Product Information

This document applies to IBM Cognos TM1 Version 10.2.2 and may also apply to subsequent releases.

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Introduction

This guide describes how to use the IBM® Cognos® TM1® Applications to review and edit managed planning applications.

Finding information

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

Samples disclaimer

The Sample Outdoors Company, Great Outdoors Company, GO Sales, any variation of the Sample Outdoors or Great Outdoors names, and Planning Sample 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.

Accessibility features

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

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

Forward-looking statements

This documentation describes the current functionality of the product. References to items that are not currently available may be included. No implication of any future availability should be inferred. Any such references are not a commitment, promise, or legal obligation to deliver any material, code, or functionality. The development, release, and timing of features or functionality remain at the sole discretion of IBM.
TM1 client differentiation

IBM Cognos TM1 provides multiple clients for both developers/administrators and end-users. Understanding these clients and differentiating between them can help you decide which client is most appropriate for your needs.

All clients are described fully in the IBM Cognos TM1 documentation.

- The Cognos TM1 Performance Modeler User Guide describes the development and administrative capabilities of Cognos TM1 Performance Modeler.
- The Cognos TM1 Developer Guide describes the development and administrative capabilities of Cognos TM1 Architect and Cognos TM1 Perspectives.
- The Cognos TM1 Operations Console Guide describes how to monitor and administer servers with the Cognos TM1 Operations Console.
- The Cognos TM1 User Guide describes the end-user analysis capabilities of Cognos TM1 Architect and Cognos TM1 Perspectives.
- The Cognos Insight User Guide describes the end-user analysis capabilities of Cognos Insight.
- The Cognos TM1 Web User Guide describes the end-user analysis capabilities of Cognos TM1 Web.
- The Cognos TM1 Applications Guide describes the end-user analysis capabilities of Cognos TM1 Application Web.

End-user clients

Several end-user clients are available to interact with IBM Cognos TM1 data.

IBM Cognos Insight

IBM Cognos Insight is both a client for TM1 Application Web and a personal analysis tool that you can use to analyze almost any set of data. In the context of Cognos TM1 Application Web, Cognos Insight is a full client application that is provisioned locally or as a remote download. When used as a client for Cognos TM1 Application Web there are two modes in which Cognos Insight can be used: Connected Mode and Disconnected Mode.

Connected Mode creates a live, bi-directional connection to the Cognos TM1 server. Any data that is updated on the TM1 server is updated in the Insight client when you perform a recalculation in Insight. This ensures that the data on the Insight client is always current when performing analysis or contributing to a plan. The trade-off for the live connection to the TM1 server is that more traffic is generated on the LAN and a heavier load is placed upon the TM1 server as compared to Disconnected Mode. Connected Mode should be used by users who have as fast connection to the TM1 server and do not suffer from any network latency.

Disconnected Mode is currently available only with child level nodes. Disconnected Mode downloads and creates a local copy of the Cognos TM1 server slice (TM1 model and data portion) with which you are working. This is beneficial in that it distributes the workload the TM1 server would have to maintain in any other connection mode. Processing is distributed between the client and the TM1 server in this mode. Disconnected Mode is beneficial to users on a high latency network. However, users who do not have a fast connection to the TM1 server or who experience network latency will see a performance degradation when using this mode.
LAN or ur users who are geographically distant from the TM1 server. When a user opens Cognos Insight in Disconnected Mode the TM1 model slice is downloaded and cached. All interaction with data occurs against the local cache, greatly increasing the speed of response.

**IBM Cognos TM1 Application Web**

IBM Cognos TM1 Application Web is a zero-footprint web client that allows you to open and work with Cognos TM1 Applications using any supported web browser. From the Cognos TM1 Application Web workflow page, you can open a node, take ownership, enter data, and contribute to a plan. Cognos TM1 Application Web is most useful when a corporate policy prohibits the installation of a local client, or when using an operating system other than Microsoft Windows, as all TM1 thick clients are Windows-based.

**IBM Cognos TM1 Web**

IBM Cognos TM1 Web is a zero-footprint web client that allows you to analyze and modify Cognos TM1 data from any supported web browser. Cognos TM1 Web does not allow you to access the Cognos TM1 Application Web workflow page. Consequently, you cannot participate in Cognos TM1 Applications with TM1 Web.

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**Administration clients**

These IBM Cognos TM1 clients can be used to administer your Cognos TM1 data and models.

**IBM Cognos TM1 Performance Modeler**

IBM Cognos TM1 Performance Modeler is the newest Cognos TM1 modeling tool, which lets you quickly create or generate dimension, cubes, rules, processes, and other objects. Performance Modeler simplifies the modeling process by automatically generating the rules and feeders required for your applications. Performance Modeler also introduces guided import, a simplified process for importing data and metadata into a TM1 server. Performance Modeler should be used as the primary development and maintenance tool for all new and existing Cognos TM1 models.

**IBM Cognos TM1 Architect**

IBM Cognos TM1 Architect is an older Cognos TM1 modelling tool that supports the creation and maintenance of all TM1 objects. TM1 Architect does not support automatic feeder and rules generation, and does not provide guided import capabilities. Architect users are encouraged to transition to Cognos TM1 Performance Modeler as the primary development environment for all TM1 models.

**IBM Cognos TM1 Perspectives**

IBM Cognos TM1 Perspectives is the TM1 Excel Add-In. Cognos TM1 Perspectives is an older tool that can be used for both Cognos TM1 model development and for analyzing data via Microsoft Excel capabilities. Like Cognos TM1 Architect, Perspectives supports the creation and maintenance of all TM1 objects, but does not provide the advanced capabilities of Performance Modeler. End-users that require an Excel Add-In interface and the ability to use Microsoft Excel functionality, such as charting, while working with TM1 data can use Perspectives.
Otherwise, administrators are encouraged to transition to Performance Modeler as the primary development environment for all TM1 models.

**IBM Cognos TM1 Operations Console**

IBM Cognos TM1 Operations Console is a web-based operations tool that is designed to facilitate the monitoring, support, and management of Cognos TM1 servers, providing greater insight into day-to-day server operations. The Cognos TM1 Operations Console allows you to dynamically monitor threads running on multiple TM1 servers at a given time. You can sort and filter thread activity, as well as schedule logging of server activity. The Operations Console also provides a health check feature which determines the current state of each TM1 server being monitored. The Operations Console should be the interface of choice for Cognos TM1 administrators who are managing an enterprise-scale TM1 environment.
Chapter 1. What's new

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

For all currently available TM1 documentation, go to the TM1 welcome page (http://www.ibm.com/support/knowledgecenter/SS9RXT/welcome).

New features in IBM Cognos TM1 Applications version 10.2.2

The following list identifies new features in IBM Cognos TM1 since the last release.

More flexibility when purging commentary

You can identify commentary to be purged using a variety of criteria. You can purge commentary for more than one application at a time. See Purging commentary.

Modelers can prevent the Take Ownership option in a central application

Central applications have always had taking ownership as an option. Now Modelers can prevent Central application users from seeing that option or the related actions. See Managing rights in a central application in the IBM Cognos TM1 Performance Modeler Guide.

Manage long running jobs in the background

You can monitor the deployment, the initial saving of rights, and the import of an application that may be taking a long time in the TM1 Applications portal and have those jobs processed in the background.

See Manage long running jobs in the background in the IBM Cognos TM1 Performance Modeler Guide.

Security Overlay

You can use the Security Overlay processes to apply a layer of security to models.

See Security Overlay in the IBM Cognos TM1 Developer Guide. Also The interaction rights and access control in TM1 Applications in the IBM Cognos TM1 Applications Guide.

New features in version 10.2.0

The following list identifies new features in IBM Cognos TM1 since the last release.

New Cognos Configurations settings for Cognos TM1 Application server

You can now set configuration settings for the Cognos TM1 Application Server by using Cognos Configuration.
TM1 Applications settings can be found in the TM1 Applications Server section of Cognos Configuration.

For more information, see the “Cognos Configuration settings” on page 14.

**Purging commentary**

Purge old Commentary and detach an application from the Cognos TM1 Application Server and later re-attach it without losing the Commentary.

You can now purge old Commentary in applications, and can detach an Application from the TM1 Application Server and later re-attach it without Commentary being lost.

For more information, “Adding commentary to Cognos TM1 Applications” on page 12.

**Enable and Disable servers**

You can now enable or disable a server from the TM1 Applications Server Configuration screen.

The Add and Edit options on the Administer TM1 Applications configuration screen lets you enable or disable a server. When a server is disabled the application can not longer communicate with the server.

For more information, see “Setting Cognos TM1 Applications configuration options” on page 55.

**New email notification setting in Cognos Configuration**

You can set a Cognos Configuration setting to send email notifications by email only. Previous versions also sent notifications to “My Inbox” in Cognos Connection.

For more information, see the “Email notifications in Cognos TM1” on page 9.

**New way to manage applications in Cognos TM1 Performance Modeler**

You can manage many aspects of an application by double-clicking the application name in the TM1 Performance Modeler Application Design tab.

For more information, see “Managing applications in TM1 Performance Modeler” on page 13.
Chapter 2. Getting Started with Cognos TM1 Applications

IBM Cognos TM1 Applications is the comprehensive infrastructure used to power and manage Cognos TM1 planning applications.

Use Cognos TM1 Performance Modeler to design the cubes and dimensions that define your data. Then you can construct a Cognos TM1 Application to manage workflow of that data such as contributing to a plan or reviewing changes. The Cognos TM1 Applications portal is the launch pad for the activity around the application. It is managed by the Cognos TM1 Applications server which provides the web access to the applications. You can choose a variety of different clients to use when working with the applications.

C cognos TM1 Applications serve as the basis for organizing and managing applications. Application modelers offer the choice of using Cognos TM1 Application Web, Cognos Insight in distributed or Cognos Insight in connected mode to contribute to their applications. In addition, Cognos TM1 Performance Modeler can be launched from Cognos TM1 Applications and is used by modelers to plan and build the data structures on which applications are based.

Each of the clients available through Cognos TM1 Applications has advantages, and the modeler makes the determination of which to offer based on several factors.

**Cognos Insight**
- Cognos Insight offers a flexible and interactive experience with a choice of distributed or connected modes.
- In its distributed mode, Cognos Insight uses an interactive canvas layout for planning and analysis applications that provides responsive, rapid discovery and navigation.
- Since calculation and query processing in a distributed architecture occurs locally only after the slice of data downloads, administrators can deploy Cognos Insight applications to more distributed users from the same central server hardware.
- Cognos Insight cannot be used on applications that contain websheets.

**Cognos TM1 Application Web**
- Cognos TM1 Application Web is a good choice when you need a high degree of formatting or when you do not want to install the Cognos Insight component on your local machine.
- Cognos TM1 Application Web offers the rich formatting provided by websheets, in addition to slices and other detailed navigation of cube data.
- Applications that use a canvas layout show a simple multi-tabbed view when used with Cognos TM1 Application Web.

Either Cognos Insight (in either distributed or connected mode) or Cognos TM1 Application Web can be used interchangeably if the application uses cube views alone and has multiple sandboxes disabled. You can select which client you want to use on these applications.
To choose a client, select the application and right-click to display the clients available for that application.

To get started using the product you can find sample applications in the samples folder as zip files which can be imported for GO_New_Stores. There are also some .cdd files in the Proven Techniques folder which are used with Cognos Insight.

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### Set preferences

Specify preferences for IBM Cognos TM1 Application portal, including the number of entries in the list view, type of separator, and style.

You can also change the portal layout of the view, number of columns, and regional options including language and time zones.

**Procedure**

1. Open a Web browser. Type the Web address supplied by your administrator in the address bar, typically `http://<server_name>:<port_number>/pmpsvc`
2. Type in your user ID and password and click **OK**.
3. Click the **My Preferences** button and specify the settings you want to change.

---

### Open Cognos TM1 Applications

Open an application in the Cognos TM1 Applications portal to begin reviewing or contributing data.

To start reviewing or contributing data, you must have an intranet or Internet connection and an application.

See opening the sample application for details about using the sample application that is provided with the software.

**Procedure**

1. Open a Web browser. Type the Web address supplied by your administrator in the address bar, typically `http://<server_name>:<port_number>/pmpsvc`, for example `http://localhost:9510/pmpsvc`
2. Type in your user ID and password for the server you want to use and click **OK**.
3. Click on the application to which you want to contribute.

   If the server on which your application is based is not started, open Cognos Configuration and start it. Typically you started the server at installation. For example, to use the sample application, ensure that the **GO_NEW_Stores** server is started.

   To open the sample application, click the **import an application** icon on the workflow page, identify the server as **GO_NEW_Stores**, and the **application file** as `new stores and promotion plans.zip` which is found in the `C:\install_directory\samples\tm1\GO_New_Stores` location. Click **import** import the sample application and return to the workflow portal.

   You may see a warning that no commentary was saved. This is correct because the sample application does not have any commentary. Click **OK** to accept that warning.
The application displays in the My Applications portal. Before you can use it the application must be activated. An administrator may need to do that, or if you are an administrator for this application, click on the activate icon. Then click the application to open it.

On the workflow page, you see a graphical overview of all the areas for which you are responsible and the status of the data.

4. To start using Cognos TM1 Applications, in the tree on the left side of the screen, expand the approval hierarchy tree to select a node or click on a node in the table.

Tip: To see the details panel for more information about a node, click the blue down arrows.

**Cognos TM1 Applications Workflow**

The Workflow screen displays when you log on. It consists of a tree, a table, and approval hierarchy.

The tree on the left side of the screen shows, in a hierarchical form, the areas that you are responsible for contributing to and reviewing. The exact items you see in the tree depend on your specific rights in the application. When you click an item in the tree, a table with the details for the item displays on the right side of the screen.

An item in the tree or table is known as a node. Typical examples are Sales Division, Marketing Division, Development Division, and Cost Center. The names depend on the design of your application.
The Tree

Each item in the tree has an icon that indicates the current state of the data.

Table 1. Cognos TM1 Applications Workflow States

<table>
<thead>
<tr>
<th>Icon</th>
<th>State and description</th>
</tr>
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</table>
|       | Available  
The node has not been opened and the data has not been changed or saved.             |
|       | Reserved  
The user has taken ownership of the node and data in this state can be submitted for review. |
|       | Locked  
The data was submitted and the item was locked. Data in this state is read-only. If an item is rejected, its state returns to Reserved. |
|       | Incomplete  
At least one item belonging to this item is Available, and at least one other item is in a state of Reserved, Locked, or Ready. Data in this state was aggregated. The Incomplete state applies only to review items. |
|       | Ready  
All items belonging to the reviewer are locked. The data is ready to be submitted to the next level in the hierarchy. |

Review Data

You are responsible for reviewing the nodes as identified on the Workflow screen.

When you have appropriate rights to nodes, you can view them in any state. You can view more than one node at a time, but each node that you open from the Workflow page opens in a separate window. If you have the appropriate rights for a consolidated node, you can view, edit and submit data for all of the related leaf nodes right in the same grid window by using the approval dimension drop-down list to switch between the nodes in the hierarchy.

When a node has been submitted for review, it becomes Locked.

If you are not satisfied with the contents of a node, and you have appropriate rights, you can reject it, either from the workflow screen, or from the grid by clicking the Reject button. The state of a rejected node changes from Locked to Reserved.

When you have submitted all contribution nodes in a review, it has a Ready state. If you are satisfied with all the contents, submit the node.
If your administrator has enable localization of names on your TM1 server, then cubes, dimensions, elements, and attributes will display in your local language as determined by the language setting of your Web browser. If localization is not enabled, object names appear as they were originally created on the TM1 server. In Websheets, only elements returned by SUBNM or TM1RptRow functions are localized. All other element and object names in Websheets display as originally created.

### Submit Data

You submit a node to the next reviewer in the planning model hierarchy when you are satisfied with the data it contains.

After you submit the node, it is locked and you can make no further changes to the data. The reviewer can either accept or reject the changes that you made to the node.

To submit data, you must have submit rights. If your administrator has enabled multiple sandboxes you cannot submit your node from the workflow page. If you are using multiple sandboxes you must select the sandbox you want to submit in Cognos TM1 Application Web.

Depending on the current node you are working with and the rights you have for that node, you can submit a single leaf node, multiple leaf nodes or a consolidated node.

#### Submitting a consolidated node or a single leaf node

Use the submit icon to submit a consolidated node or a single leaf node.

**Procedure**

From the toolbar click the **Submit** icon 🛡️.

#### Submitting all leaf nodes under a consolidated node

Use the Submit Leaf Children option to submit all leaf nodes under a consolidated node.

**Procedure**

From the toolbar, click the **Submit leaf children** icon 🛡️.

**Note:** This action submits only the leaf nodes to which you have the appropriate rights.

#### Submitting all leaf nodes and a consolidated node

If you are the owner of a consolidated node and related leaf nodes, and want to submit both the consolidated and leaf nodes at the same time, you must perform the steps separately.

**Procedure**

1. From the toolbar, click the **Submit leaf children** icon 🛡️.
2. From the toolbar, click the **Submit** icon 🛡️.
Ownership, Bouncing, and Releasing

Once you have taken ownership of a node, other users cannot access its data.

After taking ownership, use Release ownership to release the data so other people can use it.

In TM1 Application Web, you must submit all nodes at the level at which you take ownership and you can only release ownership at the level you have taken ownership. For example, if you have taken ownership of a parent node, then decided that you wanted to submit a child node individually, you would first have to Release your ownership of the parent node, then take ownership of the child node in order to submit only the child node. You could then Release ownership of the child node and re-take ownership of the parent node.

If you attempt to take ownership of a node that is currently owned by another user, the system can provide a warning message and offer the opportunity to cancel out of taking ownership. Your administrator can configure the pmpsvc_config.xml to control whether a user who is about to "bounce" ownership of a node receives a warning message and the chance to cancel out.

An administrator can see who has ownership and determine which owner should be released. This "bouncing" behavior can also be controlled per application.

The modeler or administrator of your system can tell you how your system or applications is designed to handle bouncing and releasing.

The Ownership Change Behavior property set in IBM Cognos TM1 Performance Modeler determines the way the system responds when this specific application is released. Depending on that setting, you may see the following behaviors:

**Never warn**
Users may take ownership from one another freely, and no warnings are raised.

**Warn on active user**
Display a warning if the current owner has the node open in a client, but permit the change of ownership ("bouncing") to proceed if the warning is ignored.

**Prevent bouncing of active user**
Display a warning if the current owner has the node open in a client, and block the change of ownership--do not let the "bounce" occur.

**Always warn**
Display a warning if the node for which the user is attempting to take ownership is already owned by another user, regardless of whether the current owner is in the system or not. Permit the change of ownership to take place if the user continues.

**Always prevent ownership change**
Display a warning if the node for which the user is attempting to take ownership is already owned by another user, regardless of whether the current owner is in the system or not. Never let the change of ownership proceed. In this situation, the current owner must Release their ownership before another user may attempt to take ownership.
These settings are available regardless of the client used. When users have ownership, an administrator can click the Release Ownership icon on the workflow page to display a dialog box that lists the current owners of nodes. The administrator can then choose which user to release.

**Email notifications in Cognos TM1**

You can add email notifications to applications by using either the Human Task Service and Mail Delivery Service or your standard mail delivery service.

Workflow-driven notifications are only available for Cognos TM1 servers that are CAM authenticated by using Mode 5 authentication.

Notifications can be processed by the Human Task Service (HTS) and Mail Delivery Service (MDS) from the Cognos platform or you can set notifications to use only your standard email delivery service. HTS and MDS are installed either as part of the Cognos Business Intelligence (BI) Server install which BI version 10 customers have, or as part of the Cognos BI Runtime install, which Cognos TM1 customers with no Cognos BI license are entitled to. These platform services must be at version 10.1.1 or newer.

If you are a Cognos TM1 customer and you install the Cognos BI Runtime to support workflow notifications you must provide a supported RDBMS instance, such as DB2®, SQL Server or Oracle, to use as a Content Store. Alternatively, for a test or demo environment, you can use the Cognos Content Store that is based on Apache Derby. However, this is not provided with the Cognos BI Runtime that Cognos TM1 customers can access, and should not be used for production systems.

**Using DLS notification**

To use only your standard mail delivery system for Cognos TM1 Applications workflow actions:

**Procedure**

Enter DLS in the Notifications provider option in the Cognos Configuration listing for your TM1 Application Server.

**Configuring HTS**

You can configure your Cognos TM1 Applications to use the Human Task System to notify users of actions taken.

**Before you begin**

- An installed Cognos BI Server or Cognos BI Runtime with the Human Task Service and Mail Delivery Service.
- The Cognos TM1 Application Server installed and configured against Cognos Access Management (CAM)-authenticated Cognos TM1 servers.
- The relevant TM1 Applications gateway components must be installed on the Cognos BI Server, and configured correctly, as described in the *IBM Cognos TM1 Installation and Configuration Guide*. For example, the planning.html file in the BI_install_location\webcontent directory must be edited to point to the location of the Cognos TM1 Application Server, for example, http://machinename.com:9510
- A Cognos TM1 Application that is deployed from Cognos Cognos TM1 Performance Modeler and with Rights assigned.
**Procedure**

1. Ensure that the Cognos TM1 instance of Cognos Configuration is set to point to a valid Cognos BI server.

2. If you want to have workflow notifications sent by email in addition to the notifications that are sent to the user Inbox in Cognos Connection, ensure that a mail server is configured in the Cognos BI instance of Cognos Configuration:

3. Enter this tag in the pmpsvc_config.xml file for the Cognos TM1 Application Server:

   ```xml
   <service>
     <notifications emailProvider="HTS"/>
   </service>
   ```

   For publication purposes, the following code may break across lines. You should not break these lines when you enter them.

   ```xml
   <?xml version="1.0" encoding="UTF-8"?>
   <pmpsvc_config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
                 xsi:noNamespaceSchemaLocation="pmpsvc_config.xsd">
     <fpm_service>
       <config class="com.ibm.cognos.pmpsvc.PMPSVCConfig"/>
       <service name="PMPService">
         <method name="setClients" sessionOptional="true"/>
       </service>
     </fpm_service>
     <service>
       <!-- Uncomment the line below to change the location of the planning service application files -->
       <!-- appdef path="Location of planning service application files" -->
     </service>
     <service>
       <!-- Uncomment the line below to change the location of the planning service application files -->
       <!-- appdef path="Location of planning service application files" -->
     </service>
     <service>
       <notifications emailProvider="HTS"/>
     </service>
     <notifications/>
   </fpm_service>
   <service>
     <clients>
       <client id="thinClient" type="html-new" uri="http://VYORPERFMODTEST.ent.ad.cognos.com/TM1Web/contributor.aspx">
         <name>
           <localeText default="true" locale="en_US" text="TM1 Application Web"/>
         </name>
       </client>
       <client id="desktopClient" type="cognos-rcp" uri="servlet/CogrcpServlet?applicationId=CognosInsight">
         <name>
           <localeText default="true" locale="en_US" text="Cognos Insight - Connected"/>
         </name>
       </client>
       <client id="distributedClient" type="cognos-rcp" uri="servlet/CogrcpServlet">
         <name>
           <localeText default="true" locale="en_US" text="Cognos Insight - Distributed"/>
         </name>
       </client>
     </clients>
   </pmpsvc_config>
   ```

4. Re-start the Cognos TM1 Application Server.

5. To see the notifications setting, use Cognos Cognos TM1 Performance Modeler on the application.

   The notification settings display after the list of settings. By default, notifications are configured for the Submit and Reject workflow actions.
**Reading notifications**

You can also read the notifications through the Inbox that can be accessed from both Cognos Connection and the Cognos TM1 Applications portal.

**Procedure**
1. From the Cognos TM1 Applications portal toolbar, click the My inbox icon.
2. From Cognos Connection, the Inbox is found on the “My Area Options” drop-down menu.

**Changing notifications**

**Procedure**
1. To change a notification setting, first click the Notifications row in the Properties file as described in the previous section then click the ellipses that displays. The Notifications Setting lists the actions and the current values for each kind of Notification.
2. To enable or disable notifications on particular actions, enter either True or False in the Enable Notification column.
3. To have the notification recipients changed, or to alter the content of the notifications, click in the relevant row for the Advanced Notification Settings column:
4. In this dialog, you may change the recipients and construct different Subject and Body text, and use preset parameters in the notification content.
5. Re-deploy the Application for changes to the notification settings to take effect.

**Remember:** Authentication sources such as Active Directory or LDAP will likely have the email address field populated automatically. It is possible to use an authentication source such as NTLM that has no native email field, and to add the email address from the user’s preferences in Cognos Connection.

Users without email addresses still receive notifications via the Inbox.

**Changing the language for notifications**

You can change the language that is used for the notification by identifying the language and the translated text in the Applications Properties page.

**Procedure**
1. In the Cognos TM1 Applications page, select the Application to use.
2. Click the Properties icon.
3. Click the workflow action that you want to use. Only the actions that can use notifications are available.
4. On the Notifications tab, you can change the language setting, the subject, and the text of the notification so that the notification uses translated text.

**Important:** Do not alter or remove the metadata tags such as <Current Owner> or <Application Link>. Do not translate those tags.
Adding commentary to Cognos TM1 Applications

Commentary refers to annotations and attached documents to provide details and background to your budget and plan submissions.

You can add commentary at the node or cell level on an IBM Cognos TM1 application.

The application modeler can configure the commentary parameters to restrict the type and size of files that can be attached to an application.

Administrators can also purge commentary that is based on application, user, or dates.

Procedure
1. Open a workflow in the Cognos TM1 Applications portal.
2. Click the down arrow to populate the pane with the commentary review list. If the node already has annotations or comments, they are listed in order of input.
3. To attach a file, click the Attachment button to browse for the file to attach. When the type of file or the size of files that you can attach is restricted, you cannot attach those kinds of files.

Adding commentary at the cell level
A small red triangle in the corner of a cell indicates that the cell has commentary that is attached to it.

Procedure
1. Open the application.
2. Right-click the workflow and click the client that you want to use.
3. Right-click the cell that you want to annotate and click Comment, or, if the cell already has comments, click Browse All Comments.
4. Type the text for the comment. If you want to add a file attachment, click Attach and browse to select the file to use. For instructions on how to configure application workflow commentary, see the Cognos TM1 Performance Modeler Guide.

Purging Commentary
You can identify commentary to be purged using a variety of criteria. You can purge commentary for more than one application at a time. You must be an admin to purge commentary.

Procedure
1. In the Cognos TM1 Applications portal, click the selection box of the applications for which you want to remove their commentary. If you select more than one application, the only criteria available is "Created by" date. Only current users are available in the User field. To purge commentary by obsolete users, use the Created by or node-based filter.
2. Click Commentary Maintenance icon.
3. Specify the commentary to delete using the Created before, For node, and Created by selections. You can also elect to delete comments and attachments or just the attachments. The nodes and users for this application are available on the pull-down menu.

![Commentary Maintenance](image)

**Figure 1. Commentary Maintenance**

Adding more than one criteria is treated as an add operation. So in the example in the figure, only commentary that was created before 2/18/2014 and was in the Europe node and was created by the Admin is purged.

4. When you have the correct commentary identified, click OK.

**Note:** You cannot purge commentary using the command line interface.

### Managing applications in TM1 Performance Modeler

You can manage many aspects of an application by double-clicking the application name in the TM1 Performance Modeler Application Design tab.

To see an overview of an application and to set various properties on it, open the Application Design tab in Cognos TM1 Performance Modeler. The following information is displayed:
Cognos Configuration settings

These TM1 Applications settings can be found in the Cognos Configuration for TM1 Applications Server.

Session timeout (min)
Time after which if there is no activity that the TM1 server disconnects. Default is 60 minutes.

Force qualified paths
When set to True, a machine name that is provided as the Adminhost resolves to a fully qualified domain name. When set to False, only the machine name is used. By default left blank for no notifications.

Notifications provider
- DLS (Delivery Service): If a mail server is configured, emails are sent but no notifications display in the Cognos Inbox.
- HTS (Human Task Service): Notifications are sent to the Cognos Inbox, and emails also sent if a mail server is configured.

Enable Business Viewpoint
True means Business Viewpoint can interact with this installation. False prevents Business Viewpoint from interacting.

Cognos Connection Folder Name
Specifies the name of the Cognos Connection folder in which hyperlinks to deployed TM1 Applications are contained. Default is IBM Cognos TM1 Application - My Applications

TM1 Application Service Dispatcher URI
The URI used for the dispatcher servlet, for example http://localhost:9510/pmpsvc/dispatcher/servlet

User ID and Password
UserID and Password used to authenticate.
TM1 Clients
The following five items configure the TM1 Clients

Provisioning URI
Specifies a URI to use to manually set the msi locations.

Allow provisioned installs
True permits users without the clients installed to provision and install them from the TM1 Applications portal. False blocks users from provisioning and installing updates.

Allow provisioned updates
True permits updates that are installed on the TM1 Application Server such as a Fix Pack version to be provisioned to clients when users next connect. False prevents updates from being provisioned.

Enable publish from Cognos Insight
True permits a user with Admin rights to Publish from Cognos Insight. False disallows the Publish operation for all users.

Cognos Insight ping frequency (seconds)
Determines the frequency with which Cognos Insight verifies connectivity to the TM1 Application Server. If Cognos Insight receives no response while in Distributed mode, it is implicitly placed in Offline mode. Default is 30 seconds.
Chapter 3. Working with Data

Adding or editing data in the web client allows you to submit information to your datastore. To modify data, your system administrator must grant you access.

Data that you can edit has a white background. Read-only data has a gray background. If you are not the current owner, the data opens in a read-only view. To start adding or editing data, click Take Ownership.

You can edit data only if it has a workflow state of Available or Reserved. The icons indicate the workflow state.

Ownership availability for a particular node can be changed depending on how the parent node is opened. For example, contributors and reviewers who open the parent node in IBM Cognos Insight are not able to take ownership of the node. See the IBM Cognos TM1 Performance Modeler Guide and IBM Cognos Insight Guides for details on ownership and nodes.

After taking ownership, use the Release icon to release the data so other people can use it. In Cognos TM1 Application Web, you must submit all nodes at the level at which you take ownership and you can only release ownership at the level you have taken ownership. For example, if you have taken ownership of a New England node, then decided that you wanted to submit an child node such as Massachusetts individually, you would first have to Release your ownership of the New England node, then take ownership of the Massachusetts node in order to submit only the Massachusetts node. You could then Release ownership of the Massachusetts node and re-take ownership of the New England node.

If you attempt to take ownership of a node that is currently owned by another user, the system can provide a warning message and offer the opportunity for the user to cancel out of taking ownership. Your administrator can configure the pmpsvc_config.xml in one of three ways to control whether a user who is about to "bounce" ownership of a node receives a warning message and the chance to cancel out:

Never Users are not informed if taking ownership would result in other users losing ownership.

Active The user attempting to take ownership gets a warning message that there are other users actively working in the Cognos TM1 Application Web client on that node. The user can decide to cancel the action of taking ownership or continue to take ownership regardless of active users on the node.

Always The user attempting to take ownership gets a warning message if there are active or non-active owners of the node. The user can decide to cancel the action of taking ownership or continue to take ownership regardless of active or non-active users on the node.
Parts of the Workspace

The workspace is comprised of multiple parts.

The following parts are found in the workspace:

- **Tabs**
  A separate tab represents each view in the application.

- **Dimension Bar**
  Toolbar area that shows the dimensions that are in the rows, columns, and context.

- **Dimensions**
  Each dimension displays as a collection of related data, such as products or dates.

- **Grid**
  The area where you add or edit data at the intersection of a column and row.

- **Grab Handles**
  Specific area where you can grab a dimension or tab to move it around the grid.

**Tabs**

A tab is a collection of dimensions and that represents a view. Each tab typically contains a specific dimension that is not common to other tabs.

Usually, this dimension defines the function of the tab. However, tabs also share common dimensions, such as months, budget versions, and divisions that are often used to filter the grid.

**Dimensions**

Dimensions define the grid of the tab, forming the rows, columns, and context. A dimension is a list of related items that often include calculations.

Dimensions can include lists of departments, products, customers, months, and profit and loss or balance sheet line items.

All dimensions within a tab determine the information shown in the grid. While dimensions in rows or columns display all of the items in their lists, context dimensions filter the grid to display only information for the active item.

**Row and Column Dimensions**

The row and column dimensions are shown on the Dimension Bar.

Placing a dimension into a row or column displays each of its list items as a heading, and a cell is created for every intersecting row and column.

**Basic Layout**

The basic layout has one row and one column dimension on the dimension bar.
Nested Layout

Nesting dimensions on the rows or columns increases the amount of data visible on the grid and lets you view more specific information. For example, the following grid has two dimensions nested on the rows.

Note: Each parent dimension item of a nested row or column contains repeated child dimension items. Each dimension added to a row or column multiplies the number of rows or columns by the number of items in the nested dimension.

Context Dimensions

Context dimensions do not appear on the rows or columns but filter the context of the grid. While row and column dimensions display all of their list items in the grid, context dimensions limit the items in the grid by displaying only information related to the active item in the dimension.

Multiple context dimensions may exist, and each context dimension filters the information in the grid cumulatively. You can change the context of the grid by changing the context dimensions on the Dimension Bar.
Using rows and columns alone to find specific data may decrease readability. Using context dimensions alone to view general data may also limit readability. By nesting dimensions and filtering context you can make data entry and grid navigation easier.

### Using the toolbar

The IBM Cognos TM1 Application Web toolbar buttons provide shortcuts to commonly used commands.

The following table describes each button in the toolbar.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Button Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Take ownership</td>
<td>To make changes to data, you must first take ownership.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Release ownership</td>
<td>After taking ownership, Release ownership allows other users to access the data.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Submit</td>
<td>Submitting data makes it public, locks the node from further changes, and promotes the contribution to the reviewer.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Submit leaf children</td>
<td>Submits all leaf nodes to which you have the appropriate rights for the current consolidated node.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Reject</td>
<td>As a reviewer, you can reject a submitted contributions.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Commit</td>
<td>Committing data makes it public, but does not lock it from additional changes.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Export</td>
<td>Exports data in the following formats:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Slice to Excel</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Snapshot to Excel</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Export to PDF</strong></td>
</tr>
</tbody>
</table>

For more information, see [Chapter 6, “Exporting Data,” on page 51](#).
<table>
<thead>
<tr>
<th>Icon</th>
<th>Button Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Copy</strong></td>
<td>Copy data to duplicate it in other cells.</td>
</tr>
<tr>
<td></td>
<td><strong>Paste</strong></td>
<td>Paste copied data into cells.</td>
</tr>
<tr>
<td></td>
<td><strong>Reset</strong></td>
<td>Resets the data or layout. You can save or discard any changes you make to the data or layout. Any changes you make are kept the next time you open Cognos TM1 Application Web. Reset View: Reset CurrentView, Reset All Views, Reset Tabs, Reset Both Views and Tabs Reset Data</td>
</tr>
<tr>
<td></td>
<td><strong>Undo</strong></td>
<td>Undo the last data change. Remember that many data change actions can have an effect beyond the cells that are visible. Consolidated values, rule-calculated values, cells included in Data spreading, or even cells in different views can all be changed as a result of making a data value change in one cell. When you undo these actions, all effected values are also changed, even in cells not visible on the active screen.</td>
</tr>
<tr>
<td></td>
<td><strong>Redo</strong></td>
<td>Once a data change has been undone, you can restore the change.</td>
</tr>
<tr>
<td></td>
<td><strong>Swap rows and columns</strong></td>
<td>Swap rows and columns to have the dimension on the row switch with the dimension on the column.</td>
</tr>
<tr>
<td></td>
<td><strong>Suppress Zero Values</strong></td>
<td>There are two Suppress Zeros options: Suppressed Zeros on Rows Suppressed Zeros on Columns</td>
</tr>
<tr>
<td></td>
<td><strong>View Grid</strong></td>
<td>Displays the data in a grid format.</td>
</tr>
<tr>
<td></td>
<td><strong>View Chart and Grid</strong></td>
<td>Displays the data in both grid and chart formats.</td>
</tr>
<tr>
<td></td>
<td><strong>View Chart</strong></td>
<td>Displays the data in a chart format.</td>
</tr>
</tbody>
</table>
Navigating Pages

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

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

The following table contains the Paging toolbar buttons and indicator with their descriptions.
<table>
<thead>
<tr>
<th>Button or Indicator</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Display Pages</td>
<td>Displays the TM1 View Page Layout dialog box with a layout of all pages. Click a page, and click Goto Page to navigate to a specific page. For example, click Page 4, and click Goto Page to navigate to page 4.</td>
</tr>
<tr>
<td></td>
<td>Previous Page (Rows)</td>
<td>Shows the previous page of rows.</td>
</tr>
<tr>
<td></td>
<td>Next Page (Rows)</td>
<td>Show the next page of rows.</td>
</tr>
<tr>
<td></td>
<td>Next Page (Columns)</td>
<td>Shows the next page of columns.</td>
</tr>
<tr>
<td></td>
<td>Previous Page (Columns)</td>
<td>Shows the previous page of columns.</td>
</tr>
<tr>
<td></td>
<td>Page Indicator</td>
<td>Displays the current page and the total number of pages of cells in the view.</td>
</tr>
</tbody>
</table>

### Editing and Replacing Data

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

Leaf cells appear with a white background.

**Procedure**

1. Edit a value in a white cell in one of the following two ways.
   - **Replace the value** - Click a value in a white cell and the cell becomes highlighted indicating that it is in Edit mode. You can then replace the existing value in the cell by typing over it.
   - **Edit the value** - Double-click a value in a white cell and the cell becomes bordered with white background and a blinking cursor. You can now selectively edit the existing value by using the left and right arrow keys on your keyboard to position the cursor within the value. You can also use the Backspace and Delete keys to remove single numbers from the value.

2. After entering a new number, press **Enter**. The grid refreshes to display the new data, all new and unsaved data displays blue.

   If you enter or change data and click on another cell, the grid does not refresh and the changed data displays green.

### Copying and Pasting Data

Copy commands copy a value or operation to different locations and columns on a single tab.

Copy commands only apply to cells of the same type as the original cell. These commands only apply to the current grid. These commands apply to breakback (spreading) cells, but do not apply to nested, hidden, or collapsed dimensions.
You can combine copy and data entry commands, however, do not use them with the Grow command.

The following table lists the quick copy commands.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
</table>
| >       | Copies right | Example: 5>  
Copies the number 5 to the right  
Example: inc6>  
Increases the row by 6% for each value to the right |
| <       | Copies left | Example: add15<  
Adds 15 to each value in the row to the left |
| <>      | Copies left and right across the entire row | Example: <>5  
Copies the number 5 left and right across a row |
| |^       | Copies up and down in a column | Example: |^5  
Copies the number 5 up and down in a column |
| |     | Copies down | Example: 3|  
Copies the number 3 down the column |
| ^       | Copies up | Example: hold^  
Holds the cell values up the column  
Example: 2>^  
Copies the number 2 to the right and up the column |

**Quick Data Entry Commands**

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

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

These commands are not case-sensitive.

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

The following table lists the quick data entry commands.
### Command Description Action

**K**  
Enters the value in thousands.  
Example: 5K  
Enter 5,000

**M**  
Enters the value in millions.  
Example: 10M  
Enter 10,000,000

**Add, +**  
Adds a number to the cell value.  
Example: Add50  
Adds 50 from the cell value

**Subtract, Sub, ~**  
Subtracts a number from the cell value.  
Example: sub8  
Subtracts 8 from the cell value

**Important:** A minus sign (-) is not permitted for subtract because this indicates a negative number.

**Percent, per**  
Multiplies the cell value by a number added as a percentage.  
Example: per5  
Gives 5% of the original cell value

**Increase, Inc**  
Increases the cell value by a number added as a percentage.

**Decrease, Dec**  
Decreases the cell value by a number added as a percentage.  
Example: decrease6  
Decreases the cell value by 6%

**GR**  
Grows cells by a percentage.  
Example: GR>150:10  
Increases the value by 10 percent starting with a value of 150.

**Hold, Hol, H, HC**  
Holds the cell value from breakback calculations. HC holds the consolidated level.

**Release, Rel, RH, RC**  
Releases held cells.

**RA**  
Release all held cells.

---

**Using Shortcuts in Different Clients**

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

The following table shows the shortcut keys available in the IBM Cognos TM1 Application Web client and in Cognos TM1. Note that not all shortcuts available in IBM Cognos Business Intelligence Planning Contributor are also available in Cognos TM1. See also the notes at the end of the table for important information about using shortcut keys.
<table>
<thead>
<tr>
<th>Cognos Application Web</th>
<th>Cognos TM1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add10</td>
<td>P+10</td>
</tr>
<tr>
<td>Sub10</td>
<td>P~10</td>
</tr>
<tr>
<td>Increase10</td>
<td>P%+10</td>
</tr>
<tr>
<td>Decrease10</td>
<td>P%~10</td>
</tr>
<tr>
<td>Percent10</td>
<td>P%10</td>
</tr>
<tr>
<td>Add10&gt; or &gt;Add10</td>
<td>R+&gt;10</td>
</tr>
<tr>
<td>Sub10&gt; or &gt;Sub10</td>
<td>R~&gt;10</td>
</tr>
<tr>
<td>Increase10&gt; or &gt;Increase10</td>
<td>P%+&gt;10</td>
</tr>
<tr>
<td>Decrease10&gt; or &lt;Decrease10</td>
<td>P%~&gt;10</td>
</tr>
<tr>
<td>Percent10&gt; or &gt;Percent10</td>
<td>P%&gt;10</td>
</tr>
<tr>
<td>&gt;10</td>
<td>R&gt;10</td>
</tr>
<tr>
<td>10&gt;</td>
<td>R&gt;10</td>
</tr>
<tr>
<td>&gt;10K</td>
<td>R&gt;10000</td>
</tr>
<tr>
<td>&gt;10M</td>
<td>R&gt;1000000</td>
</tr>
<tr>
<td>10Grow100Compound&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Grow100Linear&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Grow100Com&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Grow100Lin&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Grow100C&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>10Grow100L&gt;</td>
<td>GR&gt;10:100</td>
</tr>
<tr>
<td>&gt;1K</td>
<td>1000 (The number ending in K is multiplied by 1000 at the client end and returned to the server)</td>
</tr>
<tr>
<td>&gt;1M</td>
<td>10000000 (The number ending in M is multiplied by 1000000 at the client end and returned to the server)</td>
</tr>
</tbody>
</table>
When a shortcut such as 10K is entered, the numbers are multiplied by 1000, or 1000000 at the client end and then the shortcut is converted to the equivalent spreadcode.

The Cognos TM1 spreadcodes cannot be used in combination with Cognos Business Intelligence Planning Contributor shortcuts. For example, P4Add10 or RPAdd10 are not allowed. Also, Cognos Planning Contributor shortcuts cannot be used in combination with Cognos TM1 shortcuts. For example, Add10Sub20 is an invalid entry.

The Cognos Business Intelligence Planning Contributor shortcuts of Multiply, Divide, Power and Reset are not available in TM1.

All Grow commands whether Compound or Linear, are converted to the Cognos TM1 GR spreadcode command. GR command can only do a Linear Growth

The direction of spread can be entered at the start or the end of the shortcut. Shortcut strings with the direction in the middle are invalid. For example, Add10> or >Add10 are correct, but Add>10 or Add1>0 are invalid.

All shortcut codes are not case sensitive. For example, add10, Add10, or aDD10 produce the same result.

Using Data Spreading

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

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

Procedure

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

Note: TM1 Web saves the spread values to the server. You do not need to submit the data after TM1 Web completes the spread.

Applying a Data Spread across Multiple Leaf Nodes from a Consolidated Node

When you are the owner of a consolidated node and related leaf nodes, you can use data spreading from the consolidated node level to update the cell values in multiple leaf nodes without having to separately open and edit each leaf node.

The new values are proportionately applied only to the underlying leaf nodes to which you have rights. Cells in the leaf nodes to which you do not have rights are not updated.

For example, if you have ownership rights to the hierarchy for the North America, US and Canada nodes, you can perform a data spread on a consolidated cell in the North America node and the new values will be applied to the related cells in the US and Canada leaf nodes.

Procedure

1. Open a consolidated node in the data grid.
2. Right-click on a consolidated cell and click Data Spread.
3. From the list, select a data spread method.
Excluding Cells from Data Spreading

You can apply a hold to cells to prevent those cells from being affected by data spreading. You can still edit held cells.

The holds apply only to the user initiating the feature; other users can edit held cells.

**Apply a hold to a single cell or range**

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

**Procedure**

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

**Results**

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

**Release a hold on a single cell or range**

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

**Procedure**

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

**Results**

The released cells can accept values from data spreading operations.

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

Excluding Consolidations from Data Spreading

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

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

**Apply a consolidation hold to a single cell or range**

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

**Procedure**

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

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

Release a consolidation hold on a single cell or range

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

Procedure

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

Results

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

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

Filtering a Cube View

You can filter data in a cube view that contains a single row dimension and one or more column dimensions.

When you have two or more dimensions along the columns, you can filter only from the innermost dimension, that is the dimension closest to the view grid.

Procedure

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

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

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

**Results**

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

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

**Drilling Through to Detailed Data**

IBM Cognos TM1 Application Web provides drill-through capabilities that let you click on a cell in the grid and drill-through to detailed data, which provides additional information or context for the cell.

The detailed data is usually an extract from a relational database or a cube view.

When you create a slice from a view, any drill-through options available in the source view are also available in the slice.

**Procedure**

1. Right-click the cell for which you want to view detailed data.
2. Click **Drill**.
   - If the cell is associated with a single source of detailed data, the data opens in a new window.
   - If the cell is associated with two or more sources of detailed data, a list of the data sources is displayed. Select the source you want to view and click **OK**.
   - When the detailed data resides in a cube, a new instance of the cube viewer opens, displaying the detailed data.
Using Sandboxes

Sandboxes allow you to work with your data in different versions, allowing you to add or modify it to see the results in your budget. Changes that you make in a sandbox are not made public until you commit, you can continue to work with your data until you are satisfied with the result.

When you submit a sandbox, that sandbox becomes the default. Your administrator may have disabled sandboxes for your application.

You can have multiple sandboxes to work with different scenarios and view different data results. If you are working with multiple sandboxes, you must submit from IBM Cognos TM1 Application Web, you cannot submit from the Cognos TM1 Workflow page.

Procedure

1. Create a new sandbox by clicking the down arrow next to the sandbox button, and clicking Create Sandbox.
2. Click Create new to make a new sandbox or Copy from existing sandbox to use a sandbox that you have already created as the basis for a new sandbox. Type a name and click OK.
3. Select the sandbox that you want to use from the drop-down menu.
   To submit a sandbox, select the sandbox from the drop-down menu, and click the submit button from the toolbar.
4. To delete a sandbox, click the down arrow next to the sandbox button, and click Delete Sandbox.

Using Cognos TM1 Application Web and other interfaces in a single Application

IBM Cognos TM1 Applications stores a user’s data entry in a designated area of their Personal Workspace until it is either committed to the base model or reset (cleared).

When using other TM1 interfaces while in Personal Workspace Writeback Mode, data entry is stored in a designated area of the user’s Personal Workspace until it is committed to the base model or reset. Uncommitted data in any interface can present problems for users expecting a consistent view of data across Cognos TM1 Application Web and other Cognos TM1 interfaces.

When using TM1 Application Web and another TM1 interface (Microsoft Excel, Cube Viewer, TM1 Web) on a single TM1 Application the following rules apply:
<table>
<thead>
<tr>
<th>Writeback mode</th>
<th>Interface</th>
<th>Committed data</th>
<th>Uncommitted data (displays in blue)</th>
</tr>
</thead>
</table>
| Personal Workspace | Cognos TM1 Application Web  
Note: Cognos TM1 Application Web-created sandboxes display in the sandbox list as  
[<sandbox name>].[<approval hierarchy dimension name>].[<approval hierarchy selected element parent name>].[<selected element name>].[<Application Web application>] | Data entry made here can be viewed in all TM1 interfaces.  
Note: Cognos TM1 Application Web-created sandboxes display in the sandbox list as  
[<sandbox name>].[<approval hierarchy dimension name>].[<approval hierarchy selected element parent name>].[<selected element name>].[<Application Web application>] | Data entry made in Cognos TM1 Application Web can be viewed in other interfaces if you have been assigned Sandbox Capability.  
Note: Cognos TM1 Application Web-created sandboxes display in the sandbox list as  
[<sandbox name>].[<approval hierarchy dimension name>].[<approval hierarchy selected element parent name>].[<selected element name>].[<Application Web application>] |
| Other Cognos TM1 Interfaces | Cognos TM1 Application Web-created sandboxes display in the sandbox list as  
[<sandbox name>].[<approval hierarchy dimension name>].[<approval hierarchy selected element parent name>].[<selected element name>].[<Application Web application>] | Data entry made here can be viewed in all Cognos TM1 interfaces.  
Note: Cognos TM1 Application Web-created sandboxes display in the sandbox list as  
[<sandbox name>].[<approval hierarchy dimension name>].[<approval hierarchy selected element parent name>].[<selected element name>].[<Application Web application>] | Data entry cannot be viewed by Cognos TM1 Application Web. |
| Direct            | Cognos TM1 Application Web  
Note: Cognos TM1 Application Web-created sandboxes display in the sandbox list as  
[<sandbox name>].[<approval hierarchy dimension name>].[<approval hierarchy selected element parent name>].[<selected element name>].[<Application Web application>] | Direct writeback mode is not available in Cognos TM1 Application Web. | Direct writeback mode is not available in Cognos TM1 Application Web. |
<table>
<thead>
<tr>
<th>Writeback mode</th>
<th>Interface</th>
<th>Committed data</th>
<th>Uncommitted data (displays in blue)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Cognos TM1</td>
<td>All data entry can be</td>
<td>All data entry can be viewed in</td>
<td></td>
</tr>
<tr>
<td>Interfaces</td>
<td>viewed in other</td>
<td>other interfaces.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>interfaces.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Websheets in Cognos TM1 Applications**

You can use Websheets as an object available to IBM Cognos TM1 Applications.

To make a websheet available to a Cognos TM1 Applications, add it to the list of objects in Cognos TM1 Performance Modeler. Websheets provide additional formatting flexibility and offer Action buttons to run different views or launch TurboIntegrator processes.

Once the websheet is listed in the Objects pane, drag it into the Views node of the application shown in the design pane.

Once you have identified the websheet to use, validate and re-deploy the application so that it uses the websheet.

Cognos Insight cannot use websheets. If you try to validate or deploy to Cognos Insight, the application will not deploy.

Once a websheet is added, it shows up in the application as a new tab with its assigned name.

Until you take ownership, any action button from the websheet is grayed out as unavailable.

IBM Cognos TM1 TurboIntegrator processes can be run using actions buttons on websheets. Be sure you have considered the effects of running a TurboIntegrator process before including it as part of a websheet.

The security defined by the approval hierarchy is followed for a websheet deployed as part of a Cognos TM1 Application.
Chapter 4. Managing Changes to the Grid

You have the flexibility to arrange the grid and data organization to suit your needs. You can work with many tabs at one time, or freeze columns or rows for easier scrolling in a particular tab.

You can also modify tab placement, data sorting, and zero suppression. The next time you open any node in the same application, your settings are retained.

Working with Tabs

You can move and reorder tabs.

If you have more tabs than than can fit in the window, the hidden tabs appear in the hidden tab control area. This area is indicated by a chevron ➞, and also displays the number of hidden tabs. When you click on the chevron you can select a tab to view.

If you have multiple tabs torn off that have the same context dimensions, you can only view shared members of that dimension. Unique members of the context dimensions cannot be shown until the tabs are returned.

Try It Yourself - Tear Off a Tab

You want to see the impact of a planned business trip on the overall corporate expenses.

To accomplish this, you will have to tear off the Corporate Expenses tab, also known as the reporting cube, to see the Travel Cost and Corporate Expenses tabs together.

Procedure

1. Drag the Corporate Expenses tab until you see the drop area highlighted and an arrow indicating the placement of the tab.
   Now the tabs are displayed vertically.
2. Click on the Travel Cost tab to make it active.
3. Add data and press Enter to commit data in the Travel Cost tab. You will see the data updated in the Corporate Expenses tab.
4. To replace the torn tab, drag the tab the other tab area. The source tab returns to the tab area. You can also revert the view by selecting Reset Tabs from the Reset menu on the toolbar.

Stacking Dimensions

You can stack and reorganize views to change how they are displayed.

You can reset the grid by clicking the down arrow next to the Reset button and clicking Reset View. To reset data back to the previous save, click Reset Data. You can drag and drop views from the dimension bar into other areas of the dimension bar or onto the grid, and organize them on the rows or columns to create the
desired grid layout. Note that a view persists in memory only as long as the browser view from which it originates remains unchanged. If the browser cache is emptied, the view does not persist.

**Try It Yourself - Stack a Dimension**

You want to see the differences in budget versions for the cost of supplies and compare the budgets to costs for prior years. You will do this by stacking the versions dimension with the supply cost dimension on the rows.

**Procedure**

1. On the Supply Costs tab, click and drag the 5 Versions dimension from the context section of the dimension bar to the row axis. When you see the row axis become outlined to indicate the drop zone, release the mouse button and the dimension is stacked on the rows.
   
   You can now see each supply type with the forecasts for budget version 1 and 2, and the actuals for the prior 2 years.

2. You can move dimensions on the rows or columns back to the dimension bar by selecting the dimension on the grab handle and dragging it onto the bar.

**Replacing Dimensions**

You can replace dimensions on an axis by dragging and dropping an alternate dimension on top of another dimension.

For example, you can drag a dimension from the column by clicking the grab handle of the dimension and moving it on top of a dimension on the row. When you see the replace drop zone, release the dimension.

**Tip:** You can swap the rows and columns to view your data differently. For example, if the months are on the rows, and marketing campaigns on the columns, you can swap the rows and columns to make it easier to view campaign costs over time.

**Try It Yourself - Replace Dimensions**

You would like to see the individual types of marketing for each campaign. To do this, you can swap the Marketing dimension with the Campaigns dimension on the rows.

**Procedure**

1. On the Marketing tab, select the grab handle of the Campaign 1 dimension from the context.

2. Drag the dimension on top of the 1 Marketing dimension on the rows. When you see the rows outlined, release the Campaign 1 dimension. The source dimension now replaces the target dimension in the rows.

**Editing Subsets**

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

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

**Procedure**

Click the down arrow next to a dimension on the row or column. The subset editor opens.

To open the subset editor for a context dimension, click the down arrow on the dimension and click the subset editor button 📊.

**Building a Simple Subset**

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

**Procedure**

1. Click **Open Subset Editor** next to any dimension.

   The simple Subset Editor opens.

   The following buttons are available in the Subset Editor.

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

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

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

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

5. To search for elements in the current subset, click **Find in Subset** and type your search phrase. For details on using Find in Subset, see “Finding Elements” on page 44.

6. Click **OK**.

**Results**

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

**Displaying the Advanced Subset Editor**

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

**Procedure**

1. Click **Subset Editor** next to any dimension. The simple Subset Editor opens.

2. Click **Advanced** at the bottom of the simple Subset Editor.

**Results**

The advanced Subset Editor contains two panes.

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

**Using the Advanced Subset Editor Toolbar**

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

The following table describes the Subset Editor toolbar buttons:

<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="icon" /></td>
<td>Save Subset</td>
<td>Saves only the elements that appear in the Subset list to the subset.</td>
</tr>
<tr>
<td><img src="image" alt="icon" /></td>
<td>Save Subset As</td>
<td>Saves only the elements that appear in the Subset list to the subset with a different name.</td>
</tr>
<tr>
<td><img src="image" alt="icon" /></td>
<td>Reload Subset</td>
<td>Reloads the original subset.</td>
</tr>
<tr>
<td>Button</td>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>![button]</td>
<td>Subset All</td>
<td>Displays all the elements in the parent dimension.</td>
</tr>
<tr>
<td>![button]</td>
<td>Cut, Copy and Paste</td>
<td>Cuts, copies, and pastes the selected elements of a subset.</td>
</tr>
<tr>
<td>![button]</td>
<td>Keep Selected Elements</td>
<td>Keeps elements that you select for the subset.</td>
</tr>
<tr>
<td>![button]</td>
<td>Delete Selected Elements</td>
<td>Removes elements that you select from the subset.</td>
</tr>
</tbody>
</table>
| ![button] | Filter Subset                           | Allows you to select a group of elements in a subset that have related characteristics. You can filter elements in these ways:  
  - Filter by Level  
  - Filter by Attribute  
  - Filter by Expression |
| ![button] | Sort Subset                             | Lets you sort a subset in several ways:  
  - Sort Ascending  
  - Sort Descending  
  - Sort Hierarchically  
  - Sort by Index Ascending  
  - Sort by Index Descending |
| ![button] | Tree Expand                             | Expands the tree in several ways:  
  - Drill Down Selected Consolidations - Expands the selected consolidation one level.  
  - Expand Selected Consolidations - Expands the selected consolidation, showing all descendents.  
  - Expand Tree Fully - Expands the entire hierarchy, showing all children of all parents. |
| ![button] | Tree Collapse                           | Collapses the tree in two ways:  
  - Collapse Selected Consolidations - Collapses the expanded consolidation, hiding all descendents.  
  - Collapse Tree Fully - Collapses the entire hierarchy. |
<p>| ![button] | Insert Parents of Selected Elements     | Inserts the parent of the selected element immediately above that element in the hierarchy tree. |</p>
<table>
<thead>
<tr>
<th>Button</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expand Above</td>
<td>Displays consolidations at the bottom of the list of children, in both the Available Elements and Subset lists. The children of the consolidation expand above the consolidation.</td>
<td></td>
</tr>
<tr>
<td>Create Custom Consolidation</td>
<td>Allows you to build consolidated elements on the fly when working with a view. For details, see “Creating Custom Consolidations” on page 47.</td>
<td></td>
</tr>
<tr>
<td>Find in Subset</td>
<td>Enables you to search for elements in the current subset based on the search text you enter.</td>
<td></td>
</tr>
</tbody>
</table>

**Moving Elements**

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

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

![Available Elements: plan_chart_of_accounts](image)

The line beneath the Sales element indicates that the Other Revenue element will appear beneath Sales.

**Moving Consolidations**

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

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

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

If you select Revenue, and drag it to the Subset pane, a collapsed consolidation is added to the Subset pane.
If you expand Revenue in the Available Elements pane, and select the consolidation and its children, you can drag the consolidation to the Subset pane. The expanded consolidation is added to the Subset pane.

In both of the examples, the Revenue consolidation and its children are added to the Subset list. However, the state of the consolidation in the Subset list reflects the way the consolidation displays. In the first example, Revenue displays as a collapsed consolidation. In the second example, Revenue displays as an expanded consolidation and its children will be visible.

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

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

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

**Procedure**
1. Select the elements that you want to keep in the Subset list.
2. Click **Keep Selected Element(s)**.
   Only the elements that you selected to keep remain visible in the Subset list.
3. Click **Save Subset** to save the subset.

**Deleting Elements**
You can remove selected elements from the Subset pane.

**Procedure**
1. Select one or more elements in the Subset pane.
2. Click **Delete Selected Element(s)**.
Results

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

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

Filtering Elements

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

Use these options:

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

Filtering by Attribute:

The Subset Editor lets you filter elements by attribute value.

Procedure

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

Results

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

Filtering by Level:

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

Consider the following example of a three-level hierarchy.

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

<table>
<thead>
<tr>
<th>Net Operating Income</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>Level 1</td>
</tr>
<tr>
<td>Sales</td>
<td>Level 0</td>
</tr>
<tr>
<td>Other Revenue</td>
<td></td>
</tr>
<tr>
<td>COS</td>
<td></td>
</tr>
<tr>
<td>Direct Cost</td>
<td></td>
</tr>
<tr>
<td>Other Costs</td>
<td></td>
</tr>
</tbody>
</table>
Procedure

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

Filtering by Expression:

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

For example, suppose you have the following list of elements in either the Available Elements pane or Subset pane.

- Sales
- Other Revenue
- Direct Cost
- Other Costs
- Bank Charges
- Board of Directors
- Employee Relations
- Printing
- Seminars and Continuing Ed.
- Taxes and Licenses
- Office Expense
- Postage
- Rent

Now suppose you want to reduce this list to those elements that contain the word 'cost'.

Procedure

1. Click **Filter Subset** and click **Filter by Wildcard**.
2. Enter a pattern of alphanumeric characters in the **Enter Expression** box.
   
   You can use the following two wildcard characters in the **Enter Expression** box.
   
   - **Question mark (?)** - Placeholder for a single character
   - **Asterisk (*)** - Placeholder for one or more characters
   
   To isolate all elements whose names contain the string pattern 'cost', type the expression 'cost' in the dialog box that opens.
3. Click **OK**.

Results

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

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

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

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

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

**Procedure**

1. Click **Find in Subset** or press **CTRL+F**.
   
   The Find in Subset toolbar opens in the Subset Editor.

2. Type a spelling pattern in the search box.
   
   A spelling pattern can include one or more alphanumeric characters, but should not include wildcard characters.
   
   The list of elements is searched as you type a spelling pattern.
   
   - If one or more matching elements are found, the first matching element is located and highlighted in the list.
   - If a matching element is not found, the search box temporarily displays a red background.

   You can also start your search at any location within the element list by clicking on an element in that section of the list. The search begins from this new start point when you continue your search.

3. Click **Find Next** or **Find Previous** to navigate through the element list when more than one matching element is found.

   You can also use the following keyboard commands to navigate:
   
   - Press **F3** or press **ENTER** to find the next matching element.
   - Press **SHIFT+F3** or press **SHIFT+ENTER** to find the previous element.

   If a next or previous matching element is not found, the search box temporarily displays a red background, and the search cycles through the list again.

4. Click **Close the Findbar** to close the **Find in Subset** toolbar.

**Sorting Elements**

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

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

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

Expanding and Collapsing Consolidations
You can expand a consolidation in the Subset Editor to display the immediate children or all descendents of the consolidation.

You can apply the following procedures to elements in either the Available Elements pane or the Subset pane of the Subset Editor.

Expanding a Consolidation:
You can expand a consolidation.

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

**Collapsing a Consolidation:**

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

**Procedure**

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

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

**Inserting Parents**

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

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

If you select all elements, and click **Insert Parents of Selected Elements**, the immediate parents of all selected elements are inserted, as shown in the following example.
Creating Custom Consolidations
When working with a view, you can create custom consolidations from existing subsets or from selected subset elements.

Creating a Custom Consolidation from an Existing Subset
You can create a custom consolidation by inserting an existing subset into the current subset.

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

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

Results
The subset with the new custom consolidation opens.

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

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

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

**Changing the Chart Type**
You can change the chart type from the Chart Properties menu.

Follow the steps below to change the chart type.

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

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

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

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

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

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

**Results**
The selected data opens on a new **View** tab.
Chapter 6. Exporting Data

You can export data to Microsoft Excel to create reports and charts, and to manipulate data. You can also export data into a text file.

**Note:** If you export using either Slice to Excel or Snapshot to Excel and Microsoft Excel is not on the server, any charts present in the grid are not exported to the resulting worksheet. If you use Export to PDF your chart will show first, followed by your values.

**Procedure**

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

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

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

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

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

Additionally, if you want to use TM1 functionality with a slice that you export to Excel, you must open the slice in the stand-alone version of Excel and have a local version of Perspectives or Client installed on your computer.
Note: If you are experiencing problems exporting Excel or PDF files and you are using a WAN (Wide Area Network) server, you may need to reconfigure the security settings in Internet Explorer. For details, see the IBM Cognos TM1 Operation Guide.
Chapter 7. Managing IBM Cognos TM1 Performance Modeler in the portal

To be able to work with the deployed IBM Cognos TM1 Performance Modeler application, further steps are required in the portal.

All applications are visible to administrators in the applications portal. The application must be activated before it can be used. After activation, the application is available for use. The application and properties can also be edited.

Activating an application in a portal

The IBM Cognos TM1 Performance Modeler application must be activated before users can use it from the Applications portal.

Procedure
1. Open the portal. The applications are listed in the Name column.
2. To activate the application, under the Actions column, click the Activate Application icon.

Exporting an application from the portal

You can export an IBM Cognos TM1 Performance Modeler application for use as a template for a new application, or as a backup for an existing application.

About this task
An application should only be exported to a server that does not have that application or uses a different dimension for the approval hierarchy of the exported application. An archive is created and contains the XML files that describes the structure and security of your application.

Procedure
1. Open the Cognos Applications portal.
2. Click the Export Application icon under the Actions column.
3. From the File Download dialog box, click Save.
4. Navigate to the directory to where you want to save the export file.
5. Click Save.

Importing an exported application to the portal

You can import an exported application back into the Applications Portal and use it as the basis for a new application.

Procedure
1. Open the Applications portal.
2. Click the Import Application button.
3. Select the server onto which you want to import the application.
4. Next to the Application file field, click Browse.
5. Navigate to the application (.zip) file, then click **Open**.

6. Select the **Import application security** option if you want to import security settings with the application.

7. Select the **Import application properties** option if you want to import property settings with the application.

8. Click **Import**.

---

### Resetting an application in the portal

You can reset all nodes in the approval hierarchy to their original state after the application is deployed to the Applications portal.

**About this task**

Resetting an application discards all progress made in the planning process so that you can restart the planning process. Resetting an application does not reset or discard any data changes.

**Procedure**

1. Open the Applications portal.
2. Next to your application name, select the check box.
3. Click the **Reset Application** button.
4. Click **OK** to confirm the reset.

---

### Setting properties in the Applications Portal

Follow these steps to set properties in the Applications Portal.

**Procedure**

1. Open the Applications portal.
2. Click the **Set Properties** button to open the **Set Properties** window.
3. Set properties as described here:

   - **Workflow Settings - Workflow page refresh rate**
     - The interval, in minutes, at which the workflow page is refreshed.
     - Enter the number of minutes for the refresh interval. The default interval is five minutes.

   - **Application Text - Language**
     - The language in which your application runs.
     - Select any of the available languages from the menu.

   - **Views - Name**
     - The name of your application. This is the name that identifies the application in the Applications portal and other locations.
     - You can assign any name to your application, but there is a 200 character limit for application names.

   - **Help**
     - This property sets the User Instructions text that appears when users access the application through the Applications Portal.
Enter text that will instruct users on using your Application.

Name
This property sets the name that is displayed on the view tab in the Applications client.
Modify this property if you want the tab to display something other than the view name.

Help
This property sets the text that appears when a user clicks the Help button when working with a view in the Applications client.
Enter instructions or information that assists users in entering data in the view.

4. Click OK.

---

**Setting Cognos TM1 Applications configuration options**

You can configure options that determine which server hosts your applications and which clients can be run against your applications.

**Procedure**

1. Click the Administrate Application icon on the Applications Portal.
2. To add a new server that hosts additional applications, click Add in the Server Names section.
   a. Specify the Admin Host for the new server.
   b. Select the server name from the list of available servers.
   c. Click OK.
You can also click Disable/Enable to enable or disable this server.
3. To edit an existing server, select the server from the Server Names list, then click Edit.
   a. Modify the Admin Host or Server Name as required.
   b. Click OK.
4. To delete an existing server, select the server from the Server Names list and click Delete.
5. To add a new client, click Add in the Clients section.
   a. Enter an ID for the client.
   b. Select a client Type. A client can either open in the Current Window, open in a New Window, or be Provisioned.
   c. Select the Language in which the client runs.
   d. Enter a Name for the client.
6. To edit an existing client, select the client from the Clients list, then click Edit.
   a. Modify the client properties as required.
   b. Click OK.
7. To delete an existing client, select the client from the Clients list and click Delete.
Managing jobs in TM1 Applications

You can monitor the deployment, the initial saving of rights, and the import of an application that may be taking a long time in the TM1 Applications portal and have those jobs processed in the background.

About this task

This feature also blocks administrators from triggering any of these actions if they are already running for any application built from the same underlying TM1 server. Anyone who attempts to connect to an application while these processes are completing are blocked and the application displays a busy icon. Also other activity icons are not available during this kind of process. The wait time and the maximum number of threads can be configured using the deployment MaxThreads and the deployment MaxWaitTime parameters in the pmpsSvc.config.xml file.

Procedure

1. In the TM1 Applications portal, click the Manage Jobs icon. The Manage Jobs dialog box displays with any currently being processed jobs.

![Manage Jobs for IBM Cognos TM1 Application - Large App](image1)

Figure 2. Manage Jobs

2. Click the Refresh icon to ensure that all currently running jobs are shown.

3. To reduce the jobs shown, click the Filter icon. Click the Define Filter icon to identify the criteria to use when reducing the display.

![Define Filter](image2)

Figure 3. Define Filter

Use the pull-down at each field to identify the kind of job you want to see...
4. Use the plus sign to add another set of criteria.

5. If a job is currently running, you can select it and use the delete icon to delete the job.

Managing rights for the application

After an application has been deployed, you must define rights for all user groups that you want to have access to the application.

For an application with an approval hierarchy, each node in your approval hierarchy has rights assigned to the user groups that exist on the server that hosts your application. The rights that you assign determine the actions that can be performed by members of the user groups.

For applications without an approval hierarchy, you can assign a group to have full access to the application. Central apps can be designed to either allow users to take ownership or only to edit nodes.

Assigning rights for an approver

In a typical application, an approver is assigned either Review or Submit access rights at consolidation nodes in the approval hierarchy. As an application designer, consider the following extra questions:

- Is the approver required to see all levels following the designated consolidation?
  If yes, you can control how many hierarchy levels that the user sees by using the Review Depth and View Depth options in the Add Rights window.
- Is the approver required to edit leaf nodes or just submit or reject them?
  If yes, you can allow an approver to edit leaf nodes by enabling the Allow Reviewer Edit option in the Rights window.

When you assign rights for a consolidated node, those rights are applied to all the descendant nodes of that consolidated node. Descendant nodes include consolidated and leaf nodes under the consolidated node. Cascading rights assignments have the following behavior that depends on which access right you apply to the initial consolidated node:
• **View** rights assigned at a consolidated node are also assigned to all descendent nodes.
• **Review** rights assigned at a consolidated node sets **View** rights to consolidation and **Submit** rights to all descendants.
• **Submit** rights assigned at a consolidated node sets **Submit** rights to that consolidation and **Submit** rights to all descendants.

The **Allow Reviewer Edit** option and the **Review Depth** and **View Depth** options in the **Add Rights** window overrides the cascading of **Review** and **Submit** rights on a consolidated node as follows:
• When the **Allow Reviewer Edit** check box is not selected, the application assigns **View** access rights only where **Submit** or **Edit** rights would exist.
• When you set a number (n) for the **Review Depth** and **View Depth** options, the application only display n-levels from the initial node. You can use these options to keep lower-level nodes from appearing for higher level managers who must focus on higher consolidation levels.

**Assigning rights for a non-approver**

To provide a non-approver user or contributor the ability to perform multi-node editing, you must assign at least **View** rights to the consolidated node. This minimum rights assignment makes the consolidated node the starting point from which the user can access, edit, and submit all descendant nodes to which they have the rights. Users must take ownership at the consolidated node to use the Multi-Node Edit ability to gain access to all the related leaf nodes. As an application designer, you must consider the following additional questions:

1. Does the non-approver require the ability to update more than one node at a time with the Multi-Node Edit?
   If yes, consider question 2.
   If no, you can either assign **Edit** or **Submit** rights to individual leaf nodes for the non-approver.
2. Does the non-approving user need **Submit** rights to all nodes reporting to a parent consolidated node?
   If yes, consider question 3.
   If no, assign **Submit** rights to the designated child nodes.

   **Note:** When you assign **Submit** rights to a leaf node, the underlying TM1 security cube also allows Write access to the consolidated parent of the leaf node. This ensures that values can be spread from the consolidated parent to the leaf nodes for which the user has **Submit** rights.
3. Is the non-approving user responsible for submitting the consolidated node?
   If yes, assign **Submit** rights to the non-approver at the consolidation node.
   If no, consider question 4.
4. Is another user responsible for submitting the consolidated node?
   If yes, assign **Review** rights to the non-approver at the consolidation node.

**The interaction rights and access control in TM1 Applications**

The TM1 Application Server enforces various business rules that determine whether or not a user is permitted to view or edit data. These rules determine the Rights set on the Application; whether or not a given user has Ownership of the node or Application; and whether or not a node has been Submitted.
There are three basic "layers" of control that are used by the TM1 Application Server for restricting the data or cubes that a specific user can access: TM1 Security, Data Reservation, and the TM1 Application Server Overlay.

**TM1 Security**
The most fundamental layer.

**Data Reservation**
Controls who can write to a particular range of cells but applies only to specific users (not Groups) and is used to enforce the Ownership concept. See Using Data Reservations for details on using Data Reservations.

**Security Overlay**
This layer also controls who can write to a particular range of cells. Security Overlay, however, applies to all users in the TM1 server, not just the users with rights to the TM1 Application. The Security Overlay is used to enforce the Submission concept to lock data.

**Remember:** Data Reservation or Security Overlay can never grant more permissive rights than TM1 security permits: they can only further constrain a user’s access.

The following table describes some right enforcement scenarios.

### Table 2. Techniques used to enforce TM1 Application Server workflow logic

<table>
<thead>
<tr>
<th>Concept</th>
<th>TM1 Server</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rights</td>
<td>Element and/or Cell Security</td>
<td>When the administrator sets Rights for an Approval or Responsibility Application along the Approval Hierarchy and Control Dimension, these Rights are translated into either Element or Cell Security. Element or Cell Security is determined by the Application's configuration.</td>
</tr>
<tr>
<td>Ownership</td>
<td>Data Reservation</td>
<td>When a cube is used in an Approval or Responsibility application, the <strong>REQUIREDSHARED</strong> mode of Data Reservation is applied to the cube. This mode of Data Reservation requires that a user must have a Data Reservation before they can write to the cube. The TM1 Application Server grants a Data Reservation to a user who takes Ownership of an Approval Hierarchy node or set of Nodes. A Data Reservation is specific to a particular User, not a Group. Only one user can have Ownership of a leaf node at any time. The Data Reservation granted by the TM1 Application Server is scoped to the relevant Approval Hierarchy nodes. If a Control Dimension is used, the Data Reservation is scoped to the writeable Control Dimension slices for the Application.</td>
</tr>
</tbody>
</table>

**Remember:** The Data Reservation method is set by the TM1 Application Server with an entry in the `jCubeProperties` control cube that applies to the whole cube. Because the Data Reservation mode applies to the entire cube, even if a TM1 Application is scoped to only one slice of a cube with the Control Dimension, a Data Reservation is required in order to write to any region of the cube.

For Central applications, the **ALLOWED** mode of Data Reservation is used. This mode permits you to optionally take Ownership if you want to have exclusive write access to all the cells in the scope of the Application. Users in a Central application are able to write by default without taking Ownership subject to normal TM1 security.
Table 2. Techniques used to enforce TM1 Application Server workflow logic (continued)

<table>
<thead>
<tr>
<th>Concept</th>
<th>TM1 Server</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit</td>
<td>Security Overlay</td>
<td>The action of Submitting a node applies only to Approval applications. When a node is submitted, the slice of data that is identified by the Approval Hierarchy node and Control Dimension, if used, is locked, preventing any further data entry. This locking is done with a Security Overlay cube.</td>
</tr>
</tbody>
</table>

How to enforce security rights in an application

You can set the method that is used to determine how rights to a cube or cell are enforced by an application. There the way rights are enforced when an application shares an approval hierarchy has changed.

Before TM1 version 10.2, an approval hierarchy could not be shared across an application. Rights to view or edit a particular piece of data were enforced with element security on the approval hierarchy. In TM1 version 10.2, the architecture was changed so that rights are enforced with cell security. This change meant the approval hierarchy dimension could be used in multiple applications. It also enabled multiple Applications to be deployed from the same cube.

Method to enforce rights is a parameter that determines the technique that is used to enforce rights.

To share an Approval Hierarchy dimension across TM1 Applications, you need to use cell security to enforce rights. With cell security, a Control Dimension is used to delineate the Applications. When Cell Security is used, the TM1 Application Server creates Cell Security cubes for all data cubes in the Application that contains the Approval Hierarchy dimension. If Cell Security cubes already exist, the TM1 Application Server extends their dimensionality to ensure that they include the Approval Hierarchy dimension and the Control Dimension if a control dimension is used.

When rights are enforced with element security, the element security is populated on the Approval Hierarchy dimension using a TurboIntegrator process. In that case, a change to the rights does not generate a Security Refresh.

You cannot use a Control Dimension if Element Security is used to enforce the rights.
In TM1 version 10.2.2, you can use the **Enforce Element Security on Approval Hierarchies** parameter to turn Element Security on for approval hierarchies. This parameter is a property of all the Approval or Responsibility Applications for a given TM1 server.

**Remember:** This parameter does not apply to Central applications because Central applications do not have an Approval Hierarchy. TM1 does not enforce any additional TM1 security for Central applications.

**Enforce Element Security on Approval Hierarchies** defaults to **Yes** for both new and upgraded environments.

To be sure that any user in any non-TM1 Application interface, for example TM1 Web, Architect, or Cognos Business Intelligence (BI), sees only approval hierarchy dimension elements for which they have access, set this parameter to **Yes**. Remember that the user can have access to more than one Application. The **Yes** setting applies Element security to any dimension used as an approval hierarchy.

In the earlier releases 10.2 GA and 10.2 FP1, element security was not applied to the approval hierarchy dimension. In that case, if you use Architect, for example, you can see all the *elements* of the Approval Hierarchy in the subset editor, even though you can see the data for only the elements for which you have rights in the TM1 Application.

If rights are enforced using Cell security, then Element Security is applied to the Approval Hierarchy dimension only if the **Enforce Element Security on Approval Hierarchies** option is set to **Yes**. When **Enforce Element Security on Approval Hierarchies** is **yes**, element security is applied using a rule that refers to a control cube maintained by the TM1 Application Server. This cube contains logic that computes the aggregate security across all Groups and all Applications that use the same Approval Hierarchy dimension. In this case, because Element Security is driven using Rules, the TM1 Application Server must do a Security Refresh when the Rights are updated. This Security Refresh can take some time for a large TM1 Server. If this time is prohibitive, you can revert to using Element Security to enforce Rights, or switch the **Enforce Element Security on Approval Hierarchies** option to **No** using a Control Dimension is not possible if Element Security is used to enforce the rights.

When Cell Security is used as the **Method to enforce Rights**, then you can additionally set a parameter added in TM1 version 10.2.2 called **CELLSECURITYMOSTRESTRICTIVE** in the **CubeSecurityProperties** cube, for the data cubes in the scope of the Application.

When **CELLSECURITYMOSTRESTRICTIVE** is **yes**, Element and Cell Security behave such that the most restrictive applies. For instance, if Element Security for a specific element is set to **READ** for a given Group and Cell Security for a cell referencing that dimension element is set to **WRITE**, then security will resolve to **READ**. If the **CELLSECURITYMOSTRESTRICTIVE** parameter is set to any value other than **YES**, then the server behaves as it did in the prior releases.

Choosing how to set this parameter depends whether you wish to take advantage of the new behavior when **CELLSECURITYMOSTRESTRICTIVE** is set to **yes**, or whether you wish to maintain the existing TM1 Server behavior. If you have existing TM1 Applications built using TM1 10.1.1 or earlier that use Cell Security, you are likely to want to retain the old behavior, so the **CELLSECURITYMOSTRESTRICTIVE** parameter need not be altered. If you are
building new Applications in TM1 10.2.2, you wish to use the ability to share Approval Hierarchy dimensions, and you want to make use of READ-level Element Security on some dimensions, then you can set

**CELLSECURITYMOSTRESTRICTIVE** to *yes* to have your Element Security respected.

If you already have Applications deployed in TM1 10.2, you may have used the techniques described in the IBM Technote 'Element Security and TM1 Applications in TM1 10.2' http://www-01.ibm.com/support/docview.wss?uid=swg21659499.

The use of the **CELLSECURITYMOSTRESTRICTIVE** parameter will allow you to model some of the scenarios described in that Technote more easily.

The TM1 Application Server does not access **CELLSECURITYMOSTRESTRICTIVE** and it is blank by default. This behavior means that in the TM1 Server, Cell Security set to WRITE overrides READ-level Element Security, which is the behavior used in earlier releases. If you wish to enforce rights using Cell Security, for example, to share Approval Hierarchies, and you also wish to use Element Security set to READ, then set this parameter to *YES* for the relevant cubes.
Chapter 8. Automating tasks with the Cognos TM1 Application Maintenance utility

The Cognos TM1 Application Maintenance utility is a command-line utility that helps administrators take actions that were previously only possible from the Cognos TM1 portal.

The utility can be used to deploy a version of the automation for use on a machine other than the Cognos TM1 application server. You can also run the utility from inside a TurboIntegrator Process as part of a wider-ranging chore.

The utility is installed as part of the Cognos TM1 application in \install_dir/webapps/pmpsvc/WEB-INF/tools/app_maintenance.bat

To display a list of the actions that can be automated along with the required parameters, use the -h argument. For a formatted version, pipe the output to a temporary text file, for example app_maintenance.bat -h > automate.txt. The help file contains all the parameters and syntax that is needed for each action.

The utility can automate the following actions:
- Activate/deactivate an application
- Deploy an application
- Import/Export/refresh rights
- Logon with a CAM logon
- Logon with an encrypted password
- Logon with an encrypted password created with TM1crypt.exe
- Log to a file
- Set logging level to ERROR, DEBUG, INFO, or OFF
- Execute a sequence of commands from a command file
- Package the app_maintenance tool so that it can be installed and run on another machine
- Enable/disable a server
- Reset the application (not included in the -h flag listing). Reset using this utility removes all existing sandboxes for cubes in the Application. When you use Reset from the TM1 Applications portal, are prompted to verify that you want sandboxes removed.

The tool requires a Java™ runtime environment. By default the tool uses the jre in the usual TM1 installation location. It uses the JAVA_HOME or JRE_HOME environment variables.

To deploy the tool to another machine, a jre must be available on the other machine. The javahome variable must be set so that the tool can find it.

You can also deploy a version of the tool and all the required executables it needs into one location. Then you can easily import them to another machine.

For example, you can create a folder that is called D:\AppAutomation\utility on the machine where you want the utility to run. On the original machine, use the
following command to package up the tool and its required objects:

```
app_maintenance.bat - package "D:\AppAutomation\utility"
```

This action creates a compressed file called `application_maintenance.zip` which can be moved to the other machine where you want to run the automation. The compressed file includes the tool and the objects it needs. Extract the compressed file on the secondary machine. Ensure that there is a Java runtime environment available on the secondary machine and that it is identified in the `javahome` or `jrehome` environment variable.

The following sample syntax that is used to deactivate an application called StorePlan (breaks in syntax are for formatting purposes only. Do not break these lines in your commands):

```
D:
cd "D:\Program Files\ibm\cognos\tm1_64\webapps\pmpsvc\WEB-INF\tools"
app_maintenance.bat
-serviceurl voltran.ibm.com:9510/pmpsvc
-username admin -pwd apple
-op deactivate
-app {d06b9060-c3cc-4c4f-ac5d-60276540a9ce}
```

The service URL is the URL used to browse to the TM1 Applications portal. Your browser may encode the "\" in the URL. Ensure your GUID is using the convention you need for your browser.

This command uses TM1 authentication. In a production environment, it is not secure enough to pass the username and password in clear text. Use the TM1Crypt utility to encrypt the necessary admin credentials and then pass in an encrypted password file to this utility. See “Using TM1Crypt.exe” in the *IBM Cognos TM1 Installation and Configuration Guide* for details on encrypting authentication.

The GUID can be identified by the `aid` parameter in the browser link when you open the application in the TM1 Applications portal.

```
http://localhost:9510/pmpsvc/pmpjs/workflow/workflow.jsp?portal=1&aid=7cc2f875-281f-4e97-b51c-daf7b772a777
```

**Using the automation tool as part of a TurboIntegrator process**

You can also use this utility as part of a TurboIntegrator process.

For example, suppose that you have a model with the following approval hierarchy:

```
Figure 5. Store Plan Workflow model
```

For this example, you want to add a new leaf node called "Western Europe" that rolls up into Europe. You can create a set of TurboIntegrator processes combined into a chore. Ensure that the Chore process is set to use Multiple Commit mode, so that the TurboIntegrator process is committed and relevant locks released before
the next TurboIntegrator process is processed. Then use the automation tool to refresh and update the application in an overnight batch process.

The TurboIntegrator processes will take the following actions:

**Deactivate**
Makes the application unavailable to users while the update is taking place.

**Update Country and Region**
This action updates the approval hierarchy dimension for this application. The command adds Western Europe as a node beneath Europe.

**Update Approval Hierarchy Subset**
This action updates the approval hierarchy subset with the new information.

**Deploy Store Plan app**
This action redeploy the application. In a production environment, data would be added first.

**Refresh rights for Store Plan app**
This action updates the rights for users with review rights to Europe. Those users would inherit the rights to the new node.

**Activate Store Plan app**
This action makes the application available to users again after making those changes.

Following is a sample of the deactivate process:

```plaintext
1 #****Begin: Generated Statements****
4 5 ExecuteCommand('D:\AppAutomation\StorePlanDeactivate.bat', 1);
```

The "1" in the command indicates that the command completes before the next command is executed.

When the chore is complete, it can be executed immediately or scheduled to run as an overnight process.
Chapter 9. Administering and maintaining IBM Cognos TM1 Performance Modeler

Perform administration and maintenance tasks in IBM Cognos TM1 Performance Modeler such as optimizing settings, managing processes, and transferring applications.

Optimizing the memory consumption of a cube

Optimize the memory consumed by a cube to improve its performance.

About this task

You should optimize the memory consumption of a cube only while working in a development environment for the following reasons:

- Significant memory resources are required to optimize the memory consumed by a cube. During the optimization process, the temporary RAM on the IBM Cognos TM1 server increases by a factor of two for the cube that you are optimizing. For example, a 50 MB cube requires 100 MB of RAM to optimize.
- The server locks all user requests while the optimization is performed.

Note: Optimizing the memory consumption of a cube is not the same as changing the dimension order.

Procedure

1. Click the Optimize Cube Dimensions icon.
2. Click a dimension in the New Order box.
3. Click the Up or Down button to move the dimension's order in the list.
4. Note the Percentage changed value. If this value is negative, the new order of dimensions consumes less memory and is therefore more efficient.
5. Repeat steps 2 through 4 until you achieve the most efficient ordering of dimensions.
6. Click OK.
7. Click the Actions menu icon, and click Save or Save As. The cube is configured for optimal memory consumption.

Managing processes

Manage processes to create, modify, and schedule how data is imported and used in IBM Cognos TM1 Performance Modeler.

Creating a process

Create a process that defines a data source to be imported, data mappings, and advanced procedures. You can run a process at any time or schedule a process to run at defined intervals.
Procedure
1. In the Model Design pane, right-click the folder where you want the process to be stored, and click New > Process.
2. Enter a name for the process and click OK. The folder expands, showing the new process in the Model Design pane. A process viewer allows you to define the process.
3. Follow the steps for either "Importing and mapping dimensions" or "Importing from a relational data source" in the IBM Cognos TM1 Performance Modeler Guide.

Example: Prototyping a new requirement
In certain situations, such as when prototyping a new requirement, you could use the Guided Import to create a single process that performs three distinct functions:
• creates or updates dimensions
• creates or updates cubes
• loads data

In a typical production environment, however, you would separate these functions as three different processes. This would give you more flexibility to make changes or perform maintenance. In addition, you may create a chore that contains the three processes. This would allow you to schedule regular data refreshes. For example, you could schedule the chore to run every night at midnight.

For more information about chores, see “Scheduling” in the IBM Cognos TM1 Performance Modeler Guide.

What to do next
You can modify the process by editing its procedures or you can schedule the process as part of a chore.

You can run the process at any time by right-clicking the chore in the Model Design pane and clicking Execute Process.

Using the process editor
The process editor allows you to modify procedures that were defined when a process was created.

When to use the process editor
Use the process editor when you want to do the following actions:
• refine the process that is generated when you run a Guided Import
• create a script only process
• bypass the Guided Import
• create a process without executing it right away
Comparing the process editor with the TurboIntegrator editor

The process editor has a toolbar that allows you to perform many useful editing tasks. For example, click the comment/uncomment icon to comment out selected text. Or you can click the content assist icon to see a list of valid functions.

In IBM Cognos TM1 Performance Modeler, process editor scripts contain both a generated header and generated statements. TurboIntegrator scripts contain generated statements, but not a generated header.

Some process editor commands do not exist in TurboIntegrator. For example, in the process editor you can create collapsible content by enclosing text between the following two lines:

```
#Region region_name
#EndRegion
```

The following data types are supported in IBM Cognos TM1 Architect, but not supported in Cognos TM1 Performance Modeler:
- ODBO
- SAP
- IBM Cognos packages

Moving scripts between Cognos TM1 Performance Modeler and Cognos TM1 Architect

Process editor scripts and TurboIntegrator scripts have similar formats, but are not completely interchangeable. You can share scripts between both editors as long as you don't change the mappings. The following table lists three scenarios where scripts are moved between Cognos TM1 Performance Modeler and IBM Cognos TM1 Architect. The script remains valid in the first two scenarios. But in the third scenario, the mappings are modified, which makes the script invalid.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Validity of script</th>
</tr>
</thead>
<tbody>
<tr>
<td>Script created in Cognos TM1 Architect and opened in Cognos TM1 Performance Modeler.</td>
<td>Valid</td>
</tr>
<tr>
<td>Script created in Cognos TM1 Performance Modeler and opened in Cognos TM1 Architect.</td>
<td>Valid</td>
</tr>
<tr>
<td>Script created in Cognos TM1 Performance Modeler, modified in Cognos TM1 Architect, and opened in Cognos TM1 Performance Modeler.</td>
<td>Not valid.</td>
</tr>
</tbody>
</table>

Example: the ViewZeroOut function

The ViewZeroOut function sets all data points in a view to zero. Syntax:

```
ViewZeroOut(Cube, ViewName);
```
<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cube</td>
<td>The parent cube of the view you want to zero out.</td>
</tr>
<tr>
<td>ViewName</td>
<td>The view you want to zero out.</td>
</tr>
</tbody>
</table>

ViewZeroOut('99sales', '1st Quarter Actuals');

This example sets all data points in the 1st Quarter Actuals view to zero.

**Editing procedures**

Edit procedures to include process editor functions and IBM Cognos TM1 rules functions that extend the capabilities of a process.

For example, you can edit the Data procedure to include statements that instruct the process to skip records containing zero values, or to write imported records to an external file.

**Before you begin**

A process exists because you ran a guided import, created a process, or generated a process from a link.

**About this task**

A process contains four procedures that are based on the options you selected when you specified the data source and mapped the data. These procedures are listed in the following table.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolog</td>
<td>A series of statements to be executed before the data source is processed.</td>
</tr>
<tr>
<td>Metadata</td>
<td>A series of statements that update or create cube, dimensions, and other metadata structures during processing.</td>
</tr>
<tr>
<td>Data</td>
<td>A series of statements that manipulate values for each record in the data source.</td>
</tr>
<tr>
<td>Epilog</td>
<td>A series of statements to be executed after the data source is processed.</td>
</tr>
</tbody>
</table>

For more information, see “Using the process editor” in the *IBM Cognos TM1 Performance Modeler Guide*.

For a complete list of all available TurboIntegrator and Cognos TM1 rules functions, see the *IBM Cognos TM1 Reference Guide*.

When editing procedures, keep in mind that each procedure is intended to execute certain types of actions at specific times in a process. Accordingly, you should create actions or statements that are appropriate for a given procedure.

**Note:** When the source type for a process is script-only, the Data and Metadata sub-tabs are not available.
Procedure
1. Click the Advanced tab.
2. Specify parameter values:
   a. Set param_destroy = 1, if you want the process to overwrite an existing cube and dimensions.
   b. Set param_createIfNotExist = 1, if you want the process to create a cube and dimensions if they don't exist.
3. Click the sub-tab for the procedure you want to edit.
4. Enter your statements in the text box either before one of these lines:
   • #****GENERATED STATEMENTS START****
   • #****GENERATED HEADER START****
   or after these lines:
   • #****GENERATED STATEMENTS FINISH****
   • #****GENERATED HEADER FINISH****
5. Save the process.

What to do next
You can do the following actions:
• schedule the process
• run the process at any time by right-clicking the chore in the Model Design pane and clicking Execute Process

Scheduling processes
Create a chore to schedule processes to run at defined intervals.

About this task
A chore is the IBM Cognos TM1 object that executes one or more processes at a user-defined frequency. A chore is comprised of:
• a list of processes to be executed
• a start date and time for the initial execution of the chore
• a frequency at which the chore is subsequently executed

Procedure
1. In the Model Design pane, right-click the folder where you want the chore to be stored, and click New > Chore.
2. Enter a name for the chore and click OK. The folder expands, showing the new chore in the Model Design pane. A chore viewer appears.
3. In the Available box, select the processes you want and click the arrow icon to move them to the Selected box.
4. Use the up and down arrows to move the processes into the order that you want the chore to execute them.
5. Specify parameter values by selecting a process in the Selected box, and updating the value.
6. Specify whether the chore will be executed as a single transaction or as multiple transactions.
Note: By default, the entire sequence of processes is executed as a single Commit transaction. Any locks acquired by the first process are kept until the last process is complete. If you choose the multiple transactions option, each process is committed as a transaction. Therefore, locks are held only for the duration of each process, not for the duration of the chore.

7. Click the Schedule tab.
8. In the Start Date and Time box, specify when the initial execution of the chore will occur.
9. Specify the interval at which the chore is executed
10. Select the Activate Chore check box. This checkbox is enabled only if values were entered in the Run Chore Every box.

Note: If you want to stop the chore from running for a period of time, keep the Activate Chore check box unselected.
11. Save the chore.

What to do next

You can run the chore at any time by right-clicking the chore in the Model Design pane and clicking Execute Chore.
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