothing Then
Set m_oCOAutomation = Application.COMAddIn("CognosOffice12.Connect").Object.AutomationServer
End If
Set CognosOfficeAutomationObject = m_oCOAutomation
Exit Property
Handler:
'Place error handling here. Remember you may not want to display a message box if you are running in a scheduled task.
End Property

'Fetches the instance of the Cognos Office Reporting Object.
Public Property Get Reporting()
On Error GoTo Handler:
'Fetch the object if we don't have it yet.
If m_oCAFE Is Nothing Then
Set m_oCAFE = CognosOfficeAutomationObject.Application("COR", "1.1")
End If
Set Reporting = m_oCAFE
Exit Property
Handler:
MsgBox "Error"
'Place error handling here. Remember you may not want to display a message box if you are running in a scheduled task.
End Property

'Get the http cognos credentials (if your webserver manages a new session
'for authentication).
Public Sub HttpLoginCredentials(#Url As String, #UserName As String, #Password As String)
On Error GoTo Handler:
Dim oMessageSuppressor As CognosOfficeMessageSuppressor

'Use the message suppressor to turn off all Cognos Office messages.
Set oMessageSuppressor = New CognosOfficeMessageSuppressor

'Call the Cognos Office Automation object to set the credentials.
CognosOfficeAutomationObject.HttpLoginCredentials #Url, #UserName, #Password

Exit Sub
Handler:
'Place error handling here. Remember you may not want to display a message box if you are running in a scheduled task.
End Sub
```

- a) m_oCOAutomation is defined as an object.
 - b) m_oCAFE is defined as an object.
 - c) There is a Property Get statement for CognosOfficeAutomationObject().
 - d) There is a Property Get statement for Reporting().
7. If you have all of the above in your **CognosOfficeAutomationExample.bas**, you can start adding your own API functions. If you're missing one or more items, head over to <https://ibm.github.io/paxapi/#necessary-ibm-cognos-automation-api-references> and supplement the file with what you're missing.

Add your own API functions

You will choose different API functions depending on the tasks that you need to automate. Fortunately, there are plenty to choose from.

Procedure

1. Right-click inside of the Project pane, click **Insert > Module**. This new module is where you will be adding your own API functions.
2. Go to Chapter 11, “IBM Planning Analytics for Microsoft Excel API,” on page 253. This is where you can find IBM Cognos automation API functions.
3. Click **Exploration API functions**.
4. Click **Create**. This Create API function allows you to generate Exploration Views from a combination of host system URL, server name, cube name, and view name.
5. Copy the example that is in this topic.
6. Paste the example into the new module. You may have to adjust the formatting.
7. Replace the example host system URL with the one that you are using.
8. Replace Goal Input with Budget Input Total.



9. Save the template.

Results

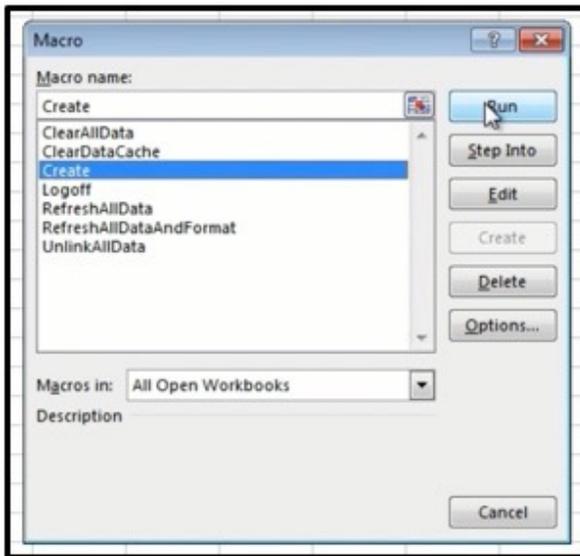
You have just added your first API function! Next you'll be executing this API function.

Execute your API functions

Now that you have your API function added, it's time to execute them.

Procedure

1. Click the **DEVELOPER** tab.
2. Click **Macros**.
3. Click **Create**.
4. Click **Run**.



Results

Congratulations! You have just automated creating an Exploration View from a view. Create two more Exploration Views for a total of three. In each Exploration View, change the department to sales, marketing, or engineering. Once you have one of each, go ahead and send those reports out to your manager. Task accomplished (and mostly automated).

Examples and use cases

Using IBM Planning Analytics for Microsoft Excel you can create an Exploration View. Use Exploration Views to show information in a more compact form than in a grouped list. For example, create an Exploration View to show total sales by product line generated by each sales representative.

Like list reports, Exploration Views are reports that show data in rows and columns. However, the values at the intersection points of rows and columns show summarized information rather than detailed information.

You can also create list reports from relational data sources.

Example - evaluate revenue from specific order methods

You are a business analyst at the Sample Outdoors Company, which sells sporting equipment. You are asked to analyze the consequences of discontinuing the fax and mail order methods, which are expensive to process.

First you get the items you need and insert them into an Exploration View for further exploration.

Before you can try this example, you must have access to the sample packages that come with IBM Cognos Analytics. For more information, see the IBM Cognos Analytics *Administration and Security Guide*.

Procedure

1. In Microsoft Excel, click the IBM Planning Analytics tab.
2. To connect to the IBM Cognos Analytics system to access the sample package, click **Connect** and select the server.
3. Select the **Sales and Marketing** package and click **OK**.
4. Expand the **Order Method** folder.
5. Press Ctrl and click **Fax** and **Mail**.
6. With **Fax** and **Mail** selected, right-click **Mail** and click **New Set**.

7. In the **Selection on Dimension** dialog box, click **Save** and save the set using the default name, **Order method**.
8. On the IBM Planning Analytics tab, click **Exploration**.
9. Expand the **Custom Sets** folder and drag the **Order method** set to the **Rows** area in the Exploration View.
10. Expand the **Sales** measures folder and drag **Revenue** to the **Measure** area in the Exploration View.
11. Drag **Retailers** to the **Columns** area in the Exploration View.
12. Expand the **Time** folder and drag **Time** beside the order methods to nest years in the rows.

Results

You now have the data required to analyze if revenues for the fax and mail order methods are growing or declining over time.

	A	B	C	D	E	F	G	H	I	J
1										
2										
3		System:	BI							
4		Package:	Sales and Marketing (cube)							
5		Created:	3/20/2013 2:50:47 PM							
6		Modified:	3/20/2013 2:56:37 PM							
7		Rows:	Order method: Order method, Time: Time							
8		Columns:	Retailers: Retailers							
9		Context:								
10		Filter Rows:								
11		Filter Columns:								
12										
13		Revenue	Americas	Asia Pacific	Northern Europe	Central Europe	Southern Europe	Retailers		
14		Mail	2010	4,548,265.80	7,320,722.31	4,153,371.36	4,565,652.77	2,178,838.27	22,766,850.51	
15			2011	6,897,960.82	2,502,320.53	2,395,516.35	3,345,619.36	872,362.43	16,013,779.49	
16			2012	562,121.32	2,940,124.81	616,014.57	2,787,469.74		6,905,730.44	
17			2013			404,978.53			404,978.53	
18			Time	12,008,347.94	12,763,167.65	7,569,880.81	10,698,741.87	3,051,200.70	46,091,338.97	
19		Fax	2010	8,074,598.38	8,584,265.93	2,827,013.03	6,505,403.69	2,648,191.11	28,639,472.14	
20			2011	4,131,867.09	6,671,118.39	1,987,522.91	5,229,586.14	1,876,093.23	19,896,187.76	
21			2012	3,753,159.17	5,169,640.15	175,517.78	1,864,091.34	2,483,151.49	13,445,559.93	
22			2013	1,940,918.06	1,435,574.37		1,459,459.90	3,256,369.85	8,092,322.18	
23			Time	17,900,542.70	21,860,598.84	4,990,053.72	15,058,541.07	10,263,805.68	70,073,542.01	
24										

Figure 15. Exploration View

Example - create a list report

In this topic, you will use the GO Data Warehouse model. It contains data about human resources, sales and marketing, and finance, grouped into business areas.

You will learn how to

- create a list report

The report shows revenue for each product for the last quarter of the current year.

- group items in the list report

You group data items in a list report to remove duplicate values. For example, you have a report that shows products purchased. For each product, the product type is also shown. You group the Product type column to show only one instance of each product type in the list.

Procedure

1. Open the **GO Data Warehouse (query)** package.
2. On the IBM Planning Analytics, click **List**.
3. Expand **Sales and Marketing (query)**, **Sales (query)** and then drag items to the worksheet to create the report.

You can also add an item to the report by selecting the item, opening the item's context menu, and selecting **Add to columns**.

- Expand **Products** and drag **Product type** to the drop zone.
 - Expand **Time dimension**, and drag **Quarter** beside **Product type**.
 - Expand **Sales orders**, and drag **Order number** beside **Quarter**.
 - Expand **Product**, and drag **Product name** beside **Order number**.
 - Expand **Sales fact**, and drag **Quantity** beside **Product name**.
 - From **Sales fact**, drag **Unit cost** beside **Quantity**.
4. Create the calculation **Quantity * Unit price**.
 5. Rename the calculation to Revenue.
 6. Group the **Product type** column and then group the **Quarter** column.

Results

Your report will look like the following:

	A	B	C	D	E	F	G	H	I	
1										
2										
3		System:	BI							
4		Package:	GO Data Warehouse (query)							
5		Created:	3/20/2013 1:40:23 PM							
6		Modified:	3/20/2013 1:51:37 PM							
7		Columns:	Product type, Quarter, Order number, Product name, Quantity, Unit price, Revenue							
8		Filter Columns:								
9										
10		Product type	Quarter	Order number	Product name	Quantity	Unit price	Revenue		
11		Binoculars	Q1	100003	Seeker 50	88	134.11	11,801.68		
12					100005	Seeker Extreme	65	182.67	11,873.55	
13					100006	Seeker Mini	96	85.56	8,213.76	
14					100008	Seeker Extreme	99	182.67	18,084.33	
15					100013	Seeker 35	205	105.29	21,584.45	
16					100019	Seeker 35	296	105.29	31,165.84	
17					100023	Seeker Mini	139	85.56	11,892.84	
18					100025	Seeker 50	158	134.11	21,189.38	
19					100025	Seeker Extreme	90	182.67	16,440.30	

Figure 16. List report

If you need more help, see the following:

- [“Exploration Views and lists” on page 99](#)
- [Nest rows or columns](#)

Try it yourself exercises

If you have some experience with IBM Planning Analytics for Microsoft Excel and want to improve your skills in creating workbooks, this chapter is for you. Each topic gives you some guidelines on how to create each sample worksheet. If you need help, links to more detailed instructions are available. Answers can be found in the sample workbooks.

Before you can try these exercises, the sample packages must be set up on the IBM Cognos Analytics and IBM TM1 systems. You access the sample workbooks from installation location of the IBM Cognos Analytics samples. Sample workbooks are available from [samples_installation_location] \webcontent\samples\datasources\workbooks\performance_management\business_intelligence.

Contact your administrator for the location of the samples installation.

Create an Exploration View that uses an indirect filter to update data and charts

When you are working with a time dimension, you can use a cell reference to control a series of reports for a specific year. In this topic, you learn how to create a dynamic report that retrieves year-to-date revenue for each product line.

It should take 15-20 minutes to complete this topic. To view the completed report, download the `IndirectFilter.xls` sample workbook.

Procedure

1. Begin by creating an Exploration View that uses the sample package named **Great Outdoor Sales (cube)**.
2. Add the following data items to the Exploration View:
 - **Products** level (in **Products**) to the **Rows** drop zone
 - **Revenue, Gross Profit, Quantity sold, Unit cost, and Profit margin%** (in **Measures**) to the **Columns** drop zone
 - **Americas** (in **Sales Regions**) and **2012** (in **Years**) to the **Context** drop zone
3. On the IBM Planning Analytics tab, click **Convert to > Custom Report > On New Sheet**.
4. From the original Exploration View, change the retailer by dropping a different retailer in the **Context** drop zone and then convert it to formulas on a new sheet.

Complete this step for each retailer.

5. Using your knowledge of Microsoft Excel, chart **Revenue, Gross profit, and Quantity** for each of the newly created worksheets.
6. To create an indirect filter, on a separate worksheet, drag **2012** (in **Years**) to a cell.
Tip: In an adjacent cell, label the cell with **Select the Date Here**.
7. For each of the worksheets you created, change the year in the Context cell to reference the filter cell you created in step 6.
For example, for a worksheet named `Filters` with the filter in cell C3, type `=Filters!C3`.
8. From the source tree, drag **2013** (in **Years**) to the cell where you placed 2012.

Notice that the cell references are updated throughout the workbook and the charts reflect the 2013 data.

Analyze data in an Exploration View

In IBM Planning Analytics for Microsoft Excel, you can manipulate items in your data interactively so that you can identify and understand the problems and issues in your business.

In this topic, you learn how to create an Exploration View and use Excel's Moving Average analysis tool for charting and reviewing the IBM Cognos data to help you spot trends and patterns that may warrant further attention. To use this feature, you must have the Excel Analysis Toolpak installed on your computer.

For this exercise, you are a business analyst for the Sample Outdoors Company. You want to further analyze the historical return levels to predict future demand for the eye wear product line, enabling you to better plan quality controls.

It should take 10 to 15 minutes to complete this topic. To view the completed report, download the MovingAverage.xls sample workbook.

Procedure

1. To create the report, create a new Exploration View that uses the **Sales and Marketing (cube)** package.
2. Insert data in the Exploration View:
 - In **Measures**, drag **Returns** to the **Measure** drop zone.
 - In **Products, Personal Accessories**, drag **Eyewear** to the **Rows** drop zone.
 - In **Time**, drag **Time** to the **Columns** drop zone.

You have now created the report. You must now create an analysis.

3. To create the analysis, from the **Tools** menu, click **Data Analysis**.
4. In the **Data Analysis** dialog box, click **Moving Average**, and then click **OK**.
5. In the **Input Range** box, enter the single row for the Inferno brand eyewear.
6. In the **Interval** box, enter 2 as the number of data points used to calculate the moving average.

The smaller the interval, the more the moving average is affected by individual data point fluctuations.
7. In the **Output Range** box, enter the cell address so that the results start outside the cell range of the Exploration View.
8. Select the **Chart Output** check box to see a graph comparing the actual and forecasted return levels, and then click **OK**.
9. Set the chart options as follows:
 - Add text to the y-axis to show **Returns**.
 - Add text to the x-axis to show **Years**.
 - Change the chart title to indicate that this is a moving average for the Inferno line in eyewear.
 - Ensure that the legend keys are shown to the side of the chart.
 - Add value labels to the chart.
10. Set the value for the Z-axis scale to 25 as the major unit.

Results

The chart now shows your forecasted return levels and identifies each year's ending returns.

If you need more help, see [Creating a New Exploration](#).

Balance sheet reports

In this topic, you will create a Balance Sheet report that shows assets, liabilities, and equity for the Sample Outdoors Company in 2013.

To create this report, you will use a package that was published from MSAS cubes containing financial data. Use the GO Finance Fact cube derived from the GOSALESDW database. This cube contains year-to-date and monthly financial data for all accounts. The data is in actual US dollars submissions for 2010, 2011, 2012, or 2013 (7 months actual data only).

You will use a Microsoft Office accounting template, available for download from the Microsoft Web site, to create the balance sheet. For this exercise, the Balance Sheet with Ratios and Working Capital template is used.

You will also apply cell-based analysis to populate your balance sheet with IBM Cognos data for Current Assets, Other Assets, Current Liabilities, and Other Liabilities. In Excel, you will leverage the power of formatting by applying background color, font styles and characteristics, and cell formatting for a professional presentation of your report.

It should take 20 to 30 minutes to complete this exercise.

Create the balance sheet

You will create a Balance Sheet report that shows assets, liabilities, and equity for the Sample Outdoors Company in 2013. You must first create the balance sheet.

To view the completed report, download the BalanceSheet template.xls sample workbook.

Procedure

1. Download the Balance Sheet with Ratios and Working Capital template from the Microsoft Web site:
<http://office.microsoft.com/en-us/templates/CT101445641033.aspx> (opens in new window)
2. Clear the content in the template, except for the calculated cells and balance sheet categories, such as **Current Assets** and **Other Liabilities**.
3. Insert a line under each balance sheet category.
The line is used to build the rows and columns necessary for dragging and dropping headings and groups of items along the vertical or horizontal axis.
4. Continue with populating current assets.

Populate current assets

You are creating a Balance Sheet report that shows assets, liabilities, and equity for the Sample Outdoors Company in 2013. You must now populate current assets.

Procedure

1. Open the **GOFinanceFact_EN_MSAS2011** package.
2. From the source tree, expand **Accounts**, **Balance sheet (total)**, **Assets (total)**.
3. Drag **Current assets (total)** to the cell after the **Current assets** category.
4. Right-click **Current assets (total)**, click **IBM Planning Analytics**, **Expand**, **Expand up**.
The cells before **Current Assets (total)** fill in with the components that make up **Current assets (total)** in the hierarchy.
5. From the source tree, expand **Time**, and then drag **2013** to the column area of the cell-based framework.
6. From the source tree, expand **Measures**, and then drag **Stmt Year** to the measures area where the row heading and column heading adjoin.
7. Convert the dynamic data to static data.
8. Continue with populating other assets.

Populate other assets

You are creating a Balance Sheet report that shows assets, liabilities, and equity for the Sample Outdoors Company in 2013. You must now populate other assets.

Procedure

1. From the Source tree, expand **Accounts, Balance sheet (total), Assets (total)**.
2. Drag **Other assets (total)** to the cell after the **Other assets** category.
3. Right-click **Other assets (total)**, click **IBM Cognos Analysis, Expand, Expand up**.

The cells before **Other assets (total)** populate with the components that make up **Other assets (total)** in the hierarchy.

4. From the source tree, expand **Time**, and then drag **2013** to the column area within your cell-based framework.
5. From the source tree, expand **Measures**, and then drag **Stmt Year** to the measures area where the row heading and column heading adjoin.
6. Convert the dynamic data to static data.
7. Continue with populating current liabilities.

Populate current liabilities

You are creating a Balance Sheet report that shows assets, liabilities, and equity for the Sample Outdoors Company in 2013. You must now populate current liabilities.

Procedure

1. From the Source tree, expand **Accounts, Balance sheet (total), Liabilities & equities (total), Liabilities (total)**.
2. Drag **Current Liabilities (total)** to the cell after the **Current liabilities** category.
3. Right-click **Current liabilities (total)**, click **IBM Cognos Analysis, Expand, Expand up**.

The cells before **Current liabilities (total)** populate with the components that make up **Current liabilities (total)** in the hierarchy.

4. From the source tree, expand **Time**, and then drag **2013** to the column area within your cell-based framework.
5. From the source tree, expand **Measures**, and then drag **Stmt Year** to the measures area where the row heading and column heading adjoin.
6. Convert the dynamic data to static data.
7. Continue with populating other liabilities.

Populate other liabilities

You are creating a Balance Sheet report that shows assets, liabilities, and equity for the Sample Outdoors Company in 2013. You must now populate other liabilities.

Procedure

1. From the Source tree, expand **Accounts, Balance sheet (total), Liabilities & equities (total), Liabilities (total)**.
2. Drag **Long-term and other liabilities (total)** to the cell after the **Other liabilities** category.
3. Right-click **Long-term and other liabilities (total)**, click **IBM Cognos Analysis, Expand, Expand up**.

The cells before **Long-term and other liabilities (total)** populate with the components that make up **Long-term and other liabilities (total)** in the hierarchy.

4. From the source tree, expand **Time**, and then drag **2013** to the column area within your cell-based framework.
5. From the source tree, expand **Measures**, and then drag **Stmt Year** to the measure area where the row heading and column heading adjoin.
6. Convert the dynamic data to static data.
7. Continue with cleaning up the balance sheet.

Clean up the balance sheet

You have created Balance Sheet report that shows assets, liabilities, and equity for the Sample Outdoors Company in 2013. Finally, you must now clean it up.

Procedure

1. Under each balance sheet category, remove the row that contains the labels for the dimensions that were used in the cell-based analysis.
2. Ensure that empty rows are deleted so that the balance sheet maintains its form.
3. After converting the data to static data, the summary items, such as **Other assets (total)** and **Current liabilities (total)**, are static values. Remove these rows so that the balance sheet template formulas calculate the data accurately.
4. In a cell where you would like the heading of the balance sheet, type **Great Outdoor Company Balance Sheet** and **2013**.

Results

You have used your Excel knowledge to augment IBM Cognos data. If you need more help, see [“Create from scratch” on page 227](#).

Explorations using filters

When working with dimensional data, you can use context filters to quickly focus your report on a particular view of the data. You can also use custom filters to refine your view.

In this topic, you will learn how to

- create context filters by dropping members or sets in the context filter area
- create a custom filter by creating an expression that you use to retrieve a specific subset of records

It should take 10-25 minutes to complete this topic. To view the completed report, download the `CustomFilter.xls` sample workbook.

The Exploration View contains product lines in the rows, years in the columns, and returns as the measure. The values are filtered to show returns for only Web orders from the Americas. We use a custom filter to narrow the focus of this report to show only those product lines that have generated over 5000 returns in 2013.

Create context filters

In this topic, you will learn how to create context filters by dropping members or sets in the context filter area.

It should take 15 to 20 minutes to complete this topic. To view the completed report, download the `CustomFilter.xls` sample workbook.

Procedure

1. Create a new Exploration View that uses the **Sales and Marketing (cube)** package.
2. Insert data in the Exploration View:
 - In **Measures**, drag **Returns** to the **Measure** drop zone.

- Drag **Products** to the **Rows** drop zone.
 - In **Time**, drag **Time** to the **Columns** drop zone.
3. Change the label in the **Time** column to **Total**.
 4. Show all the members in the levels.
 5. In **Retailers**, drag **Americas** to the **Context** drop zone.
 6. In **Order method**, drag **Web** to the **Context** drop zone.

You see the returns only for the Web in the Americas territory for all the product brands over a four-year span. The total number of returns is visible in the **Total** column.

7. Continue with creating custom filters.

Create custom filters

In this topic, you will learn how to create a custom filter by creating an expression that you use to retrieve a specific subset of records.

Procedure

1. In the **Rows** drop zone, for **Products**, click the drop-down menu to select the **Filter, Edit/Add filter** option.
2. In the **Filter** window, create an expression that will show only the product lines that generated more than 5000 returns in 2013.

Results

If you need more help, see the following:

- [Creating a New Exploration View](#)
- [Insert and Display All the Items of a Level](#)
- [Filter Values Using Context](#)
- [Create a Custom Set](#)

Creating a custom filter from a list exploration

Create filters to limit the number of items that display in your exploration sheet. You can reference cells from your Microsoft Excel workbook as part of your filter expressions.

By following the steps in this tutorial you learn how to:

- Create filters
- Combine filter lines
- Use cell values as part of your filter

This tutorial uses the sample package GO Sales (query).

Use sample relational data to create a complex list exploration with a calculated column

Create a list exploration with several columns of data and then add a calculated column.

By following the steps in this portion of the tutorial you learn how to:

- Load a specific data package
- Create a complex list exploration
- Add a calculated column to use as part of your analysis

Start IBM Planning Analytics for Microsoft Excel and open the sample package

To access data, you must start IBM Planning Analytics for Microsoft Excel and then select a data package. Depending on how your server and data have been set up, you might have to expand several node items to access the sample data set.

Procedure

1. Start IBM Planning Analytics for Microsoft Excel.
2. From the IBM Planning Analytics tab, click **Connect** and select the server that has the IBM Cognos Analytics sample data.
3. From the list of packages, click **GO Sales (query)** and then click **OK**.

Create a list exploration with several columns of data from the GO Sales (query) package

As part of your analysis, you must create a list exploration with product data from the sample sales cube.

Procedure

1. To create a list exploration, on the IBM Planning Analytics tab, click **List**.
2. In the source tree, expand the **Sales (query)** folder.
3. Expand the **Product** item.
4. To create columns, drag the following items to the exploration: **Product name**, **Introduction date**, **Unit price**, and **Unit cost**.

Add a calculated column

Create a calculated column to use as part of your analysis.

Procedure

1. Select the **Unit price** and **Unit cost** columns.
2. From the exploration bar, click the **Insert Calculation** icon, and then click **Unit price - Unit cost**.
The calculated column, **Unit price - Unit cost**, appears after the **Unit cost** column.

Add values to the worksheet and create filter expressions

You can use values from the Microsoft Excel worksheet or workbook as part of the filter expression.

In the tutorial, these values are static. In your scenarios, they can be calculated values from other IBM Planning Analytics for Microsoft Excel exploration sheets or the results of Microsoft Excel cell calculations.

Add values to the Microsoft Excel worksheet to use in filter calculation

Create minimum and maximum values in the cells of the exploration sheet to use in the filter expression.

Procedure

1. Click cell I4 and type Minimum.
This cell serves as the label for the minimum value you use in the filter calculation.
2. Click cell I5 and type Maximum.
This cell serves as the label for the maximum value you use in the filter calculation.
3. Click cell J4 and type 10.
This cell serves as the minimum value you use in the filter calculation.
4. Click cell J5 and type 15.
This cell serves as the maximum value you use in the filter calculation.

Create a filter expression based on minimum and maximum values

Create minimum and maximum values in the cells of the exploration sheet to use in the filter expression.

Procedure

1. From the exploration bar, click **Filter** and then click **Edit/Add filter**.
The **Filter** window appears.
2. Click **Edit/Add filter**.
The **Edit Filter** window appears.
3. Click **Enter a cell reference**.
4. In the **GO Sales (query)** pane, click **Unit price - Unit cost**.
5. In the operator box, click **> (Greater Than)**.
6. In the cell reference box, which appears after the operator, type J4, and then click **OK**.
The **Edit Filter** window closes.
7. Click the **Add a Filter Line** icon.
The **Edit Filter** window appears.
8. Click **Enter a cell reference**.
9. In the **GO Sales (query)** pane, click **Unit price - Unit cost**.
10. In the operator box, click **<(Less Than)**.
11. In the cell reference box, which appears after the operator, type J5, and then click **OK**.
The **Edit Filter** window closes.
12. Click **OK**.

Results

You observe that the results of the list exploration change because of the filter expressions you create. You limit items in the list exploration because of the minimum and maximum values that you control as static values in the cells of the exploration sheet.

By limiting the data in your exploration, you are better able to focus on key performance indicators. You can add filter expressions to limit data to specific dates by adding filter lines that use the Introduction date.

Create an Exploration View using a custom set of members

In this topic, you learn how to create an Exploration View that includes a custom set that you design.

You use custom sets to group members for specific reporting requirements. For example, you want to focus the results from sales visits in a set of countries from the Asia Pacific region. You create a custom set that includes the required countries and then add the custom set to a report.

It should take 15 to 20 minutes to complete this topic. To view the completed report, download the CustomSet.xls sample workbook. The sample workbook has formatting applied in Microsoft Excel and will not exactly match the worksheet you create.

Before you begin

The sample package must be set up on the IBM Cognos Analytics system. You access the sample workbooks from the installation location of the IBM Cognos Analytics samples. Contact your administrator for the URL required to connect to the IBM Cognos Analytics system and the location of the sample workbooks.

Procedure

1. Connect to the IBM Cognos Analytics system and open the **Sales and Marketing (cube)** package.

The default location for the sample package is **Public Folders>Samples_Office>Cubes**.

2. Create an Exploration View.
3. Ensure that the **Insert Member with Children** option is enabled.
4. Add the following data items to the report:
 - **Products** to the **Rows** drop zone
 - **Time** to the **Columns** drop zone
 - **Revenue** to the **Measures** drop zone
5. Expand **Order Method**, and then drag **Sales Visit** to the **Context** area.
6. Create a custom set from the **Asia Pacific** dimension.

Select **Japan, Korea, China**, and **Singapore**. Right-click a selected member and click **New Set**. Save the set as East Asia.

7. From the **Custom Sets** folder, drag East Asia to the rows area after **Products**.

Note that the Exploration View reflects only the retailers in East Asia. That means Australia, which was an original member of the Asia Pacific dimension, is not a member of the East Asia custom set.

Results

A custom set is associated with the user that creates the custom set. The next time you open the Sales and Marketing package, the custom set will be available for use in other reports. The custom set is not available when a different user opens the package.

To edit a custom set, right-click the custom set and click **Edit Set**. If you edit a custom set, or if there are changes to the members used in the custom set, the change is not applied to a report when you refresh data. To update a report, delete the original custom set from the report and then add the changed custom set.

If you need more help, see the following topics:

- [“Create an exploration” on page 203](#)
- [“Create and edit sets” on page 137](#)

Create sets in Exploration Views and Quick Reports

Use the set editor to create dynamic expressions that allow you to refresh reports to show the latest data.

The learning objectives for this tutorial are:

- Learn the features of the set editor
- Learn how to create dynamic expressions
- Learn how to use the set editor with Quick Reports

This tutorial uses the sample package plan_BudgetPlan.

Create an Exploration View

Create an Exploration View as part of your budget analysis. Use Exploration Views to show information in a compact form where intersecting rows and columns show summarized information.

The Exploration View that you create contains data from the Planning Sample model, which contains budget information. You learn how to create an Exploration View from a chart of accounts with net operating income.

Start IBM Planning Analytics for Microsoft Excel and load the sample budget plan

Load the IBM TM1 budget plan so that you can work with it during the tutorial.

Procedure

1. Start IBM Planning Analytics for Microsoft Excel.
2. From the IBM Planning Analytics tab, click **Connect** and select the server that has the IBM TM1 sample data.
3. From the list of packages, click **Planning Sample**, and then click **OK**.

Create a budget Exploration View

Create an Exploration View from the sample budget plan.

Procedure

1. From the IBM Planning Analytics tab, click **Exploration**.
2. Drag the following items to the **Context** drop zone from the source tree:
 - a) Click **plan_version > plan_version > Members** and then drag the **FY 2004 Budget** member to the **Context** area.
 - b) Click **plan_business_unit > plan_business_unit > Members > 10000 > 10100** and then drag the **10110** member to the **Context** area.
 - c) Click **plan_department > plan_department > Members > 1000 > 100** and then drag the **105** member to the **Context** area.
 - d) Click **plan_exchange_rates > plan_exchange_rates > Members** and then drag the **local** member to the **Context** area.
 - e) Click **plan_source > plan_source > Members > budget** and then drag the **input** member to the **Context** area.
3. Add the year 2004 to the **Columns** drop zone.
Click **plan_time > plan_time > Members** and then drag the **2004** member to the **Columns** drop zone.
4. Add net operating income to the **Rows** drop zone.
Click **plan_chart_of_accounts > plan_chart_of_accounts > Members** and then drag the **Net Operating Income** member to the **Rows** drop zone.

Work in the set editor

After you create a basic Exploration View, use the set editor to create a more complex Exploration View by using more advanced features of the set editor.

Insert the 2004 members dynamically from the set editor

The first example is to make the year, 2004, dynamic and bring in its children.

Procedure

1. From the **Columns** drop zone, click the drop-down menu that is associated with the **2004** member, and then click **Edit Set**.
The set editor opens.
2. In the **Selection** pane, right-click **2004**, and click **Insert Options > Insert Member With Children**.
3. To inspect the dynamic expression that you created, from the set editor toolbar, click  **Show MDX**.
The **Edit MDX** window opens and you can see that the expression displays: `{{[plan_time].[2004],[plan_time].[2004].CHILDREN}}`
4. To save the MDX expression and close the **Edit MDX** window, click **OK**.
5. To save your work in the set editor and close the set editor window, click **OK**.

Replace the Net Operating Income item with its component items from the set editor window

Work with the **plan_chart_of_accounts** dimension on the rows axis. Work with the **Net Operating Income** item in the set editor.

Procedure

1. From the **Rows** drop zone, click the drop-down menu that is associated with the **Net Operating Income** item, and then click **Edit Set**.
The subset editor window opens.
2. In the **Selection** pane, click the **Net Operating Income** item, and then press the Delete key.
3. In the **Available Members** pane, expand **plan_chart_of_accounts** and then expand **Net Operating Income**.
You see the three component items, **Revenue**, **COS**, and **Operating Expense**.
4. From the toolbar, click the **Insert Type** icon, and then click **Insert Single Member**.
5. Select **Revenue**, **COS**, and **Operating Expense**, and then click the add arrow.
The selected items display in the **Selection** pane. To select multiple items, press Shift and click the items.
6. To make the COS item dynamic, right-click the COS item, click **Insert Options**, and then click **Insert Member With Children**.
7. To save your work in the subset editor and close the subset editor window, click **OK**.
Notice that the item names after the COS item display as account IDs. Use the subset editor again to change the appearance.
8. From the **Rows** drop zone, click the drop-down menu that is associated with the **Net Operating Income** item, click **Set Alias**, and then click **AccountName**.
Notice that the item names after the COS item display as account names instead of account IDs.

Create Quick Reports

Convert the Exploration View to a Quick Report. A Quick Report is useful when you present data or send workbooks to other team members who do not have IBM Planning Analytics for Microsoft Excel.

You can work with the set editor to add items to a Quick Report.

Convert the Exploration View to a Quick Report

Use the subset editor with Quick Reports to add or remove items on the column or row axis.

You can also use it to create a data validation cell on a context member. While in a Quick Report, you can add items by typing item names into the cells within the named range or by using the subset editor. To remove items, you can delete columns or rows by using Microsoft Excel commands or by using the subset editor. When you use the subset editor with a Quick Report, you can interact with it the same way as with explorations. The only exception is that any dynamic members are converted to static members after you exit the editor and apply it to a Quick Report.

Procedure

1. On the Exploration toolbar, click  and click **Convert to Quick Report > On New Sheet**.
2. Right-click **Q1-2010**, click **IBM Cognos Analysis**, and then click **Replace Members**.
The subset editor opens.
3. From the toolbar, click the **Filter** icon.
The filter controls and filter box display after the toolbar.
4. In the filter box, type Q1 and press the **Enter** key.
All the items in the **plan_time** dimension that contain Q1 display.

5. In the **Search Results** pane, click **Q1-2011** and then click the **Add** icon to add these items to the **Selection** pane.
6. Click the **Insert Type** icon and then click **Insert Member With Children**.
7. Click **OK**.
After Q1-2010, the Q1-2011 component items display.
8. In cell A3, right-click the **10110** item, click **IBM Cognos Analysis**, and then click **Replace Members**.
The subset editor window opens.
9. From the **Available Members** pane, expand **plan_business_unit** and then expand the **10000** item.
10. Select **10100**, **10200**, **10300**, and **10400** and then click the add icon to add these members to the **Selection** pane.
11. Click **OK**.
Cell A3 is now a selector.

Chapter 13. Troubleshoot

Use troubleshooting information as a resource to help you solve specific problems you may encounter during or after the installation of IBM Planning Analytics for Microsoft Excel.

For more information, see [“What are some common errors when installing Planning Analytics for Microsoft Excel?”](#) on page 291

Troubleshoot a problem

Troubleshooting is a systematic approach to solving a problem. The goal of troubleshooting is to determine why something does not work as expected and how to resolve the problem.

The first step in the troubleshooting process is to describe the problem completely. Problem descriptions help you and the IBM technical-support representative know where to start to find the cause of the problem. This step includes asking yourself basic questions:

- What are the symptoms of the problem?
- Where does the problem occur?
- When does the problem occur?
- Under which conditions does the problem occur?
- Can the problem be reproduced?

The answers to these questions typically lead to a good description of the problem, which can then lead to a resolution of the problem.

What are the symptoms of the problem?

When starting to describe a problem, the most obvious question is "What is the problem?" This question might seem straightforward; however, you can break it down into several focused questions that create a more descriptive picture of the problem. These questions can include:

- Who, or what, is reporting the problem?
- What are the error codes and messages?
- How does the system fail? For example, is the problem a loop, hang, crash, performance degradation, or incorrect result?

Where does the problem occur?

Determining where the problem originates is not always easy, but it is one of the most important steps in resolving a problem. Many layers of technology can exist between the reporting and failing components. Networks, disks, and drivers are only a few of the components to consider when you are investigating problems.

The following questions help you to isolate the problem layer:

- Is the problem specific to one platform or operating system, or is it common across multiple platforms or operating systems?
- Is the current environment and configuration supported?

If one layer reports the problem, the problem does not necessarily originate in that layer. Part of identifying where a problem originates is understanding the environment in which it exists. Take some time to completely describe the problem environment, including the operating system and version, all corresponding software and versions, and the hardware. Confirm that you are running within an environment that is supported; many problems can be traced back to incompatible levels of software that are not intended to run together or have not been fully tested together.

When does the problem occur?

Develop a detailed timeline of events leading up to a failure, especially for cases that are one-time occurrences. You can most easily develop a timeline by working backward: Start at the time an error was reported (as precisely as possible, even down to the millisecond), and work backward through the available logs and information. Typically, you need to look only as far as the first suspicious event that you find in a diagnostic log.

To develop a detailed timeline of events, answer these questions:

- Does the problem happen only at a certain time of day or night?
- How often does the problem happen?
- What sequence of events leads up to the time that the problem is reported?
- Does the problem happen after an environment change, such as an upgrade or an installation of software or hardware?

Under which conditions does the problem occur?

Knowing which systems and applications are running at the time that a problem occurs is an important part of troubleshooting. These questions about your environment can help you to identify the cause of the problem:

- Does the problem always occur when the same task is being performed?
- Does a certain sequence of events need to occur for the problem to occur?
- Do any other applications fail at the same time?

Answering these types of questions can help you explain the environment in which the problem occurs and correlate any dependencies. Remember that just because multiple problems might have occurred around the same time, the problems are not necessarily related.

Can the problem be reproduced?

Problems that you can reproduce are often easier to solve. However, problems that you can reproduce can have a disadvantage. If the problem has a significant business impact, you do not want it to recur. If possible, re-create the problem in a test or development environment, which typically offers you more flexibility and control during your investigation. Answer the following questions:

- Can the problem be re-created on a test system?
- Are multiple users or applications encountering the same type of problem?
- Can the problem be re-created by running a single command, a set of commands, or a particular application?

Get fixes

A product fix might be available to resolve your problem.

Procedure

To find and install fixes:

1. Determine which fix you need by using [Fix Central](http://www.ibm.com/support/fixcentral/) (opens in new window) (<http://www.ibm.com/support/fixcentral/>)
2. Download the fix. Open the download document and follow the link in the "Download package" section.
3. Apply the fix by following the instructions in the "Installation Instructions" section of the download document.
4. Subscribe to receive weekly email notifications about fixes and other IBM Support information.

Contact IBM Support

IBM Support provides access to a variety of IBM resources for help with software questions.

Before you begin

After trying to find your answer or solution by using other self-help options such as technotes, you can contact IBM Support. Before contacting IBM Support, your company must have an active IBM maintenance contract, and you must be authorized to submit problems to IBM. You should also have the following information at hand:

- Your customer identification number
- Your service request number, if it is an ongoing service request
- The phone number where you can be reached
- The version of the software you use
- The version of the operating environment you use
- A description of what you were doing when the problem occurred
- The exact wording of any error messages that display
- Any steps you took to attempt to solve the problem

For information about the types of available support, see the [Support portfolio](#) topic in the *Software Support Handbook* (opens in new window).

Procedure

Complete the following steps to contact IBM Support with a problem:

1. Define the problem, gather background information, and determine the severity of the problem. For more information, see the [Getting IBM support](#) (opens in new window) topic in the *Software Support Handbook*.
2. Gather diagnostic information.
3. Submit the problem to IBM Support in one of the following ways:
 - Using IBM Support Assistant (ISA): Use this feature to open, update, and view an Electronic Service Request with IBM. Any data that has been collected can be attached to the service request. This expedites the analysis and reduces the time to resolution.
 - Online through the [IBM Support](#) (opens in new window): You can open, update, and view all your Service Requests from the Service Request portlet on the Service Request page.
 - By phone: For the phone number to call, see the [Directory of worldwide contacts](#) (opens in new window) web page.

Results

If the problem that you submit is for a software defect or for missing or inaccurate documentation, IBM Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the IBM Support Web site daily, so that other users who experience the same problem can benefit from the same resolution.

Exchange information with IBM

To diagnose or identify a problem, you might need to provide IBM Support with data and information from your system.

In other cases, IBM Support might provide you with tools or utilities to use for problem determination.

Send information to IBM Support

To reduce the time that it takes to resolve your problem, you can send trace and diagnostic information to IBM Support.

Procedure

To submit diagnostic information to IBM Support:

1. Open a case. You can use the [IBM Support site](#) (opens in new window) to open a new case.
2. Collect the diagnostic data that you need. Diagnostic data helps reduce the time that it takes to resolve your PMR. You can collect the diagnostic data manually or automatically.
3. Compress the files by using the TRSMAIN or AMATERSE program. Download the free utility from the IBM web site to the IBM Cognos system and then install the utility using the TSO RECEIVE command.
4. Transfer the files to IBM. You can use one of the following methods to transfer the files to IBM:
 - Standard data upload methods: FTP, HTTP
 - Secure data upload methods: FTPS, SFTP, HTTPS
 - Email

If you are using an IBM Cognos product and you use ServiceLink / IBMLink to submit PMRs, you can send diagnostic data to IBM Support in an email or by using FTP.

All of these data exchange methods are explained on the [IBM Support site](#) (opens in new window).

Receive information from IBM Support

Occasionally an IBM technical-support representative might ask you to download diagnostic tools or other files. You can use FTP to download these files.

Before you begin

Ensure that your IBM technical-support representative provided you with the preferred server to use for downloading the files and the exact directory and file names to access.

Procedure

To download files from IBM Support:

1. Use FTP to connect to the site that your IBM technical-support representative provided and log in as anonymous. Use your email address as the password.
2. Change to the appropriate directory:
 - a) Change to the `/fromibm` directory.

```
cd fromibm
```

- b) Change to the directory that your IBM technical-support representative provided.

```
cd nameofdirectory
```

3. Enable binary mode for your session.

```
binary
```

4. Use the **get** command to download the file that your IBM technical-support representative specified.

```
get filename.extension
```

5. End your FTP session.

```
quit
```

Subscribe to Support updates

Stay informed about IBM products that you use by subscribing to updates.

About this task

By subscribing to receive updates, you can receive important technical information and updates for specific Support tools and resources. You can subscribe to updates by using one of two approaches:

My Notifications

With My Notifications, you can subscribe to Support updates for any IBM product. You can specify that you want to receive daily or weekly email announcements. You can specify what type of information you want to receive, such as publications, hints and tips, product flashes (also known as alerts), downloads, and drivers. My Notifications enables you to customize and categorize the products that you want to be informed about and the delivery methods that best suit your needs.

RSS feed

After you subscribe to a product's notifications, you can view links to the product's RSS/Atom feed.

Procedure

To subscribe to Support updates:

1. Open the [IBM Support](#).
2. Click **Go to My Notifications**.
3. Find the product that you want to subscribe to in the **Product lookup**: search box.
4. In the drop down, click **Subscribe**.
5. Select the document types that you want to receive notifications for.
6. Click **Submit**.
7. For links to the RSS/Atom feed, click **Links**.

Results

You're now subscribed to support updates for your product. Until you modify your RSS feeds and My Notifications preferences, you will continue to receive notifications. You can modify your preferences when needed (for example, if you stop using one product and begin using another product) from the **My Notifications** page.

What are some common errors when installing Planning Analytics for Microsoft Excel?

This section lists the most common errors that you might encounter.

Configuration Issues

These issues are related to configuration and setup.

Convert to Formulas does not show value

You can create an Exploration View without experiencing an error, but when you convert that exploration sheet to formulas, cells no longer display values properly. In one of the cells that has no value, you click the cell and it shows the COGVAL formula, such as =COGVAL(\$C\$1, \$C\$2, \$B10, C\$8, \$B\$8). Attempting to do this on another workstation you find that values are displayed correctly. If a user with administrative rights to the workstation attempts to convert to formulas, the values are displayed correctly in the cells of the worksheet.

The user did not use Microsoft Excel before IBM Planning Analytics for Microsoft Excel was installed and did not get registered properly. There are two ways to resolve this problem. You can give the affected user

local administration rights to the workstation or you can run the file **Register Cognos XLL.vbs**, which will add the proper registry entries for the new user.

For the **Register Cognos XLL.vbs** file process to work (both during the installation of the software or when run separately to add a new user) the Microsoft Excel registry entries must have been created by Microsoft Excel itself. You must ensure that the user run Microsoft Excel first, before attempting to add registry entries for IBM Planning Analytics for Microsoft Excel. You can examine the ntuser.dat that the script writes to check whether the user has been properly added.

Update server and package designations to make a server available

After changing the gateway alias or switching from a test to a production environment you receive the following error message advising you that the server is not available and that the Cognos gateway is unable to connect to the IBM Cognos Analytics server.

SERVER_NOT_AVAILABLE: The Cognos gateway is unable to connect to the Cognos Analytics server. The server may be unavailable or the gateway may not be correctly configured.

This is probably caused by a change in the gateway URI.

Update the server and package designation in a workbook to switch from a test to a production environment or to access information from a different set of financial data, such as a submission.

Procedure

1. Optionally, you can update information in cell references.
 - From the worksheet you want to update, open the new server and package.
 - From the Information folder, drag the updated server and package metadata to the server or package cell.
2. Optionally, you can update information in embedded text.
 - Use the Microsoft Excel search and replace function to update embedded references in the text of cell formulas.

The Cognos Office interface fails to initialize in Microsoft Office

IBM Cognos Office may not initialize when the Microsoft .NET Framework is not installed or the version is not correct. The required Microsoft .NET Framework version is 4.6.1 or later. Another possible reason for this condition is that the add-in is either not installed or not registered.

If you are running the wrong version of Microsoft .NET Framework, uninstall it and then reinstall Microsoft .NET Framework.

To install the IBM Cognos add-in, run the installation program.

Before you attempt to install Microsoft .NET Programmability Support, you must have installed Microsoft .NET Framework.

Cognos for Microsoft Office Fails to Initialize

If you use Internet Explorer to browse IBM Cognos Analytics and open a workbook, document, or presentation published by IBM Cognos for Microsoft Office, the document launches in Microsoft Office, but without full functionality.

To configure Internet Explorer to open Microsoft Office files in Microsoft Office instead of in Internet Explorer, you must use the Folder Options tool to update browse options. It is also possible to do this in Windows Registry.

Procedure

1. Open **My Computer**.

2. From the **Tools** menu, click **Folder Options**.
3. On the **File Types** tab, under **Registered file types**, click **Microsoft Excel Worksheet**, and then click **Advanced**.
The **Edit File Type** dialog box appears.
4. Clear the **Browse in same window** check box and click **OK**.
5. Complete the same steps for Microsoft Office PowerPoint presentations and Microsoft Office Word documents.

Microsoft Office does not open a Microsoft Office document published from Cognos Office

If you observe Microsoft Office trying to open a published document twice when you double-click the workbook, document, or presentation from Microsoft Windows Explorer, the file association is either corrupted or not installed properly.

There are two options to resolve this issue. You can start the Microsoft Office application first, and then open the document using the **Open** command from the **File** menu, or you can reregister the file type.

Re-register file types with a Microsoft Office program

When you are not able to open a Microsoft Office document even though it is associated with the correct file type, you must re-register the file type with the appropriate Microsoft Office program, such as Excel, Word, or PowerPoint.

About this task

In these steps, program.exe is a placeholder for the executable file for the Microsoft Office program that you want to re-register. If you installed Microsoft Office to another location, use the path that is correct for that location.

Note: If you are using the command line on version 7 of Microsoft Windows operating system, you must elevate the rights of the command line to perform certain tasks, such as re-registering file types. To open an elevated command prompt, or a command prompt in Administrator mode, right-click the command prompt shortcut, and select **Run as Administrator**.

Procedure

1. From the **Start** menu, click **Run**.
2. To disassociate the program version, in the **Open** box, type the following command, and then click **OK**:
`program.exe/regserver`
3. To specify the default version, from the **Start** menu, click **Run**.
4. In the **Open** box, type the following command, and then click **OK**:
`program.exe/regserver`

Unable to Open Published Microsoft Office Documents from Cognos Connection

If the browser does not prompt you to open or save the workbook, document, or presentation, it may mean that the option to prompt before opening was cleared. Reset this option.

You must enable the **File Download** and **Automatic prompting for file downloads** in Internet Explorer.

Confirm opening of documents

The procedure to confirm opening of documents is as follows.

Procedure

1. Start the **Windows Control Panel**.

2. Double-click **Folder Options**.
3. From the **File Types** tab, in the **Registered file types** list, click **Microsoft Excel Worksheet**, and then click **Advanced**.
4. Ensure that the **Confirm open after download** check box is selected and click **OK**.
5. Repeat steps 3 and 4 for other Microsoft Office documents that are supported in IBM Cognos Office, such as **Microsoft Office Excel Template**, **Microsoft PowerPoint Presentation**, **Microsoft Office PowerPoint Template**, **Microsoft Word Document**, and **Microsoft Office Word Template**.
6. Click **Close**.

Reset internet security options

The procedure to reset internet security options is as follows.

Procedure

1. Start **Internet Explorer**.
2. From the **Tools** menu, click **Internet Options**.
3. From the **Security** tab, click the Web content zone for which you are updating these options, and then click **Custom Level**.
4. Scroll down to the **Downloads** section and click **Enable** for the **File download** and **Automatic prompting for file downloads** options.
5. Click **OK** twice.

.NET Messages are not in the installed .NET Framework language

When you install a non-English version of .NET Framework in a non-English operating system, you will notice that the error messages, .NET shortcut, and .NET Console are in English.

To solve this issue, you must apply the .NET Framework Language Pack for your language.

The subkey numbers relate to the language. For example, English, French, German, and Japanese are listed here: 1033=en-en, 1036=fr-fr, 1031=de-de, and 1041=ja. Refer to the Microsoft Support Site to obtain subkey numbers for other languages.

If you are missing the language pack subkeys, you must install the .NET language pack, which is available from the Microsoft support Web site.

Workbook closes unexpectedly

If you install the COM add-in and your Microsoft Excel workbook name contains a square bracket, Excel stops responding or closes unexpectedly after opening.

To resolve this problem, rename the workbook so that it does not contain square brackets.

Reports unavailable in Cognos Connection jobs after using Save As command in Cognos Report Studio

After opening a report in IBM Cognos Report Studio and saving a copy using the **Save As** command, you may find that if the report is included in a job, it is not available in the IBM Cognos Connection portal.

Do not use the **Save As** command in IBM Cognos Report Studio to save changes when a report is included in a job. Instead, make a copy of the report, make changes to the copy, and then copy the updated report to the IBM Cognos Connection portal. Use this method to overwrite the report in the job without breaking the report links.

The content of the Custom Report shows #NAME?

When building a Custom Report, the content of the cells shows #NAME?

When you drag items from the source tree directly to a cell of a worksheet, you are creating a COGNAME or COGVAL formula that references the item in the database. This functionality is available only when the CognosOfficeUDF.Connect automation add-in is loaded.

If #NAME? appears in the contents of the cell, it means that the add-in was not loaded and the **CognosOfficeUDF.Connect** check box in the **Add-in** dialog box (**Tools, Add-Ins**) is not selected.

To resolve this issue and ensure that the add-in is always properly loaded, you must verify that the value of the OPEN registry key is set to /A "CognosOfficeUDF.Connect". If you use version 7 of Microsoft Windows operating system, you must use Run in XP from the command prompt to reregister file types.

Procedure

1. From the Windows **Start** menu, click **Run**.
2. In the **Open** box, type Regedit, and then click **OK**.
3. In the **Registry Editor**, go to the Registry branch:
HKEY_CURRENT_USER\SOFTWARE\Microsoft\Office\version\Excel\Options
4. In the topic area, right-click the **OPEN** entry, and then click **Modify**.
5. In the **Value Data** box, type
/A "CognosOfficeUDF.Connect"
6. Click **OK**, and then close the **Registry Editor**.

Processing issues

The following issues are related to processing and rendering reports.

Improve performance for TM1 data

If you experience unacceptable performance when you work with TM1 data, the administrator of the TM1 system might be able to change cube or system settings to improve performance. To help the TM1 administrator evaluate the performance issue, provide the administrator with the details of the data you are using and a description of actions that result in unacceptable performance.

The following are examples of TM1 settings that affect performance.

VMM (}CubeProperties)

For each cube, this property determines the amount of RAM reserved on the server for the storage of stargate views. The more memory made available for stargate views, the better performance will be. Sufficient memory must be available for the TM1 server to load all cubes.

VMT (}CubeProperties)

If the time required to calculate a cube view surpasses the specified threshold, TM1 attempts to store a stargate view. If there is not enough memory available to store the stargate view, TM1 purges the oldest stargate view that is not currently in use, and continues to purge views in this manner until sufficient memory is made available.

The *IBM Cognos TM1 Operation* documentation includes more information about the CubeProperties and other tuning options.

DPR-ERR-2079 Firewall Security Rejection

If you run a report after your session has expired and then try to navigate away from the first page of the report, you encounter an error.

DPR-ERR-2079 Firewall Security Rejection. Your request was rejected by the security firewall. CAF rejection details are available in the log. Please contact your administrator.

When the DPR-ERR-2079 error occurs after an expired session, you must log on again to resolve the problem.

Procedure

1. In the report list, right-click the node item, which appears before other items.
2. Click **Log On**.
3. Provide your authentication credentials as prompted and click **OK**.

Item cannot be expanded

Microsoft Excel has reached the maximum number of rows or columns for this worksheet. The number of rows and columns is limited in Microsoft Excel. Expanding the current item is not possible because it would shift rows or columns beyond this worksheet limit. Microsoft Excel cannot shift nonblank cells off the worksheet.

Manually move items so that the row or column item can expand without reaching the limit, or move your Exploration View, list, or report to another worksheet. Or, you can move the data to a new location and try again.

Results have exceeded the Excel row or column limit

Microsoft Excel has reached the maximum number of rows or columns for this worksheet. The number of rows and columns is limited in Microsoft Excel. Items are truncated.

Filter items so that the row or column items can be displayed without reaching the limit. Consider creating additional Exploration Views, lists, or reports to spread the data over more than one worksheet. Consider using a new version of Microsoft Excel that has larger limits for rows and columns.

Error: Exception from HRESULT:<location>

If you import a data item where the path to the data item exceeds 256 characters it results in the error: Exception from HRESULT.

You must create names and unique data identifiers that keep to the 256-character limit inside Microsoft Excel.

Error refreshing exploration saved in earlier version of Microsoft Excel

This workbook may have been created with an older version of Microsoft Excel that has a set maximum number of rows or columns. Rows or columns that go beyond the maximum limits are truncated.

Although you are no longer using that version, the application is working within the limits of the older version of Excel. You might encounter this situation when you are expanding items or when you are refreshing items that have grown in size since the workbook was created.

To correct the problem, you must save the workbook with the .xlsx extension. Opening the workbook that contains the exploration in a more recent version of Excel does not convert it to the new format. Saving the workbook with the .xlsx extension converts the workbook to the new format.

Security Issues

The following issues are related to security setup.

Cognos Office Unable to Create Trust Relationship

If you are using HTTPS to Report Data Service and you receive an error in IBM Cognos Office about being unable to trust the relationship, the Certificate Authority (CA) certificate that was issued by the Web server is not trusted on the client workstation.

To resolve this problem, you must ensure that the Certificate Authority (CA) that issued the Web server certificate is also trusted on the client workstation. If the certificate is not from an authority that is already trusted on the client, such as Verisign, you must install the CA certificate in the trust store on the client.

Procedure

1. Retrieve the CA certificate from the issuing authority.

The file has a .cer extension. This is not the same certificate as the one used by the Web server. It is the certificate for the issuing authority itself.

2. Double-click the .cer file, click **Install Certificate**, and then click **Next**.
3. Click **Place all certificates in the following store**.
4. Click **Browse**, click **Trusted Root Certification Authorities**, and then click **Next**.
5. Click **Finish**.

Requirements for using custom SSL certificates

There are a few requirements for using Planning Analytics for Microsoft Excel with a Planning Analytics Workspace environment that is set up with a custom SSL or security certificate.

To use Planning Analytics for Microsoft Excel with a Planning Analytics Workspace environment that is set up with a custom SSL or security certificate, ensure that:

- The version of Planning Analytics Workspace is 2.0.41 or newer.
- The SSL or security certificate is properly configured. For more information about configuring your certificates, see [Configuring TLS for Planning Analytics Workspace Local](https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.tm1_inst.2.0.0.doc/t_paw_enable_ssl.html)(https://www.ibm.com/support/knowledgecenter/SSD29G_2.0.0/com.ibm.swg.ba.cognos.tm1_inst.2.0.0.doc/t_paw_enable_ssl.html).

If your environment does not meet the requirements, you may see the following serialization error:

```
System.Runtime.Serialization.SerializationException: Type 'Cognos.Office.Tm1.Connections.Tm1WebException' in Assembly 'TM1.Common, Version=11.0.40.11, Culture=neutral, PublicKeyToken=d6e6d7d808b7e5b7' is not marked as serializable.
```

Unable to View Reports After Clicking View Report

IBM Cognos for Microsoft Office is functioning normally, but you cannot use the View Report option to view reports. The client machine, running IBM Cognos for Microsoft Office, cannot connect to the gateway URL as configured in IBM Cognos Analytics. This may be because it is behind a firewall, the hostname/DNS is not known to this client machine, or the client machine has proxy issues.

To resolve the connectivity issues, work with your system administrator.

Cognos Office Numbered Error Messages

The following error messages may appear in a dialog box and are recorded in the IBM Cognos Office log.

COI-ERR-2002 Block type is not valid

An internal processing error occurred. The block object was not able to be processed.

Contact IBM Cognos Resource Center. Be ready to supply all relevant logs and details related to this error.

COI-ERR-2003 Unexpected type: *stacked block*

An internal processing error occurred. The data object was not of the expected type and could not be processed.

Contact IBM Cognos Resource Center. Be ready to supply all relevant logs and details related to this error.

COI-ERR-2005 This version of Microsoft Office is not supported

IBM Cognos Office supports only specific versions of Microsoft Office applications.

Load the report content into one of the supported applications and environments.

To review an up-to-date list of environments supported by IBM Cognos Office products, including operating systems, patches, browsers, web servers, directory servers, database servers, and application servers, go to the [IBM Support Portal for IBM Cognos Analysis for Microsoft Excel](#) or the [IBM Support Portal for IBM Cognos for Microsoft Office](#).

COI-ERR-2006 This Microsoft Office product is not supported

IBM Cognos Office supports only specific Microsoft Office applications, such as Microsoft Excel, Microsoft Word, and Microsoft PowerPoint. You cannot load IBM Cognos Office content to another Microsoft Office application, such as Microsoft Access even when there is an add-in that enables these applications to interoperate.

Load the report content into one of the supported applications and environments.

To review an up-to-date list of environments supported by IBM Cognos Office products, including operating systems, patches, browsers, web servers, directory servers, database servers, and application servers, go to the [IBM Support Portal for IBM Cognos Analysis for Microsoft Excel](#) or the [IBM Support Portal for IBM Cognos for Microsoft Office](#).

COI-ERR-2008 Unable to Retrieve from Resources. Tried '{0}'

An internal processing error occurred.

Contact IBM Cognos Resource Center. Be ready to supply all relevant logs and details related to this error.

COI-ERR-2009 Unable to Perform This Operation Because Microsoft Excel is in Edit Mode

Report content cannot be refreshed while one of the cells of the workbook is being edited.

Click outside the active cell to return it to a non-edit mode and try again.

COI-ERR-2010 The name {0} is not valid. A name must not contain both a quote (") character and an apostrophe (') character

When you create a folder, rename a folder, or publish a document, the name can contain an apostrophe or a quote, but not both.

To resolve this problem, rename the folder or document. Exclude the apostrophe or quote character from the name.

COI-ERR-2011 The server did not return the expected response. Check that the gateway is valid.

This error message is displayed if the value entered in the System Gateway URI box of the Options dialog box is not a valid IBM Cognos Analytics server.

To resolve this problem, reenter the **System Gateway URI** with the gateway address for a valid IBM Cognos Analytics server.

COI-ERR-2013 Unable to load metadata

You may be unable to load metadata because you do not have security rights to all of the items in the worksheet or because the items were removed or changed on the server.

Ensure that you have security rights to all of the items that you are trying to view. If this does not fix the problem, ensure that the server and package information are correct and that any items that have been removed from the source database are also removed from the worksheet.

COI-ERR-2015 There was a problem parsing the MIME encoded server response. Tried to find the boundary [{0}] but found the boundary [{1}] instead

While using GZip compression, an option for compressing data that is retrieved from the server, an error occurred. The codes to decompress the data are missing or unrecognized by IBM Cognos Office.

Turn compression off. Although compression is turned on by default, it can be turned off by setting the UseGzipCompression property to false in the CommManagerSettings.xml file, which, by default, is located in the Office Connection directory, such as C:\Documents and Settings*user name*\Local Settings\Application Data\Cognos\Office Connection or C:\Users*user name*\AppData\Local\Cognos\Office Connection.

Turn compression off if you need to run tests or perform troubleshooting.

To turn gzip compression off set the following attribute:

```
<setting name="UseGzipCompression">False</setting>
```

COI-ERR-2016 Worksheet protected, IBM Cognos styles cannot be populated

If the worksheet is protected, the IBM Cognos styles cannot be applied.

You must unprotect the worksheet for the styles to be applied during a refresh of the data.

COI-ERR-2019 Connection failed

In Planning Analytics for Microsoft Excel, when you try to connect to a IBM Planning Analytics with Watson server, the following error message appears:

COI-ERR-2019 Connection failed. Connection returned an error. Verify that the connection string, including the server name and port number, is correct.

To resolve this issue, you must configure your antivirus software to allow connections from both Microsoft .NET Runtime and Microsoft Excel.

COI-ERR-2305 Unable to perform this operation because Microsoft Excel is in edit mode

Report content cannot be refreshed while one of the cells of the workbook is being edited.

Click outside the active cell to return it to a non-edit mode and try again.

COI-ERR-2307 Login failed

Your user name and password are not correct.

Ensure that you typed a valid user name and password.

IBM Planning Analytics for Microsoft Excel numbered error messages

The following error messages may appear in a dialog box and are recorded in the IBM Cognos Office log.

COR-ERR-2004 Axis specification is not valid

The workbook specification is not capable of being generated because of an anomaly.

To fix the problem, you may attempt to do any of the following:

- Click **Undo**.
- Click **Clear All Data**.
- Close the workbook and open it again.

The workbook should now accept data from the source tree.

COR-ERR-2007 Error retrieving from resources. Tried '{0}'

The exploration sheet experienced a bad state.

Contact IBM Cognos Resource Center.

COR-ERR-2009 Name formula is not valid

The COGNAME formula did not parse correctly. It may have been altered manually and may have a missing argument.

Check the COGNAME formula in the active cell and ensure that it is in the correct format, or optionally, insert the member from the source tree.

COR-ERR-2010 Formula is not valid

If an argument to a COGNAME or COGVAL formula references a cell and that cell does not contain the expected string formula you receive this error.

Check the cell and its dependents. Look for #REF or #VALUE in the cell. The contents of the cell may have accidentally been deleted.

COR-ERR-2011 Invalid range: Please enter a valid range for crosstab or list

The range is not valid or is outside of the range of the data type.

To avoid this limitation, limit your data selections.

COR-ERR-2013 Exploration cannot be converted to formula based because at least one context item contains a selection

With more than one item in the Context drop zone there is no way for the multiple items to be rendered into the cells of the worksheet.

Remove one dimension from the Context drop zone. You must have one item per dimension to convert to a formula-based analysis.

COR-ERR-2014 Due to Excel worksheet limitations the results may be truncated

If the data that you receive back exceeds the row or column limits of Microsoft Excel, the result is truncated. You receive this message to make you aware of the truncation.

To avoid this limitation, limit your data selections.

COR-ERR-2015 The current exploration cannot be rendered at this location on the worksheet

The exploration cannot write data outside the limits of the current worksheet. Either the exploration is too large for Microsoft Excel or you have designated a starting location too close to the limit.

Try to move your start location. If that fails to fix the problem, try creating an Exploration View with fewer rows or columns.

COR-ERR-2016 Unable to retrieve package <Name>

After you selected a package using the **Open Package** dialog box, an error occurred when trying to download the package from the server.

This is an internal error.

Contact IBM Cognos Resource Center.

ValueNotInPickList (243)

The value you are trying to commit is not an available option in the picklist.

When entering a value into a report cell, ensure that the value is an available option in the picklist.

Microsoft Excel limits

There are specifications and limits in Microsoft Excel 2013-2016 that may affect the performance of Planning Analytics for Microsoft Excel.

The following tables group the specifications and limits into categories:

- Worksheet and workbook
- Calculation

<i>Table 20. Specifications and limits that apply to worksheets and workbooks</i>		
Specification	Maximum limit / restrictions	Notes
Column width	255 characters	If the data that you enter or receive exceeds the column limits of Microsoft Excel, the result is truncated.
Row height	409 points	If the data that you enter or receive exceeds the row limits of Microsoft Excel, the result is truncated.
Total number of characters that a cell can contain	32,767 characters	If the data that you enter or receive exceeds the cell character limits of Microsoft Excel, the result is truncated.
Maximum limits of memory storage and file size for Data Model workbooks	32-bit environment is subject to 2 gigabytes (GB) of virtual address space, shared by Excel, the workbook, and add-ins that run in the same process. A data model's share of the address space might run up to 500 – 700 megabytes (MB), but could be less if other data models and add-ins are loaded. 64-bit environment imposes no hard limits on file size. Workbook size is limited only by available memory and system resources.	Due to the limitations with add-ins, users can only copy and paste once on top of a DBRW formula. Adding tables to the Data Model increases the file size. If you don't plan to create complex Data Model relationships using many data sources and data types in your workbook, uncheck the Add this data to the Data Model box when you import or create tables, pivot tables, or data connections.

Table 21. Specifications and limits that apply to calculations

Specification	Maximum limit / restrictions	Notes
Length of formula contents	8,192 characters	If the formula that you enter exceeds the formula content limit of Microsoft Excel, the result is truncated.
Internal length of formula	16,384 bytes	If the formula that you enter exceeds the internal length of formula limit of Microsoft Excel, the result is truncated.

Appendix A. Sample reports and packages

The IBM Cognos for Microsoft Office products include sample reports and packages that are based on the sample company, The Sample Outdoors Company. After the samples are set up, you can find the samples in Public Folders in IBM Cognos Connection, and in the source tree on the IBM Cognos pane.

The Sample Outdoors Company

The Sample Outdoors Company samples illustrate product features and technical and business best practices.

You can also use them for experimenting with and sharing report design techniques and for troubleshooting. As you use the samples, you can connect to features in the product.

The Sample Outdoors Company, or GO Sales, or any variation of the Sample Outdoors name, is the name of a fictitious business operation whose sample data is used to develop sample applications for IBM and IBM customers. Its fictitious records include sample data for sales transactions, product distribution, finance, and human resources. Any resemblance to actual names, addresses, contact numbers, or transaction values, is coincidental. Unauthorized duplication is prohibited.

Samples outline

The samples consist of the following:

- Two databases that contain all corporate data, and the related sample models for query and analysis
- Sample cubes and the related models
- A metrics data source including associated metrics and a strategy map for the consolidated company, and a model for Metric extracts.
- Reports, queries, query templates, and workspaces

To run interactive reports, scripts are required. To see all the reports included in the samples packages, copy the files from the samples content installation into deployment folder and then import the deployments into IBM Cognos Analytics.

Security

Samples are available to all users.

To implement security, see the IBM Cognos Analytics *Administration and Security* guide.

The Sample Outdoors Group of Companies

To make designing examples faster, especially financial examples, some general information about The Sample Outdoors Company is useful.

To look for samples that use particular product features, see the individual sample descriptions in this section.

Revenue for The Sample Outdoors Company comes from corporate stores and from franchise operations. The revenues are consolidated from the wholly-owned subsidiaries. There are six distinct organizations, each with its own departments and sales branches. Five of these are regionally-based companies.

The sixth company, GO Accessories:

- Has its own collection of products, differentiated from the other GO companies by brand, name, price, color and size.
- Sells from a single branch to all regions and retailers.

- Functions both as an operating company based in Geneva, and as a part owner of the three GO subsidiaries in Europe.

The following diagram illustrates the consolidated corporate structure of the Sample Outdoors Company. The diagram also includes the percentage changes in ownership for GO Central Europe, and the reporting currency and GL (general ledger) prefix for each subsidiary. In year 1, GO Asia Pacific owns 60% of GO Central Europe, and in year 3, its ownership decreases to 50%. In year 1, GO Accessories owns 40% of GO Central Europe, and in year 3 its ownership increases to 50%.

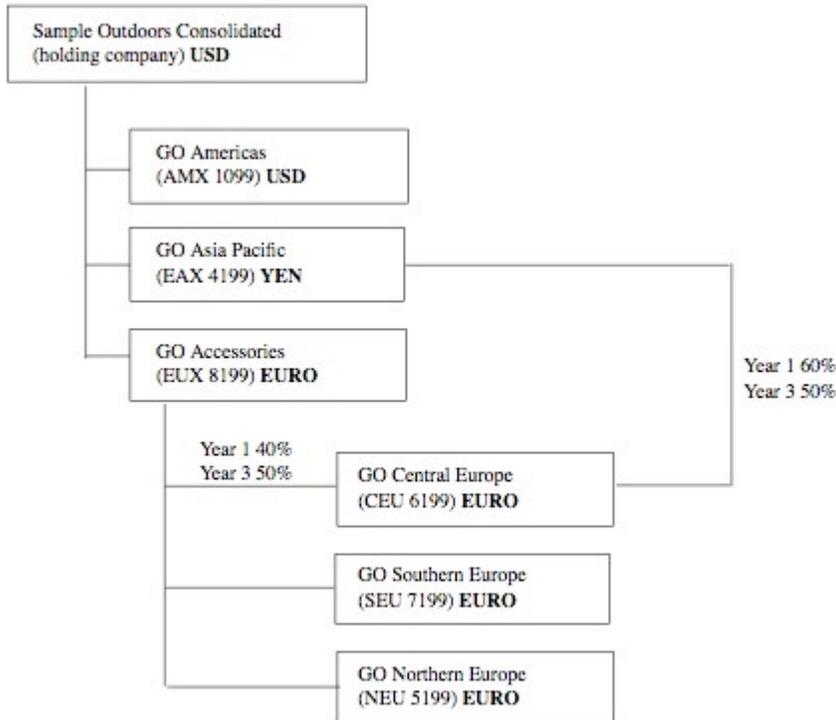


Figure 17. Consolidated corporate structure of the Sample Outdoors Company

Each corporation in the Sample Outdoors Company has the same departmental structure and the same general ledger (GL) structure, as shown in the following table. Divisions may not report in the same currencies. For example, the Americas subsidiary reports in US dollars, but the Corporate division local currency reports in Canadian dollars, and the Operations division local currency is pesos.

Table 22. Departmental structure	
Division (GL)	Department (GL)
Corporate (1700)	Sales (1720) Marketing (1750) IS&T (1760) Human Resources (1730) Finance (1740) Procurement (1710)
Operations (1800)	Production and Distribution (1820) Customer Service (1820)

Each corporation has a complete chart of accounts. Most of the accounts, such as those under non-personnel expenses, are at the department level, and contain only summary amounts. For example, although each marketing department has expenses, the cost is unspecified at the transaction level where marketing promotions occur.

Employees

The Sample Outdoors data contains a full list of employees in all divisions, departments, and locations.

Data is available for reports about bonuses (Global Bonus report) and sales commissions (Sales Commissions for Central Europe report), training (Employee Training by Year report), and performance reviews and employee satisfaction surveys (Employee Satisfaction 2012). If you use Metric Studio, sample metrics for human resources are also available.

In the GO Data Warehouse (analysis) package, groups of measures and the related dimensions are organized into folders. The employees are organized in hierarchies for region and manager, to make different kinds of aggregation easy to report on. Aggregation has been defined for the Employee Position Summary measures, so that Position count and Planned position count aggregate correctly at each level of time: monthly, quarterly, or yearly. For example, see the Planned Headcount report.

The employees are also listed in a sample LDIF file which could be used for any LDAP IBM product authentication including Tivoli®. This authentication directory is necessary for IBM Cognos Planning samples. No other samples depend on security profiles.

Sales and marketing

Data about sales and marketing is available for all of the companies in the Sample Outdoors group.

GO Accessories has richer details to support analysis examples. For example, see the Revenue vs % Profit Margin by Product Brand analysis, based on the Sales and Marketing cube. Marketing and sales campaigns are tied to the Sample Outdoors regional companies.

Overall, the GO companies have experienced solid growth across most product lines (Sales Growth Year Over Year), in all regions (Revenue by GO Subsidiary 2011), because of factors like an increase in repeat business and new or improved products, such as the high margin sunglasses product line. In the product lines sold by the five regional companies (all but GO Accessories) promotions have had mixed success (Promotion Success by Campaign, Bundle and Quarter). If you use Metric Studio, this can also be seen in the sample metrics.

Customer surveys

The data also contains information from customer surveys. For example, the product line that includes bug spray, sun screen, and so on has not been successful (Product Satisfaction - Outdoor Protection 2011) and a source of retailer dissatisfaction may be the level of customer service rather than the returns (Customer Returns and Satisfaction). If you use Metric Studio, this information can also be monitored in metrics.

Sales outlets

Revenue from the corporate outlets is available at the transaction level. Revenue from the franchise outlets is available at the consolidated level only (Sales and Marketing cube). Metrics about retailers show that the number of new retail outlets has dropped over the time period covered by this data.

GO Accessories sells worldwide, and sells only accessories. Transaction data for GO Accessories is the primary source for analysis of product by brand, color and size. The other five subsidiaries in the group of companies are regional and sell all product lines for retailers in their region. For example, the report Top 10 Retailers in 2011 uses sparklines and list data to review revenues at the retailer level.

Sample Outdoors database, models, and packages

The Sample Outdoors Framework Manager models illustrate modeling techniques and support the samples.

The models are based on the GO data warehouse and the GO sales transactional database and are the basis for the sample reports and queries. Each model contains two packages for publishing analysis (dimensional) and query views of the data.

You must have access to Framework Manager, the modeling tool in IBM Cognos Analytics, to look at the sample models. You may also need to set up the sample databases and connections.

GO Data Warehouse

The GO Data Warehouse model, `great_outdoors_data_warehouse.cpf`, is based on the database GOSALESDW. It contains data about human resources, sales and marketing, and finance, grouped into business areas. In the Database view, the three business areas are grouped into separate namespaces. The Database view contains a fourth namespace (GO Data) for the common information.

The Database view is very similar to the structure of the underlying database. All tables (database query subjects) are unchanged. This enables IBM Cognos Analytics to retrieve metadata directly from the package in most cases, instead of using a metadata call to the database. The following changes and additions have been made in the Database view:

- Joins have been added as necessary.
- To allow for aggregation at different levels of granularity, some model query subjects have been created. For example, see the relationships between Time and Sales or Sales fact.
- To allow single joins to be made between the lookup tables and each level in a dimension, lookup tables have been copied. For example, see the Products look up tables.

The Business view contains only model query subjects, with no joins. The following changes and additions have been made in the Business view:

- Calculations were added to the model query subjects. For example, the time dimension contains language calculations.
- Where the database has multiple hierarchies, new dimensions have been created to organize each hierarchy. For example, the employee hierarchies are organized into several categories, such as manager and region.

The GO Sales transactional database

The GO Sales model, `great_outdoors_sales.cpf`, is based on the GOSALES database, which is structured as a transactional database. It contains principally sales data.

The Database view is very similar to the underlying database structure. The following changes and additions have been made in the Database view:

- To make it possible to join the fact tables to the time dimension, model query subjects and multipart joins have been used.
- Other joins have been added as necessary.

The Business view contains only model query subjects, with no joins. The following changes and additions have been made in the Business view:

- Calculations were added to the model query subjects.
- Model query subjects that were created in the Database view to enable joins on the time dimension have been linked as reference shortcuts.

- Where the database has multiple hierarchies, new dimensions have been created to organize each hierarchy.
- Sales Staff is a subset of the slowly changing Employee dimension. There is no unique Employee key in GO Sales, so a filter retrieves the current record only. This model does not use historical data.

The samples PowerCubes

The following cubes are delivered with the Sample Outdoors samples in English, French, German, Japanese and Chinese:

- sales_and_marketing.mdc
- employee_expenses.mdc
- go_accessories.mdc
- go_americas.mdc
- go_asia_pacific.mdc
- great_outdoors_sales_en.mdc
- great_outdoors_7.mdc

The samples packages

The Sample Outdoors samples include six packages. A brief description of each available package is provided.

Go Data Warehouse (analysis) is a dimensionally modeled view of the GOSALESDW database. This package can be used in all studios, including IBM Cognos Analysis Studio. Using this package you can drill up and down.

Go Sales (analysis) is a dimensionally modeled view of the GOSALES database. This package can be used in all studios, including Analysis Studio. Using this package you can drill up and down.

Go Data Warehouse (query) is a non-dimensional view of the GOSALESDW database. This package can be used in all studios except Analysis Studio, and is useful for reporting when there is no need for drilling up and down.

Go Sales (query) is a non-dimension view of the GOSALES database. This package can be used in all studios except Analysis Studio, and is useful for reporting when there is no need for drilling up and down.

Sales and Marketing (cube) is an OLAP package, based on the sales_and_marketing.mdc cube.

Great Outdoor Sales (cube) is an OLAP package, based on the great_outdoors_sales_en.mdc cube.

Note: The OLAP packages, Great Outdoor Sales (cube) and Sales and Marketing (cube), are not multilingual. The IBM_Cognos_PowerCube.zip archive contains five versions of each package; one in English, French, German, Japanese and Chinese.

Samples in the GO Data Warehouse (analysis) package

The following are some of the reports found in the GO Data Warehouse (analysis) package and GO Office Report Samples.

Employee Satisfaction Workspace

This workspace shows different measures of employee satisfaction, like training, bonuses, and employee survey scores. The bonus list is filtered by country.

Return Quantity by Order Method

This report shows quantity sold, number of returns, and percentage of returns (with those greater than 5% highlighted) by return reason for each product in the Outdoor Protection product line. This report uses the following features:

- filters
- lists
- conditional highlighting
- grouping

Return Quantity by Product Line Chart

This pie chart report shows return quantities of product lines for all subsidiaries.

Revenue Data Workspace

The workspace shows revenue by region, by country and product type (filtered with multiple values check boxes), and by order method.

Samples in the GO Data Warehouse (query) package

The following reports are some of the reports found in the GO Data Warehouse (query) package and GO Office Report Samples.

Baselines

This chart report shows the numeric baselines, mean and percentage, based on prompt values that are used to filter on years.

Bursted Sales Performance Report

This list report shows how to burst a sales performance report to a manager of Northern Europe sales staff. To successfully burst this report, IBM Cognos 10 must be configured to use an email server. This report uses the following features:

- lists
- bursting
- conditional highlighting
- filters
- calculations
- summarizing
- blocks
- custom headers and footers
- sorting
- grouping

Samples in the Sales and Marketing (Cube) package

The following reports are some of the reports found in the Sales and Marketing (Cube) package and GO Office Report Samples.

Revenue by Product Brand

This report shows the revenue and gross profit by product filtered by the product brand. There is always product turnover, so the report conditionally highlights products that are discontinued. This report uses the following features:

- lists
- filters
- prompts
- combination charts
- bar charts
- HTML items
- grouping
- sorting
- axis titles

Samples in the GO Sales (analysis) package

The following reports are some of the reports found in the GO Sales (analysis) package and GO Office Report Samples.

Sales Summary

This report summarizes revenue and gross profit and shows the top sales representatives by revenue and quantity sold. This report uses the following features:

- lists
- filters
- combination charts
- axis titles
- custom headers and footers
- conditions

Samples in the GO Sales (query) package

The following reports are some of the reports found in the GO Sales (query) package and GO Office Report Samples.

Horizontal Pagination

This report shows a very wide Exploration View rendered across several horizontal pages. The first Exploration View shows the fit-to-page behavior, while the second Exploration View shows the horizontal pagination.

This report uses the following features:

- multiple pages
- horizontal pagination
- Exploration Views

- custom headers and footers

No Data

Each page of this report presents a different option for dealing with a No Data condition. It also generates invoices of sales for the Order Invoices - Donald Chow, Sales Person report in the GO Sales (query) package.

This report uses the following features:

- Exploration Views
- custom headers and footers
- no data
- lists

Appendix B. Accessibility features

IBM Planning Analytics for Microsoft Excel has accessibility features that help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products successfully.

The following list includes the major accessibility features :

- You can use accelerators and command keys for navigation.
In Microsoft Windows, press the Alt key, then the accelerator to trigger an action; for example, Alt+F shows the File menu. If they are enabled, you can use extended accelerators as well.
- IBM Planning Analytics for Microsoft Excel uses Microsoft Active Accessibility (MSAA). This means that people with limited vision can use screen-reader software, along with a digital speech synthesizer, to listen to what is displayed on the screen.
- IBM Planning Analytics for Microsoft Excel supports your system's display settings, such as color scheme, font size, and high-contrast display.
- IBM Planning Analytics for Microsoft Excel provides text through standard system function calls or through an API (application programming interface) that supports interaction with assistive technology, such as screen-reader software. When an image represents a program element, the information conveyed by the image is also available in text.

<https://helpline.hursley.ibm.com> has other features that you can customize to fit your individual needs:

- [“Increase font size for future sessions” on page 318](#)
- [“View explorations in Windows high contrast mode” on page 318](#)

Keyboard navigation

You can use keyboard shortcuts to navigate and perform tasks. If an action you use often does not have a shortcut key, you can record a macro in Microsoft Excel to create one.

This product uses standard Microsoft Windows navigation keys in addition to application-specific keys.

Note: The keyboard shortcuts are based on U.S. standard keyboards. Some of the content in this topic may not be applicable to some languages.

Access and use menus

Keyboard shortcuts allow you to access menus and the IBM Planning Analytics ribbon without using a mouse or other pointing device.

Note: Shortcut keys may vary depending on the individual setup and operating systems used.

Action	Shortcut keys
Start IBM Planning Analytics for Microsoft Excel or IBM Cognos for Microsoft Office.	ALT+Y, to place focus on the IBM Planning Analytics tab in the ribbon.
When an item on the IBM Planning Analytics tab is selected, select the next or previous button or menu on the tab.	LEFT ARROW, RIGHT ARROW, UP ARROW, or DOWN ARROW
Select the first or last command on the menu or submenu.	HOME or END

Table 23. IBM Planning Analytics ribbon (continued)

Action	Shortcut keys
Open the selected menu, or perform the action for the selected button or command.	ENTER
Open the context menu for the selected item or area of focus.	SHIFT+F10
Close an open context menu.	ESC

Access and use the task pane

Keyboard shortcuts allow you to access the task pane without using a mouse or other pointing device.

Table 24. Task pane

Action	Shortcut keys
<p>Selecting a database to log onto.</p> <p>Note: A menu or the IBM Planning Analytics tab must be active when performing this action.</p>	<p>Office 2013 and 2016 users:</p> <ul style="list-style-type: none"> Move the focus to the task pane by holding Shift and pressing F6 3 times. <p>Note: The focus will be moved to the task pane, however, there is no visual representation to indicate this.</p> <ul style="list-style-type: none"> Select the server by pressing tab 2 times. The Open icon will be highlighted. Press SPACE and then press the DOWN ARROW to open and navigate the sub menu. Select the database by pressing the RIGHT ARROW and then pressing ENTER.
<p>When the task pane is active, select a component, such as IBM Planning Analytics for Microsoft Excel or IBM Cognos for Microsoft Office</p>	<p>Office 2013 and 2016 users: LEFT ARROW or RIGHT ARROW</p> <p>Office 2010 users: CTRL+TAB LEFT ARROW or RIGHT ARROW</p>
<p>When the IBM Cognos Office pane is active, select the next or previous option in the pane.</p>	<p>Office 2013 users: TAB</p> <p>Office 2010 users: CTRL+TAB</p>
<p>Place the focus on the metadata tree.</p>	<p>CTRL+M, T</p>
<p>Place the focus on the overview area of an Exploration View.</p>	<p>CTRL+M, U</p>
<p>Place the focus on the IBM Planning Analytics tab.</p>	<p>ALT+Y, 2</p>

Use filter window

Keyboard shortcuts allow you to use the **Edit Filter** window without using a mouse or other pointing device.

<i>Table 25. Edit Filter window</i>	
Action	Shortcut keys
When the Edit Filter window is active, change the focus on controls by moving between buttons, filter lines and conjunctions, which are the AND and OR operators.	TAB
Toggle the expression between AND and OR when a conjunction control is active.	SPACE KEY
When a conjunction control, such as AND and OR operators are active, compress the expression.	LEFT ARROW MINUS KEY (-) on the numeric keypad
When a conjunction control, such as AND and OR operators are active, expand the expression.	RIGHT ARROW PLUS KEY (+) on the numeric keypad

Use windows

Keyboard shortcuts allow you to access dialog boxes without using a mouse or other pointing device.

<i>Table 26. Dialog boxes or windows</i>	
Action	Shortcut keys
Move to the next option or option group.	TAB
Move to the previous option or option group.	SHIFT+TAB
Move between options in an open drop-down list, or between options in a group of options.	Arrow keys
Perform the action for the selected button, or select or clear the selected check box.	SPACEBAR
Open the context menu, if it is closed, and move to that option in the context menu.	SHIFT+F10, then press the first letter of an option in a drop-down list
Open the selected drop-down list.	DOWN ARROW First letter of an option in a drop-down list
Close the selected drop-down list.	Office 2013 users: ESC Office 2010 users: First letter of an option in a drop-down list

Table 26. Dialog boxes or windows (continued)

Action	Shortcut keys
Expand or collapse a folder.	Office 2013 users: RIGHT ARROW, LEFT ARROW Office 2010 users: CTRL+ENTER
Cancel the command and close the window.	ESC
Open the Select Package dialog box.	CTRL+M, O
When the Open dialog box is active, open the selected report locally.	ENTER
When the Select Package dialog box is open, select a package.	Office 2013 users: TAB, to place focus on the System box DOWN ARROW, to select a Cognos system ENTER to view the packages Office 2010 users: TAB, to place focus on the System box ENTER to view the packages
When the Publish dialog box is active and the appropriate folder is expanded, publish the selected Microsoft Office document.	After selecting the file name, tab to the Publish button and press ENTER.
In IBM Cognos for Microsoft Office, move to a tab page, such as the Browse Content or the Manage Data page, on the IBM Cognos pane.	CTRL+TAB

Use tree view

Keyboard shortcuts allow you to access tree view without using a mouse or other pointing device.

Table 27. Tree view

Action	Shortcut keys
Move to the first selectable node. If the node has children and the child node is expanded, move to the first child node.	DOWN ARROW
Move to the next selectable node.	UP ARROW or DOWN ARROW
Expand the selected node, or move to the first selectable child node	RIGHT ARROW
Collapse the selected node, move to the parent node, or move to the first selectable node.	LEFT ARROW

<i>Table 27. Tree view (continued)</i>	
Action	Shortcut keys
Move to the first node in a tree control.	HOME
Move to the last node in a tree control.	END

Use report options

Keyboard shortcuts allow you to perform report actions.

<i>Table 28. Report options</i>	
Action	Shortcut keys
Rebuild a Dynamic Report.	ALT+F9
Perform drill through	ALT+Y, 2, D
Undo the most recent action in the exploration	CTRL+M, Z
Redo the most recent action in the exploration	CTRL+M, Y
Expand or collapse a consolidated element in a Dynamic Report	CTRL+M, G
Edit the annotation for the selected cell	CTRL+M, A
Commit the changed value for the selected cell	CTRL+M, C
Hold the value in the selected cell, or release a hold on a cell	CTRL+M, H
Refresh the current Quick Report or Exploration View.	CTRL+M, R
Clear the data from the current Quick Report.	CTRL+M, L
Refresh all Quick Reports on the worksheet	CTRL+M, W
Show the properties for the current Quick Report.	CTRL+M, P
Commit changed values in the current Quick Reports.	CTRL+M, C

Use the set editor

The following keyboard shortcuts allow you to use the set editor without using a mouse or other pointing device.

Note: When an area of the screen has focus, it has a contrasting line around it. When you open the set editor, the first highlighted item is the **Available Members** pane.

<i>Table 29. Set editor</i>	
Action	Shortcut keys
Move between enabled items in the set editor	Press the Tab key to move to the next item. Press Shift+Tab to go to the previous item.
Open a menu	With the focus on the menu, press Enter or the Space bar.
Move through items in a menu and members	Press the up and down arrow keys. To move to a sub menu, press the right-facing arrow key.
Select an option	Press Enter.
Select consecutive members	Highlight the first member that you want to select, hold Shift, and then use the arrow keys to select the next members.
Expand and collapse consolidated members	Press Enter, or the right arrow to expand consolidated members, and press Enter or the left arrow to collapse.
Show a context menu	Press Shift+F10. Use the up and down arrow keys to move through the items.
Work in attributes menus	 <p>Tab to  and press Enter. Press the up and down arrow keys to move through the menu, and press Enter to select an attribute. Tab to OK and press Enter to close the menu.</p>
Navigate in the MDX Editor	<p>To move around the controls, press the Tab key to move to the next control and press Shift+Tab to go back to the previous control.</p> <p>When the focus is inside the rich text editor, press CTRL+F2 to move to the next control, and Shift+CTRL+F2 to go to the previous control.</p>

Supported languages

IBM Planning Analytics for Microsoft Excel supports different languages in its user interface as well as its documentation.

The following table shows the languages supported in the user interface and in the documentation.

<i>Table 30. Supported languages in Planning Analytics for Microsoft Excel.</i>		
Language	User interface	Documentation
Brazilian Portuguese		
Croatian		

Table 30. Supported languages in Planning Analytics for Microsoft Excel. (continued)

Language	User interface	Documentation
Czech	✓	✓
Danish	✓	✗
Dutch	✓	✗
English	✓	✓
Finnish	✓	✗
French	✓	✓
German	✓	✓
Hungarian	✓	✓
Italian	✓	✗
Japanese	✓	✓
Kazakh	✓	✓
Korean	✓	✓
Norwegian (Bokmål)	✓	✗
Polish	✓	✓
Romanian	✓	✓
Russian	✓	✓
Simplified Chinese	✓	✗
Slovak	✓	✓
Slovenian	✓	✓
Spanish	✓	✓
Swedish	✓	✗
Thai	✓	✗
Traditional Chinese	✓	✗
Turkish	✓	✗

Interface information

The following sections describe various ways that you can customize your settings to make IBM Planning Analytics for Microsoft Excel more accessible.

Increase font size for future sessions

It is best to change the size of your IBM Planning Analytics for Microsoft Excel fonts by changing your display fonts in Windows. Changing your Windows display fonts affects all programs on your computer. For more information, refer to Windows Help.

View explorations in Windows high contrast mode

Microsoft Windows users with low vision can make IBM Planning Analytics for Microsoft Excel easier to view by enabling High Contrast Mode. For more information, see the documentation for your operating system.

Vendor software

IBM Planning Analytics for Microsoft Excel includes certain vendor software that is not covered under the IBM license agreement. IBM makes no representation about the accessibility features of these products. Contact the vendor for the accessibility information about its products.

IBM and accessibility

See the IBM Human Ability and Accessibility Center for more information about the commitment that IBM has to accessibility.

<http://www.ibm.com/able>

Appendix C. Rebrand Cognos Office Components

This section is intended for clients and partners who need to rebrand, customize, or localize labels, messages, or other strings in IBM Cognos Office products, such as IBM Planning Analytics for Microsoft Excel, IBM Cognos Office, and IBM Cognos for Microsoft Office.

Resource Files

All the customizable strings for IBM Cognos Office products are in XML-based resource (.resx) files.

The .resx resource file format consists of XML entries that specify objects and strings inside XML tags. One advantage of a .resx file is that when opened with a text editor (such as Notepad) it can be written to, parsed, and manipulated. When viewing a .resx file, you can see the binary form of an embedded object, such as a picture when this binary information is a part of the resource manifest. Apart from this binary information, a .resx file is readable and maintainable.

A .resx file contains a standard set of header information that describes the format of the resource entries, and specifies the versioning information for the XML code that parses the data.

These files contain all the strings, labels, captions, and titles for all text in the three IBM Cognos Office components. For each language, there are three files, one for each component. The following table identifies each of the files.

Language	IBM Planning Analytics for Microsoft Excel files (internal name cor)	IBM Cognos for Microsoft Office files (internal name coc)	IBM Cognos Office files (internal name coi)
Language Neutral	cormsgs.resx	cocmsgs.resx	coimsgs.resx
Chinese (simplified)	cormsgs.zh-cn.resx	cocmsgs.zh-cn.resx	coimsgs.zh-cn.resx
Chinese (traditional)	cormsgs.zh-tw.resx	cocmsgs.zh-tw.resx	coimsgs.zh-tw.resx
Croatian	cormsgs.hr.resx	cocmsgs.hr.resx	coimsgs.hr.resx
Czech	cormsgs.cs.resx	cocmsgs.cs.resx	coimsgs.cs.resx
Danish	cormsgs.da.resx	cocmsgs.da.resx	coimsgs.da.resx
Dutch	cormsgs.nl.resx	cocmsgs.nl.resx	coimsgs.nl.resx
English	cormsgs.en.resx	cocmsgs.en.resx	coimsgs.en.resx
Finnish	cormsgs.fi.resx	cocmsgs.fi.resx	coimsgs.fi.resx
French	cormsgs.fr.resx	cocmsgs.fr.resx	coimsgs.fr.resx
German	cormsgs.de.resx	cocmsgs.de.resx	coimsgs.de.resx
Hungarian	cormsgs.hu.resx	cocmsgs.hu.resx	coimsgs.hu.resx
Italian	cormsgs.it.resx	cocmsgs.it.resx	coimsgs.it.resx

Table 31. IBM Cognos Office resource files (continued)

Language	IBM Planning Analytics for Microsoft Excel files (internal name cor)	IBM Cognos for Microsoft Office files (internal name coc)	IBM Cognos Office files (internal name coi)
Japanese	cormsgs.ja.resx	cocmsgs.ja.resx	coimsgs.ja.resx
Kazakh	cormsgs.kk.resx	cocmsgs.kk.resx	coimsgs.kk.resx
Korean	cormsgs.ko.resx	cocmsgs.ko.resx	coimsgs.ko.resx
Norwegian	cormsgs.no.resx	cocmsgs.no.resx	coimsgs.no.resx
Polish	cormsgs.pl.resx	cocmsgs.pl.resx	coimsgs.pl.resx
Portuguese	cormsgs.pt.resx	cocmsgs.pt.resx	coimsgs.pt.resx
Romanian	cormsgs.ro.resx	cocmsgs.ro.resx	coimsgs.ro.resx
Russian	cormsgs.ru.resx	cocmsgs.ru.resx	coimsgs.ru.resx
Slovenian	cormsgs.sl.resx	cocmsgs.sl.resx	coimsgs.sl.resx
Spanish	cormsgs.es.resx	cocmsgs.es.resx	coimsgs.es.resx
Swedish	cormsgs.sv.resx	cocmsgs.sv.resx	coimsgs.sv.resx
Thai	cormsgs.th.resx	cocmsgs.th.resx	coimsgs.th.resx
Turkish	cormsgs.tr.resx	cocmsgs.tr.resx	coimsgs.tr.resx

Run Cognos Office components in English in a localized Microsoft Windows environment

You can display English in Cognos Office components in a Microsoft Windows environment that is configured to use another language.

About this task

For example, if Microsoft Windows is set to use French, Cognos Office components also use French by default. But you can configure Cognos Office components to use English instead of French.

Procedure

1. Close all Microsoft Office windows.
2. In Windows Explorer, navigate to the Cognos Office installation location.

Tip: On Windows 7, the default installation location is C:\Program Files (x86)\IBM\cognos\Cognos for Microsoft Office.
3. Find the folder that corresponds to the locale you are using in Windows, for example, fr if you are using French in Microsoft Windows.
4. Move the folder to a location outside of the Cognos Office installation location.

Example

For example, if your Region and Language settings in Windows are set to French (France), but you want to see English in IBM Planning Analytics for Microsoft Excel, move the `fr` folder outside of the Cognos `for Microsoft Office` folder. When you open IBM Planning Analytics for Microsoft Excel, or any other Cognos Office component, the user interface is in English.

Rebrand or Localize Cognos Office Components

If you are setting the IBM Cognos component for a multilanguage environment, you must compile both the language-neutral file and the language file for your locale. The program detects the user locale settings in Windows and uses the appropriate language file.

For example, suppose you installed IBM Planning Analytics for Microsoft Excel and your locale is set to French (France). You must make changes to the language-neutral files: `cormsgs.resx` and `coimsgs.resx`, and to the French files: `cormsgs.fr.resx` and `coimsgs.fr.resx`.

To customize or localize the component names and text messages, follow these steps:

- Edit the language-neutral resource files, and if necessary, the language resource files for your locale.
- Download and then run the Resource File Generator (`Resgen.exe`) required for compiling the updated resource files.
- Test your work.

Editing the resource (.resx) files

For each component, there exists a set of files that support the various languages. The country or region code distinguishes the filenames.

With the exception of the language-neutral set of files (`cormsgs.resx`, `cocmsgs.resx`, and `coimsgs.resx`) that serve as the default files, each file follows the following naming convention:

componentcodemsgs.languagecode.resx

You can change strings, not icon or graphic resources.

When changing text strings, consider the string length. The width of fields were created using the existing strings. Significantly increasing string length may result in some strings getting truncated in some of the dialog boxes.

The resource file contains metadata and comments that can help you determine when and where strings are used in the software.

Important: To edit XML resource files, use an XML editor. It is important to preserve the Unicode encoding and format, including white space. Simple text editors will likely corrupt the files. A validating XML editor ensures that the contents of the files are well formed and valid. Modify only string information. Do not change other information in the files.

Procedure

1. Install the IBM Cognos Office components locally to a workstation.

This gives you access to the resource files.

2. Locate the resource files.

If you install locally and accept all the defaults, they are found in the following location:

```
[installation directory]\Program Files\IBM\cognos\Cognos for Microsoft Office\resources
```

3. In an XML Editor, open the *componentcodemsgs.languagecode.resx* file.

Use an editor such as Visual Studio or XMLSpy to change the branding details or to translate strings into another language.

If you are creating new language files, follow the naming convention by inserting the 2 or 5-character language code into the middle of the file name. For example, if you add a Romanian language file for IBM Cognos for Microsoft Office, you would save it as `cocmsgs.ro.resx`.

4. Save the file.
5. Repeat steps 3 and 4 for each component file associated with the language that you want to translate.

Results

The updated resource files are now ready to be compiled.

Compile the updated resource files

Before you can deploy updated files, you must download the Resource File Generator (`Resgen.exe`). The Resource File Generator converts `.txt` files and `.resx` (XML-based resource format) files to common language runtime binary `.resources` files that you can embed in a runtime binary executable or compile into satellite assemblies.

The Resource File Generator is a Microsoft .NET Framework Software Development Kit (SDK) program that generates compiled resource files. The `resgen` executable is shipped with the Microsoft .NET SDK and comes with Microsoft Visual Studio development system. You must choose a version of the Resource File Generator that is compatible with the version of .NET Framework that is used by IBM Cognos Office components.

`Resgen.exe` performs the following conversions:

- Converts `.txt` files to `.resources` or `.resx` files.
- Converts `.resources` files to text or `.resx` files.
- Converts `.resx` files to text or `.resources` files.

Procedure

1. Download the `resgen.exe` from the Microsoft .NET developer Web site.
2. After downloading the Resource File Generator, open a command prompt window.
3. Find the location where `Resgen` was downloaded.

For example, `cd C:\Program Files\Microsoft Visual Studio 8\v2.0\Bin`

4. To compile the resource files, from the command prompt, type

```
resgen /compile "[resx file location]\[file name.resx]"
```

For example, `resgen /compile "c:\ProgramFiles\Cognos\Cafe\resources\cormsgs.resx"`

Resource files are automatically renamed to include the `.resource` extension in their file name.

5. Copy the resulting files to the `Resources` directory.

Test your work

To test your work, run IBM Cognos Office using a variety of locales and start each component (IBM Cognos Office, IBM Cognos for Microsoft Office, and IBM Planning Analytics for Microsoft Excel) to ensure that your changes are reflected in each area.

Check the text changes in all the interfaces exposed to your users. Pay particular attention to generic dialog boxes, which are easy to miss.

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