IBM Cognos Express
Version 10.1.0

Getting Started with IBM Cognos Express

Note
Before using this information and the product it supports, read the information in "Notices" on page 55.

Product Information

This document applies to IBM Cognos Express Version 10.1.0 and may also apply to subsequent releases. To check for newer versions of this document, visit the IBM Cognos Information Centers (http://publib.boulder.ibm.com/infocenter/cogic/v1r0m0/index.jsp).

Contents

Introduction

This document is intended for new users of IBM® Cognos® Express®. IBM Cognos Express is a simple, yet complete, solution that integrates all of the essential business intelligence and planning features.

This guide provides an overview of IBM Cognos Express and will provide you with information on how it is designed as well as get you started with using the features it contains.

Audience

To use this guide, you should be familiar with

- Basic Microsoft Windows tasks
- Reporting, analysis, and planning concepts

Finding information

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

You can also read PDF versions of the product release notes and installation guides directly from IBM Cognos product disks.

Using Quick Tours

Quick tours are short online tutorials that illustrate key features in IBM Cognos product components. To view a quick tour, go to the **Welcome to IBM Cognos Express** page and click the **Quick Tour** button in the lower-right corner of the page or access it from the Help menu in IBM Cognos Connection.

Accessibility features

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.

Samples disclaimer

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Chapter 1. What do I do with Express?

IBM Cognos Express provides everything that you need to report, plan and analyze your company data. IBM Cognos Express is designed for simplicity - we want to ensure that users like you can access all the tools and features that you require from one central location.

IBM Cognos Express provides a self-service environment for the features and tools that come with each Cognos Express product so that you can get up and running quickly in creating models, reports, plans and views that will improve the performance of your business.

If you were given access by your administrator, you can use the following Express modeling tools:

- **Framework Manager** allows you to model metadata that helps generate queries.
- **Data Advisor** allows you to quickly connect to company data and create multi-dimensional or relational models
- **Architect** allows you to create and manage cubes on the IBM Cognos Analytic Server.

Depending on which Express products your company purchased, you may also have access to the following end user tools and applications:

- **IBM Cognos Express Reporter** features Report Studio for reporting and Query Studio for ad-hoc querying. Administrators can also use Framework Manager to create more complex data models against one or many data sources that can then be used with these reporting tools.
- **IBM Cognos Express Advisor** features the Advisor web client for analyzing data. Advisor also features IBM Cognos Insight, allowing you to analyze data, explore scenarios, and influence decisions by creating managed workspaces.
- **IBM Cognos Express Planner** features Contributor for viewing and contributing plans throughout the planning process. Administrators will first use IBM Cognos Performance Modeler to set up these plans for end users to access.
- **IBM Cognos Express Xcelerator** features the Xcelerator web client and the Excel-based analysis tool.

What do I need to get started?

The Welcome page

The first stop for accessing IBM Cognos Express content is the Welcome to IBM Cognos Express page. Your administrator can create a user account so that you are able to logon as well as provide the link that you require to access this page - be sure to save it in your Favorites list for future use. On the Welcome Page, you will see the My Content section, the My Actions section, and the Daily News section.

The My Content section

Use the My Content section to open IBM Cognos Connection. You have these options:

- If you click **My Home**, IBM Cognos Connection will open at the page that you set as your home page.

Tip: To set your home page, go to the page you want as your new home page, and then next to the home icon  , click the arrow, and click **Set as Home Page**.

- If you click **IBM Cognos Content**, IBM Cognos Connection will open at the highest level of Public Folders.

For more information, see the *IBM Cognos Connection User Guide*.

The My Actions section

Use the My Actions section to perform IBM Cognos Express tasks that were enabled by the administrator, start IBM Cognos Express products, or download IBM Cognos Express client software to your computer.

You can also view *Getting Started with IBM Cognos Express* from the My Actions section. Depending on what your administrator has made available, you may be able to launch some or all of the following tools:

- Express Manager

  For detailed information, see *Managing IBM Cognos Express*.
- Advisor

  For detailed information, see the *IBM Cognos Express Advisor User Guide*.

  If you just want an overview of Advisor, see Chapter 5, "Getting started with analysis," on page 31.
- Cognos Insight

  For detailed information, see the *IBM Cognos Insight User Guide*. If you want to follow a tutorial, see Chapter 3, "Getting started with IBM Cognos Insight," on page 15.
- Business Insight

  For detailed information, see the *IBM Cognos Express Business Insight User Guide*. If you want to follow a tutorial, see "Tutorial - creating a workspace using Business Insight and Business Insight Advanced" on page 40.
- Planner

  For detailed information, see the *IBM Cognos Express Planner User Guide*.

  If you just want an overview of Planner, see Chapter 8, "Getting started with planning," on page 51.
- Business Insight Advanced

  For detailed information, see the *IBM Cognos Express Business Insight Advanced User Guide*. If you just want to get started using Business Insight Advanced, see "Tutorial - creating a statement-style report using Business Insight Advanced" on page 41.
- Query Studio

  For detailed information, see the *IBM Cognos Express Query Studio User Guide*. If you just want to get started using Query Studio, see "Creating a report with Query Studio" on page 35.
- Report Studio

  For detailed information, see the *IBM Cognos Express Report Studio Professional Authoring User Guide* or the *IBM Cognos Express Report Studio Express Authoring User Guide*.

  If you just want to get started using Report Studio, see "Creating a report with Report Studio" on page 36.
- Xcelerator

For detailed information, see the *IBM Cognos Express Xcelerator User Guide*.

If you just want an overview of Xcelerator, see Chapter 7, "Getting started with spreadsheet-based analysis," on page 45.

- the Express client software download page

  For information, see Chapter 2, "Installing client applications for IBM Cognos Express," on page 5.
- the *Getting Started with IBM Cognos Express* guide

The Daily News section

Watch the Daily News section for updates on when a product is installed, client software is made available, or a service is unavailable.

For example, the following message may appear in the **Daily News** section:

Architect 9.5 for IBM Cognos Express Manager is now available for download.

If you see this message in the **Daily News** section and the administrator has assigned the appropriate access to you, you can install Architect.

To see the latest news, refresh your browser window.

Cognos Connection

Once you start creating reports and views, you will see that you can save much of your content to the Cognos Connection portal for other users to access. In Cognos Connection, you can save content

- to the **Public Folders** tab where all other users can view it
- to your own tab named **My Folders** where the content is restricted to your own use

For example, you can use the **My Folders** tab to create draft content, then move it to **Public Folders** when you have finished working on it and are ready to share it with others.

Downloading client software

When you click on the link Download Express Software to my computer from the Welcome Page, you will see a list of client software to which your administrator has provided you access. The details for installing this software are included in more detail later in this guide. However, installation of these tools is designed to be fast and simple; all of the configuration will be taken care of automatically when you download and install them from the Welcome Page.

Accessing Cognos Express Web tools

Similar to the client software, your access to the web applications that come with your IBM Cognos Express product(s) is controlled by your administrator.

When you log on to the Welcome Page, you will see the list of products that have been enabled for you to use in the **My Actions** section. Many of these applications can also be launched from the **Launch** menu at the top of your Cognos Connection page.

Using the samples

IBM Cognos Express comes with a set of samples that you can use to explore the various features and functionality within the product. Your administrator will have

to set these up for you on the IBM Cognos Express server. Once this is done, you can browse the predefined set of reports, queries and views that are available in Cognos Connection or view the cubes and dimensions that are available on the IBM Cognos Analytic Server. Many of the tutorials that you will find for each of the products in this guide use these samples as a starting point.

Can I see a diagram?

IBM Cognos Express includes web and Windows products that help business users and administrators perform specialized functions.

The following diagram shows the architecture of IBM Cognos Express.

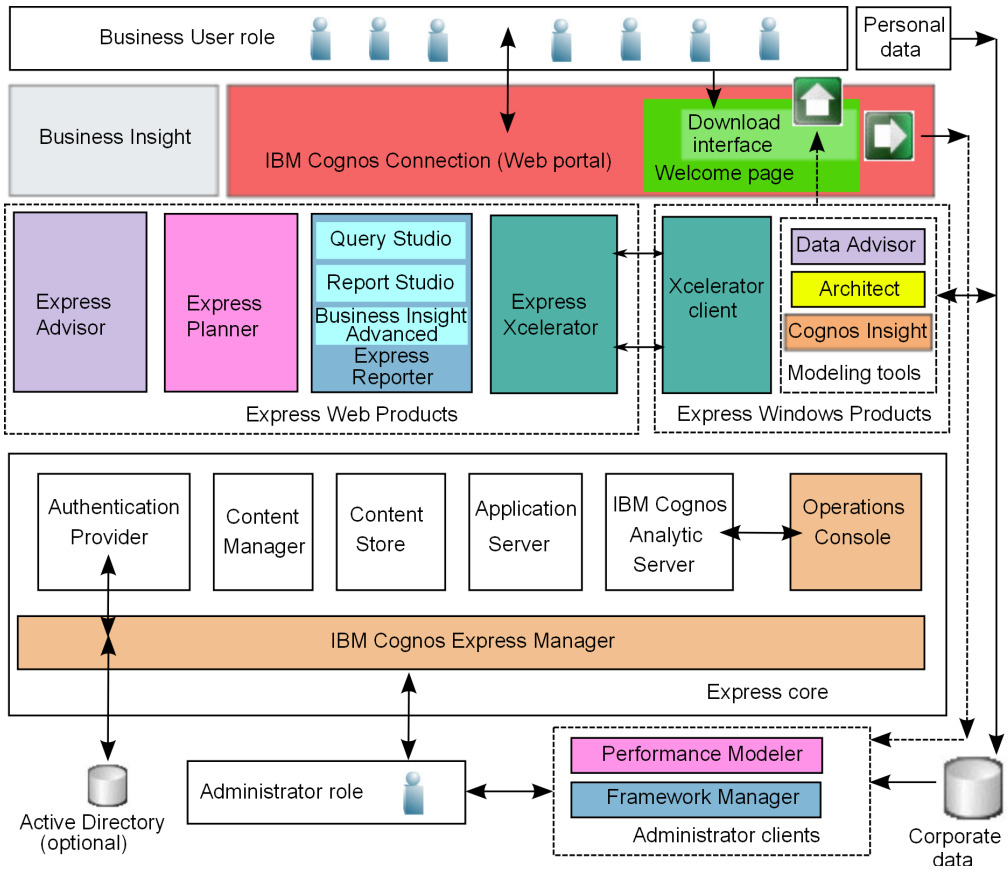

Figure 1. Architecture of IBM Cognos Express components

Chapter 2. Installing client applications for IBM Cognos Express

Depending on which IBM Cognos Express roles were assigned to you by your administrator, you can do one or more of the following:

- Install IBM Cognos Express Data Advisor.
- Install IBM Cognos Express Architect.
- Install IBM Cognos Framework Manager, the client application used with Reporter.
- Install IBM Cognos Xcelerator client, the client application used with Xcelerator.
- Install IBM Cognos Performance Modeler, the administrative client application used with Planner.

The Welcome to IBM Cognos Express page

If you do not already know the Web address for the **Welcome to IBM Cognos Express** page, ask your administrator to give it to you.

Tip: The Web address is usually the following:

http://*express_server_name*:19300/cognos_express/manager/welcome.html

where *express_server_name* is the computer name of the IBM Cognos Express server.

Installing and Launching IBM Cognos Express Data Advisor

You install IBM Cognos Express Data Advisor from the Welcome page.

Before you install Data Advisor:

- You must install Microsoft .NET Framework version 3.5 SP1
- Your administrator must give you access to download the software

Tip: It is good practice to read the messages in the **Daily News** section regularly. You will know that you can install Data Advisor when you see this message:

The Data Advisor download for IBM Cognos Express Advisor is now available.

Procedure

1. In a browser window, go to the **Welcome to IBM Cognos Express** page.

   Tip: The Express administrator should send you the Web address, which is usually the following:

   http://*express_server_name*:19300/cognos_express/manager/welcome.html

   where *express_server_name* is the computer name of the IBM Cognos Express server.
2. Select **Download Express software to my computer**.
3. Select **Data Advisor** and run the installation wizard.
4. When the **Install Complete** page displays, select **Launch Advisor**.

Results

You can now make a connection to a package or a cube.

For more information, see the *IBM Cognos Express Advisor User Guide*.

Making connections

For both new and existing views, you must make a connection to a package and a valid cube for the view.

Making a connection using a new view

Procedure

1. Click **Views** button on the toolbar tab.
2. Select a view or folder and click **Open View**. If you click on **Open View** when a folder is selected, all views in the folder are opened.
3. Select a Package from the **Database** list on the **Connection Information** window and click **OK**. If there is more than one cube in the package, select the cube.
4. In the **Credentials** window, enter your IBM Cognos security credentials to access the server and click **OK**.

Making a connection using an existing view

Procedure

1. Click on the **Connection** button on the toolbar to connect to a different cube or package.
2. On the **Connection Information** window, select the cube or package to change the connection to the server.
3. To clear the credentials, including passwords, for the server, click **Forget Credentials**.

Configuring the ODBC data source

There are two methods of generating multi-dimensional cubes: a client based method and a server-based method.

Client-based method

Express Data Advisor generates data files and sends the model definition with the data files to the server. When using the client based method in Data Advisor, you need to first configure an ODBC data source on the client system. However, this step can be omitted for specific file based data sources. For more information see the Data Advisor User Guide.

Server-based method

Express Data Advisor only sends the model definition to the server which then accesses the ODBC data source. An identical ODBC data source is required for both the client and the server systems.

Configuring the ODBC data source for Express Data Advisor on the client system

You must configure the ODBC data source for Express Data Advisor on the client system.

Procedure

1. Check that the Advisor Server is configured. The Advisor Server must be configured before you can configure your computer.
2. Click **Start** > **Control Panel**.
3. Select **Administrative tools** > **Data Sources (ODBC)**.
4. From the **ODBC Data Source Administrator** dialog box, select the **System DSN** tab.
5. Select **Add**.

   The **Create New Data Source** dialog box opens.
6. From the drop-down menu, select the data source driver.
7. Click **Finish**.

   The **Create New Data Source** dialog box for the driver type opens.
8. Complete the on-screen instructions for the driver type. The fields that are required to be completed are dependant on the data source type. Make sure that the naming convention is the same as given by the system administrator on the server.

   The data source name must the same on both the server and the client system.
9. Click **OK** until all dialog boxes close.

Configuring the ODBC data source for Express Data Advisor on the server

Perform the following steps to configure the ODBC data source for Express Data Advisor on the server. The procedure on the server is slightly different than the procedure on the client.

A 64-bit server requires that the ODBC data sources must be 32-bit. To do this you should use the 32-bit data sources application.

Procedure

1. Click **Start** > **Run**.
2. In the **open** field, type `%WINDIR%\SysWOW64\odbcad32.exe`
3. Click **OK** to launch the 32-bit data sources application.
4. From the **ODBC Data Source Administrator** dialog box, select the **System DSN** tab.
5. Select **Add**.

   The **Create New Data Source** dialog box opens.
6. From the drop down-menu, select the data source driver.
7. Click **Finish**.

   The **Create New Data Source** dialog box for the driver type opens.
8. Complete the on-screen instructions for the driver type. The fields that are required to be completed are dependant on data source type, but may include:
   - Data source name - Required
   - Data source description
   - Data source server
   - Data source address

   Note: The data source name must be identical on both the server and the client system.
9. Click **OK** until all dialog boxes close.

Uninstalling IBM Cognos Express Data Advisor

You can uninstall Data Advisor from your computer. Uninstalling removes Data Advisor from your computer only.

Note: If your administrator uninstalls Reporter on the Express server, your instance of Data Advisor will no longer work.

Procedure

1. From the **Start** menu, click **Settings** > **Control Panel**.
2. Start **Add or Remove Programs**.
3. In the list of currently installed programs, click **IBM Cognos Express Data Advisor**.
4. Click **Remove** and follow the instructions.

Installing Architect

You install IBM Cognos Express Architect from the Welcome page.

Before you install Architect:

- You must install Microsoft Office Professional Edition 2003, 2007, or 2010
- Your administrator must give you access to download the software

Tip: It is good practice to read the messages in the **Daily News** section regularly. You will know that you can install Architect when you see this message:

The Architect download for IBM Cognos Express Xcelerator is now available.

Procedure

1. In a browser window, go to the **Welcome to IBM Cognos Express** page.
   The Web address is usually the following:
   http://*express_server_name*:19300/cognos_express/manager/welcome.html
   where *express_server_name* is the computer name of the IBM Cognos Express server.
2. Download the installation package.
   - Click **Download Express software to my computer**  .
     Tip: If this link is not available, your administrator has not yet assigned your Express userid to the Express Architect User role.
   - Click **Architect**.
   - Click **Save**, choose a location to save the installation package, then click **Save** again.
     Important: Do not change the filename of this installation package.
     The **Download complete** dialog displays.
3. Click **Run**.
4. Click **OK** to confirm that the product language is English.
5. In the installation wizard, do the following:
   - On the **Introduction** page, click **Next**.
   - Read the license agreement, click **I accept both the IBM and the non-IBM terms**, and then click **Next**.

- If you want Architect to be installed in a location other than the one shown, browse to the location you want.
- Click **Next**.
- Choose your preferred method for starting Architect.
- Click **Next**.

6. Click **Install**.
7. When the **Install Complete** page displays, select **Launch Architect**, and then click **Done**.

   Architect starts in a new window.

Results

You can now use Architect to create a new project, view data sources in IBM Cognos Connection, create a new package, or publish a package to the IBM Cognos Connection.

For more information, see the *IBM Cognos Express Xcelerator User Guide*.

Uninstalling Architect

You can uninstall Architect from your computer. Uninstalling removes Architect from your computer only.

Procedure

1. From the **Start** menu, click **Settings** > **Control Panel**.
2. Start **Add or Remove Programs**.
3. In the list of currently installed programs, click **IBM Cognos Express Architect**.
4. Click **Remove** and follow the instructions.

Installing Framework Manager

You install IBM Cognos Framework Manager from the **Welcome to IBM Cognos Express** page.

Install Framework Manager if you want to model your company data and make packages available to others users with which they can create reports. You do not need to perform any additional configuration to begin using Framework Manager.

Before you download Framework Manager, your administrator must first

- ensure that you have an Express administrator license
- assign the Framework Manager Users role to you

Tip: It is good practice to read the messages in the **Daily News** section "The Daily News section" on page 3 regularly. You will know that you can install Framework Manager when you see this message:

The Framework Manager download for IBM Cognos Express Reporter is now available.

Procedure

1. In a browser window, go to the **Welcome to IBM Cognos Express** page.

   The Web address is usually the following:

   http://*express_server_name*:19300/cognos_express/manager/welcome.html

where *express_server_name* is the computer name of the IBM Cognos Express server.

2. Download the installation package.
   - Click **Download Express software to my computer**.

     Tip: If this link is not available, your administrator has not yet assigned your Express userid to the Framework Manager User role.
   - Click **Framework Manager**  .
   - Click **Save**, choose a location to save the installation package, then click **Save** again.

     Important: Do not change the filename of this installation package.

     The **Download complete** dialog displays.
3. Click **Run**.
4. Click **OK** to confirm that the product language is English.
5. In the installation wizard, do the following:
   - On the **Introduction** page, click **Next**.
   - Read the license agreement, click **I accept both the IBM and the non-IBM terms**, and then click **Next**.
   - If you want IBM Cognos Framework Manager to be installed in a location other than the one shown, browse to the location you want.
   - Click **Next**.
   - Choose your preferred method for starting IBM Cognos Framework Manager.
   - Click **Next**.
6. Click **Install**.
7. When the **Install Complete** page displays, select **Launch Express Framework Manager**, and then click **Done**.

   Framework Manager starts in a new window.

Results

You can now use Framework Manager to create a new project, view data sources in IBM Cognos Connection, create a new package, or publish a package to the IBM Cognos Connection.

For more information, see the *IBM Cognos Express Framework Manager User Guide* by clicking **Contents** from the Framework Manager **Help** menu.

Uninstalling Framework Manager

You can uninstall Framework Manager from your computer. Uninstalling removes Framework Manager from your computer only.

Before you uninstall Framework Manager, you should back up your Framework Manager projects and models. This prevents the loss of your data should your computer be damaged or stolen. After your computer is operational, you can restore your data. If you use a source control system to store your Framework Manager projects, you do not need to back up your projects.

Note: If your administrator uninstalls Reporter on the Express server, your instance of Framework Manager will no longer work.

Procedure

1. From the **Start** menu, click **Settings** > **Control Panel**.
2. Start **Add or Remove Programs**.
3. In the list of currently installed programs, click **IBM Cognos Framework Manager**.
4. Click **Remove** and follow the instructions.

Installing Xcelerator client

You install IBM Cognos Express Xcelerator client from the Welcome page.

You do not need to perform any additional configuration to begin using the Xcelerator client.

Before you install Xcelerator client:

- You must install Microsoft Office Professional Edition 2003, 2007, or 2010
- Your administrator must give you access to download the software

Tip: It is good practice to read the messages in the **Daily News** section regularly. You will know that you can install Xcelerator client when you see this message:

The Xcelerator client download for IBM Cognos Express Xcelerator is now available.

Procedure

1. In a browser window, go to the **Welcome to IBM Cognos Express** page.
   The Web address is usually the following:
   http://*express_server_name*:19300/cognos_express/manager/welcome.html
   where *express_server_name* is the computer name of the IBM Cognos Express server.
2. Download the installation package.
   - Click **Download Express software to my computer**  .
     Tip: If this link is not available, your administrator has not yet assigned your Express userid to the Express Xcelerator Client User role.
   - Click **Xcelerator client**.
   - Click **Save**, choose a location to save the installation package, then click **Save** again.
     Important: Do not change the filename of this installation package.
     The **Download complete** dialog displays.
3. Click **Run**.
4. Click **OK** to confirm that the product language is English.
5. In the installation wizard, do the following:
   - On the **Introduction** page, click **Next**.
   - Read the license agreement, click **I accept both the IBM and the non-IBM terms**, and then click **Next**.
   - If you want Xcelerator client to be installed in a location other than the one shown, browse to the location you want.
   - Click **Next**.

- Choose your preferred method for starting Xcelerator client.
- Click **Next**.

6. Click **Install**.
7. When the **Install Complete** page displays, select **Launch Xcelerator client**, and then click **Done**.

   Xcelerator starts in a new window.

   Note: If you want to install IBM Cognos TM1® Workflow for Xcelerator, follow the IBM Cognos TM1 Workflow installation instructions at http://www.ibm.com/support/docview.wss?uid=swg27023302

Results

You can now use Xcelerator to create a new project, view data sources in IBM Cognos Connection, create a new package, or publish a package to the IBM Cognos Connection.

Uninstalling Xcelerator client

You can uninstall Xcelerator client from your computer. Uninstalling removes Xcelerator client from your computer only.

Note: If your administrator uninstalls Xcelerator on the Express server, your instance of Xcelerator client will no longer work.

Procedure

1. From the **Start** menu, click **Settings** > **Control Panel**.
2. Start **Add or Remove Programs**.
3. In the list of currently installed programs, click **IBM Cognos Express Xcelerator client**.
4. Click **Remove** and follow the instructions.

Installing and launching Cognos Insight

You can install IBM Cognos Insight from the Welcome page or from IBM Cognos Express Planner. Cognos Insight starts after the installation has completed.

Before you begin

Before you can download and install Cognos Insight, the Express administrator must assign Express Cognos Insight privileges to you

Procedure

1. If you want to install Cognos Insight from the Welcome page, follow these steps:
   a. Go the Welcome page.

      Remember: The default URL is `http://server_name:19300/cognos_express/manager/welcome.html`

   b. Click **Create desktop workspaces with Cognos Insight**.
2. If you want to install Cognos Insight from Express Planner, follow these steps:
   a. In Express Manager, from the **Launch** menu, click **Planner**.

b. In the IBM Cognos TM1 Applications window, click the Open IBM Cognos Insight icon  .

3. If this is the first time you have used Cognos Insight, do the following steps.
   a. Click **Install Now**. The installer file, `CognosInsight.msi`, is downloaded to your computer. This may take a few minutes.
   b. If the file `CognosInsight.msi` does not run automatically after being downloaded, click **Run** if prompted, or double-click the file to run it.
   c. If prompted, open the `provagent.cogrcp_insight` file.

Results

IBM Cognos Insight is installed on your computer and then starts.

Uninstalling Cognos Insight

You can uninstall IBM Cognos Insight. Uninstalling removes Cognos Insight from your computer only.

Before you uninstall Cognos Insight, you should back up your Cognos Insight content. This prevents the loss of your Cognos Insight data should your computer be damaged or stolen. After your computer is operational, you can restore your data.

Note: If your administrator uninstalls Planner on the Express server, Cognos Insight will no longer work.

Procedure

1. From the **Start** menu, click **Settings**, **Control Panel**.
2. Start **Add or Remove Programs**.
3. In the list of currently installed programs, click **IBM Cognos Insight**.
4. Click **Remove** and follow the instructions.

Results

Cognos Insight is removed from your computer.

Installing and launching Performance Modeler

You install IBM Performance Modeler from IBM Cognos Express Planner. Performance Modeler starts after the installation has completed.

Before you begin

If you are not the Express administrator, before you can download and install Performance Modeler, the Express administrator must

- ensure that you have an Express administrator license
- assign Express Performance Modeler privileges to you

Procedure

1. In Express Manager, from the **Launch** menu, click **Planner**.
2. In the IBM Cognos TM1 Applications window, click the Open Performance Modeler icon  .

3. If prompted, open the file `provagent.cogrcp_modeler`.

Results

IBM Cognos Express Performance Modeler is installed on your computer and then starts.

Uninstalling Performance Modeler

You can uninstall IBM Cognos Express Performance Modeler. Uninstalling removes Performance Modeler from your computer only.

Before you uninstall Performance Modeler, you should back up your Performance Modeler content. This prevents the loss of your Performance Modeler data should your computer be damaged or stolen. After your computer is operational, you can restore your data.

Note: If your administrator uninstalls Planner on the Express server, Performance Modeler will no longer work.

Procedure

1. From the **Start** menu, click **Settings**, **Control Panel**.
2. Start **Add or Remove Programs**.
3. In the list of currently installed programs, click **IBM Cognos Performance Modeler**.
4. Click **Remove** and follow the instructions.

Results

Performance Modeler is removed from your computer.

Chapter 3. Getting started with IBM Cognos Insight

IBM Cognos Insight allows you to analyze data, explore scenarios, and influence decisions by creating managed workspaces.

For analysts and business users who are looking to more easily access and understand key business information, Cognos Insight empowers you to independently discover, explore, and share this information, and then take action. In contrast to spreadsheets or other point solutions that create information silos, Cognos Insight can be seamlessly woven into a workgroup or larger corporate entity.

The tasks in this section help you to start using IBM Cognos Insight and provide an overview of the various applications that are available to you.

Before you begin, ensure that you have installed and configured on your computer the samples package that is included with the product.

Getting data

In this exercise, you will import a spreadsheet into a new workspace and save the workspace.

Procedure

1. Start Cognos Insight.
   a. Open the **Welcome to IBM Cognos Express page**, typically `http://express_server_name:19300/cognos_express/manager/welcome.html`.
   b. Click **Create desktop workspaces with Cognos Insight**.

   Cognos Insight starts and the **New Workspace** page appears.
2. Click **Get Data** > **Quick Import**.
3. Navigate to *express_installation_location*`\Xcelerator\Xcelerator\Custom\TM1Data\CXMD\sourcefiles\common\xls`, select `promotions.csv`, and then click **Open**.

   The data opens in a box called a widget. In the top half of the widget, the data appears in a crosstab. In the bottom half, the data is displayed as a chart.
4. In the upper-left corner, click the **Actions** icon  , and then click **Save as**.
5. Type `promotions.cdd` as the filename and click **Save**.

Results

Your new workspace is saved on your computer.

Designing a workspace

In this exercise, you will make these design changes to your workspace:

- add text
- move a widget
- apply a theme

Procedure

1. In the promotions.cdd workspace, in the upper-right corner of the widget, click the Restore this widget icon 

   The widget is minimized, leaving you space to add another widget to your workspace.
2. Click **Insert** > **Text**.

   A text widget appears.
3. Type `This chart shows how promotion and advertising costs vary by region`.
4. Move your cursor over the border of the text widget until the cursor shape changes to a four-arrow cross  , then click and drag the text widget to the open area of the workspace.
5. Click **Style** > **Apply Workspace Theme**.
6. Click the **Focus** graphic, and then click **OK**.

   The theme is applied to the workspace.
7. In the upper-left corner, click the **Actions** icon  , and then click **Close**.
8. When prompted to save the changes, click **Yes**.

   The workspace closes, but Cognos Insight remains open.

What to do next

In the remaining exercises, you will use sample workspaces that are provided with the product.

Navigating the tabs in a workspace

As a sales executive at the Samples Company, you need to keep track of how the company is doing.

To do this, you want to look at the company's sales data for its products to determine whether there are problem areas that need further investigation. Tabs are used to categorize the data and help you navigate it.

Procedure

1. In the upper-left corner, click the **Actions** icon  , and then click **Open**.
2. Navigate to *express_installation_location*`\webapps\p2pd\samples\datasources\desktop\EN`, and double-click `Orders.cdd`.
3. In the lower-left corner of the workspace, or canvas, click the **Orders** tab.

   Note that there are three product lines Infinity, Kodiak, and Legend, and that order information is shown for all three. You can see in the **Orders information** widget that sales are much lower for the Kodiak line than for the other two lines. You want to explore the data to find more information about the sales.
4. In the left side of the workspace, in the **Products** widget, or pane, click the **Kodiak** explore point, or filter.

   This filters out product information for Infinity and Legend.

   To redisplay all the products, click the clear filter icon  .
5. In the lower right of the workspace, click the slices of the pie chart to display sales information for the countries where the Kodiak product line is sold.

6. In the upper left of the workspace, in the **Customers** widget, click **Kanga Kampers**.

   The **Orders information** widget shows the sales revenue for the **Kanga Kampers** company and also shows that all sales occurred in **February**.

   In the upper right, the **Sales by country** widget shows the sales revenue by country. All sales occurred in **Australia**.

   In the lower left of the workspace, the area chart shows the sales graphically.

   In the lower right of the workspace, the pie chart shows the breakdown of sales by country.

   In the lower part of the workspace, under the area and pie charts, the **Order details** widget shows more details about the **Kanga Kampers** sales, such as **City**, **Order quantity**, **Order date**, **Ship date**, and **Sales representative**.

   In the left side of the workspace, in the **Order size** widget, note that all orders are within the 1-5,000 range.
7. In the lower left of the workspace, next to the **Orders** tab, click the **Products** tab.

   The widgets in this tab show survey, product, sales, and revenue information.
8. Click the **Gross margin**, **Revenue**, and **Sales trend** tabs, and the button for each year to see the information for each area.

   Now that you have explored the data, you can see how you can use tabs to organize data and filters to hide or focus on specific data.

   For instance, you can use tabs to tell a story about your own business. You can outline various aspects of your business on multiple workspaces. Then, you can use tabs to separate these aspects into meaningful divisions that allow you to quickly view and work with your data analysis.
9. In the upper-left corner, click the **Actions** icon  , and then click **Close**.

   When you are prompted to save the changes you made to the sample, click **No**.

Exploring the data

As a sales account manager, you know that sales are down for the Legend line of products. You want to drill into the data in your workspace to determine where there may be sales opportunities.

Procedure

1. In the upper-left corner, click the **Actions** icon  , and then click **Open**.
2. Navigate to *express_installation_location*`webapps\p2pd\samples\datasources\desktop\EN`, and double-click `Orders.cdd`.
3. In the lower-left corner of the workspace, or canvas, click the **Orders** tab.
4. On the left side, under **Products**, click **Legend**.

   This hides product information about **Kodiak** and **Infinity**.

   You see that orders have dropped sharply in July. You want to further explore customer sales for that month.
5. On the left side, under **Customers**, note that there are seven customers listed and that four customers ordered Legend products. They are shown in bold at the top of the list.

   The chart showing the order size over time is currently displayed as an area chart. For a more effective representation, you want to change it to a bar chart.

Before distributing this workspace, the administrator locked the widgets on it to preserve data integrity and prevent users making accidental changes to the data. However, you need to edit a crosstab, so you must unlock the widgets.

6. Right-click in the chart widget, and then click **Unlock widget**.

   To unlock all widgets, place the cursor on the background of the workspace, right-click, and then click **Unlock all widgets**.

   A toolbar appears above the chart.

7. On the right side of the toolbar, click the change chart icon  and from the list, click **Bar**.
8. Right-click in the chart, and then click **Lock widget**.

   To lock all widgets, place the cursor in the background of the workspace, right-click, and then click **Lock all widgets**.

   The bar chart appears.
9. In the left side of the workspace, under **Customers**, click each of the customers who bought **Legend** products to see sales by month and country to help you determine when and where to target your sales campaigns.

   From exploring the data in this task, you can tell that there may be sales opportunities for the Legend line of products among the three companies that did not order the Legend products. There may also be opportunities to increase sales to your current customers.
10. In the upper-left corner, click the **Actions** icon  , and then click **Close**.

    When you are prompted to save the changes you made to the sample, click **No**.

    Focusing on key aspects of your data is easy to do in Cognos Insight. It is also important because it allows you to see differentiators in your data that you may otherwise not have known about from a common spreadsheet.

Customizing your view of the data

You can customize the data in your workspace to see different information than what is displayed by default.

Procedure

1. In the upper-left corner, click the **Actions** icon  , and then click **Open**.
2. Navigate to *express_installation_location*`webapps\p2pd\samples\datasources\desktop\EN`, and double-click `Orders.cdd`.
3. In the lower-left of the workspace, click the insert a new tab icon  .

   A new tab appears called **Tab 5**.

   You now have a blank canvas to use for creating a new view of the data.

   You can rename the tab to something more meaningful. To do this, right-click **Tab 5**, click **Rename**, and type a new name, for example, `Sales`.
4. In the upper-right side of the toolbar, click the content icon  to see all the dimensions and measures that have been imported.

   The **Data** pane shows the metadata for the cubes that are in the Orders.cdd sample.
5. Drag the **Orders information** cube onto the workspace.

   The **Data** pane contains the metadata. The crosstab and chart contain the data.

By default, dragging the cube displays the first dimension, in this case, **Total of order number**, and all the measures available in the cube. In this case, there is only one measure, **Order revenue**.

The overview area above the workspace shows you which dimensions are available in the cube that you dragged onto the workspace.

6. Click each dimension to see the information within it.

   Instead of the **Total of order number**, you want to see the **Total of products**. To do this, you need to swap the **Total of products** dimension for the **Total of order number** dimension.

7. Drag **Total of Products** onto **Order number** in the overview area.

   As well as the total of products, you want to see customer information.

8. Drag **Total of Customer** next to **Products**.

   The total of products for all customers and the total of products for each customer are displayed.

   To see the total for each product, you must first hide the **Total of Products**.

9. Right-click **Total of products** on the workspace, click **Show dimension**, and then click **Don't show totals** .

   Next, you want to see revenue information.

10. Drag **Total of months** in the overview area beside **Orders Measures** in the overview area.

    This adds revenue columns for January to July.

11. To see the quantity ordered by month, click **Total of Order size** in the overview area, and then click each entry to see the quantity that each customer is buying each month.

    By swapping, nesting, and positioning your data set, you can create the views and perspectives that you need to help you analyze your data.

12. In the upper-left corner, click the **Actions** icon  , and then click **Close**.

    When you are prompted to save the changes you made to the sample, click **No**.

Performing a what-if analysis

As the human resources manager, you need to determine the business impact of making changes that affect the structure and staff of the Samples Company. In this case, you want to see the effect of increasing salaries by 5%.

Procedure

1. In the upper-left corner, click the **Actions** icon  , and then click **Open**.
2. Navigate to *express_installation_location*`webapps\p2pd\samples\datasources\desktop\EN`, and double-click `HumanResources.cdd`.
3. Click the **Employee expenses** tab.
4. In the **Employee expenses** crosstab, right-click **Pay**, and then click **Duplicate Member**.

   The duplicate column named **Pay type1** appears beside the **Pay** column.

5. Type `What-if Pay 5` to rename the column.
6. In the **What-if Pay 5** column, click the **Total of Country** cell, type `inc5`, and click **Enter**.

   The values in all the cells in the **What-if Pay 5** column increase incrementally by 5%.

Note that the **What-if Pay 5** column is also added to the chart below the crosstab.

You can create what-if scenarios to forecast, plan, and differentiate the possibilities of your data set.

7. In the upper-left corner, click the **Actions** icon  , and then click **Close**.

   When you are prompted to save the changes you made to the sample, click **No**.

Manipulating and analyzing data

As the manager of the Samples Company who is responsible for training, you need to cut costs.

To help you determine where you can cut costs, you want to compare costs for given periods of the year.

Procedure

1. In the upper left-hand corner, click the **Actions** icon  , and then click **Open**.
2. Navigate to *express_installation_location*`webapps\p2pd\samples\datasources\desktop\EN`, and double-click `HumanResources.cdd`.
3. Click the **Employee training** tab.

   This tab provides at-a-glance course information. It shows the courses by name, a list of attendees, the total course enrolment by course, and graphs of the course cost, the number of days, and the enrolment by month.

   Now, you want to group **January**, **February**, and **March** so that you can analyze the data by quarter.
4. Place your cursor on the background of the **Employee training by month** widget, right-click, and then click **Unlock Widget**.
5. Ctrl+click **January**, **February**, and **March**.
6. Right-click and then click **Insert Parent**.

   Note that the selected members are grouped under a new member called **Member 1**.
7. To rename **Member 1** to something more meaningful, right-click **Member 1**, click **Rename Member** and type `Quarter 1`.

   You can now see that the course costs for the quarter are $13,750, which accounts for about one third of the total course cost of $40,000 for the first seven months of the year. Since the total for the quarter is less than the total for the month of July, you may want to explore further to see why there is such a difference so that you can decide whether you need to take action.

   Creating hierarchies of parent/child relationships allows you to expand your data set and gives you enhanced control of your application.
8. In the upper left-hand corner, click the **Actions** icon  , and then click **Close**.

   When you are prompted to save the changes you made to the sample, click **No**.

Sharing a workspace

In this exercise, you will share the `HumanResources.cdd` workspace with colleagues by using IBM Cognos Connection to control access to the workspace.

When your colleagues access the workspace from Cognos Connection, IBM Cognos Insight is automatically installed for them if they do not have it already.

Procedure

1. In the upper-left corner, click the **Actions** icon  , and then click **Open**.
2. Navigate to *express_installation_location*`webapps\p2pd\samples\datasources\desktop\EN`, and double-click `HumanResources.cdd`.
3. Click the **Actions** icon  and then click **Share**.
4. In the **IBM Cognos system URL** field, specify the Cognos Express system that you want to use.

   Tip: The URL is typically `http://`*Cognos_Express_server_name*`:19300/p2pd/servlet/dispatch`
5. Enter your credentials for the specified Cognos Express system.
6. Specify the name and location for the workspace document.
7. Click **Next** to review what will be shared.
8. Click **Finish** when you are ready to share the workspace.

Publishing a workspace

In this exercise, you will publish the `Orders.cdd` workspace that users can access from the IBM Cognos Express Planner Application portal.

The underlying data is stored on an IBM Cognos Analytic Server and IBM Cognos Insight is used to connect to the server.

Procedure

1. In the upper-left corner, click the **Actions** icon  , and then click **Open**.
2. Navigate to *express_installation_location*`webapps\p2pd\samples\datasources\desktop\EN`, and double-click `Orders.cdd`.
3. Click the **Actions** icon  and then click **Publish**.
4. Click the **Publish** option.
5. In the **IBM Cognos TM1 system URL** field, specify the Cognos Express system that you want to use.

   Tip: The URL is typically `http://`*Cognos_Express_server_name*`:19300/pmpsvc/services/`
6. Enter your credentials for the specified Cognos Express system.
7. Specify the name of the Cognos application that you want to create.
8. If you want to publish a responsibility application type, select the dimension that will control access to data. If you want to publish a central application type, do not select a dimension.

   A responsibility application type is based on a reporting structure, such as the structure of your business. It does not have a defined end date, such as rolling forecasts or continuous planning processes. You cannot lock this application.

   A central application type is used by a small group of users who equally share the task of performing central planning or analysis.
9. Click **Next** to review what will be published.
10. Click **Finish** when you are ready to publish the workspace.

Chapter 4. Getting started with modeling

IBM Cognos Express allows you to easily create both basic and advanced models for accessing your data.

The IBM Cognos Express Modeling tools - Data Advisor, Architect, and Framework Manager

IBM Cognos Express contains three modeling tools, each with different capabilities.

- IBM Cognos Express Data Advisor allows you to create multi-dimensional based model definitions and relational model definitions. Express Data Advisor Server generates multi-dimensional packages and relational packages with these model definitions.

  You can use these packages to analyze your data in IBM Cognos Express Advisor and IBM Cognos Express Query Studio.
- IBM Cognos Architect allows you to connect to an IBM Cognos Analytic Server (ICAS), which acts as a repository for IBM Cognos Express Xcelerator objects and data. If you have the proper administrative authority, then you can create and maintain cubes, dimensions, and processes that can be made available to other users.
- IBM Cognos Framework Manager allows you to create advanced relational models. You can then publish the models as packages to IBM Cognos Connection. If you install IBM Cognos Express Reporter, you can use Report Studio and Query Studio to report on your published packages.

IBM Cognos Express Data Advisor is aimed at knowledgeable business users to perform basic multi-dimensional and relational modeling tasks. Creating advanced multi-dimensional models is the realm of IBM Cognos Architect whereas advanced relational models can be created using IBM Cognos Framework Manager.

Basic modeling

IBM Cognos Express Data Advisor enables you to use relational data for analysis purposes by creating a model definition that is either multi-dimensional based or based on relational tables. With this model definition, the Express Data Advisor Server generates either a cube or a relational package.

Before you can create and then configure a model definition, you must

- ensure that the ODBC data source is configured identically on the Express server and on your Express Data Advisor client computer
- install IBM Cognos Express Data Advisor

Creating a model definition in IBM Cognos Express Data Advisor

To create a model definition you must connect to an available ODBC data source. To create an ODBC data source, contact your system administrator.

For more information, see “Configuring an ODBC data source” on page 27.

Note: You can change properties after creating the model definition by clicking the **Model Definition properties** icon  .

Procedure

1. Click the **New Model Definition** icon  .
2. In the **General** tab of the **New Model Definition** dialog box specify the following properties.
   - **Name**

     This is the name of your model definition. This will also be the file name when you save a model definition.
   - **Data Source**

     The available tables from the ODBC data sources that are defined on your system display. Select the ODBC data source that you want to use in your model definition.
   - **Package**

     This option allows you to store the package in the **Public Folders** or in the **My Folders** in the content store.

     Only authorized users can access the **Public Folders** in the content store. Only you are authorized to access the **My Folders**. You can store packages in either the **Public Folders** or the **My Folders** of the content store.
   - **Model**

     Specify whether you want to create a multi-dimensional (OLAP) based model definition or a relational model definition.
3. In the **Advanced** tab of the **New Model Definition** dialog box select
   - **Client based** to use the ODBC data source from the client system.
   - **Server based** to use the enterprise wide ODBC data source.

   This property only applies to multi-dimensional model definitions.

   Note: You can change properties after creating the model definition by clicking the **Model Definition properties**icon  .

Configuring a model definition in IBM Cognos Express Data Advisor

The model definition is the basis for accessing your relational data. After you use IBM Cognos Express Data Advisor to configure a model definition, you can analyze your data in IBM Cognos Express Advisor or create reports on your data in IBM Cognos Query Studio.

For more information, see the *Express Advisor* user guide, and the *Query Studio* user guide .

Selecting data

The Select Data pane allows you to select the tables you are interested in. You can disable and enable tables individually. Alternatively you can disable and enable tables collectively by right-clicking in the Select Data pane, outside a table, and selecting the appropriate command.

The contents of a table can be previewed by clicking the **Show Table preview** icon  .

Creating relationships

If relationships are not predefined in your data source, you can create relationships by dragging a field from a table and dropping it on another field.

Creating dimensions

Dimensions are only available in multi-dimensional model definitions. By default two dimensions are present.

The **Values** dimension is mandatory and the **Time** dimension is optional.

Drag and drop the appropriate fields on the **Values** dimension and the **Time** dimension.

Create additional dimensions by dragging and dropping fields in the **Create Dimensions** pane.

Create hierarchies by adding additional levels to a dimension.

The contents of a table can be previewed by clicking the **Show Dimension preview** icon  .

Advanced modeling

IBM Cognos Express supports advanced modeling tasks:

- You can create a cube in IBM Cognos Architect.
- You can use IBM Cognos Framework Manager to create models or packages.

Creating a cube in Architect

There are two ways to create cubes:

- Empty Cube - Select from a list of existing dimensions in the Creating Cube window to create a new cube with no data.
- External Data Sources - Use TurboIntegrator to identify and map dimensions and data from an external data sources to a new or existing cube.

This section documents creating cubes in the **Creating Cube** window. For information about creating cubes in TurboIntegrator, see the *IBM Cognos Analytic Server TurboIntegrator Guide*.

Ordering Dimensions in a Cube

Dimensions in a cube have an order that you select when you create a cube. The order you select can affect system performance, so you should give some consideration to the order of dimensions before creating a cube.

As a first step toward ordering dimensions, divide the dimensions into two groups: sparse and dense dimensions. A dense dimension has a high percentage of values for its elements. You can estimate the density by answering this question: If one element in the dimension has a value, keeping the elements of the other dimensions constant, what is the probability that the other elements in the dimension have values?

For example, if you have a budget in January for a given account and region, you probably also have a value for the remaining months. Therefore, the Month dimension is probably dense.

However, in a worldwide sales cube, you probably do not sell every product in every region. Therefore, you would treat Product and Region as sparse dimensions.

We generally recommend that you order the dimensions as follows: smallest sparse to largest sparse, followed by smallest dense to largest dense.

Creating a Cube

Perform the following steps to create a cube.

Procedure

1. Click **Start**, **All Programs**, **IBM Cognos Express**, **Architect**.
2. In the Server Explorer, click the plus sign (+) next to **Servers** to reveal the IBM Cognos Analytic Servers that are available on your network.
3. Double-click the server on which you want to create a cube..
4. On the login screen, enter your **User ID** and **Password**, then click **OK**.
5. Click **Cubes**, **Create New Cube**.

   The **Creating Cube** dialog box opens. The **Available Dimensions** box on the left lists the dimensions stored on the server.
6. Type a cube name in the **Cube Name** field.
7. In the **Available Dimensions** box, double-click the name of the dimension you want to use as the *first* dimension in the new cube.

   The dimension name moves to the **Dimensions in new cube** box.

   You can also use the arrow button to move selected names from the **Available Dimensions** box to the **Dimensions in new cube** box. To select multiple adjacent names, click and drag across the names. To select multiple non-adjacent names, hold down CRTL, and click each name.
8. Repeat the selection process for all the dimensions you want to include in the new cube. You must select at least two dimensions. The maximum number of dimensions is 256.
9. Using the up and down arrows, rearrange the dimensions if necessary. To remove a dimension from the list, double-click the dimension name.
10. If you want to specify the cube properties, click **Properties**. If you do not want to assign cube properties, skip to step 13.

    The **Cube Properties** dialog box opens.

    From here, you can set a Measures and Time dimension for the cube, and specify if the cube is loaded automatically or on demand.

    Note: OLE DB for OLAP clients may include provisions for referencing Measures and Time dimensions. Xceleratordoes not reference Measures and Time dimensions, but does allow you to set these properties for other OLAP clients that may access the cube.
11. To set a Measures dimension, select a dimension from the **Measures Dimension** list.
12. To set a Time dimension, select a dimension from the **Time Dimension** list.
13. Specify how to load the cube:
    - To load the cube into server memory only when a client requests cube data, select the **Load On Demand** box.
    - To automatically load the cube into memory when the server starts, clear the **Load On Demand** box.
14. Click **OK** to save the properties and return to the **Creating Cube** dialog box.
15. Click **Create Cube** to create the cube.

The Server Explorer window opens. The new cube displays in alphabetical order in the **Cubes** list.

Creating or modifying a model in IBM Cognos Framework Manager

After you install Framework Manager, use it to create or modify models and to publish packages if this is a function that you will perform in your organization.

Because stored data is typically designed for storage and not for reporting, a model allows you to structure, add to, and manage data in ways that make sense to business users. For example, a model defines business rules, data descriptions, data relationships, business dimensions and hierarchies, and administrative tasks.

A package contains all the information that a specific user or group of users needs to create reports. For example, one package can contain human resources data, and another sales data. When you open an authoring studio, you must select which package to use. Each report can contain data from only one package.

This section does not include instructions for modeling data in Framework Manager. For information about how to use Framework Manager, see the *IBM Cognos Express Framework Manager User Guide* and *Guidelines for Modeling Metadata* that accompany Framework Manager.

Tutorial - basic modeling

In this tutorial you use samples. To create model definitions with IBM Cognos Express Data Advisor, you must configure an ODBC data source.

For information about installing the samples, see the *Managing IBM Cognos Express* guide, *Setting up the IBM Cognos Express samples*.

Note: You must perform the procedures in this tutorial on the IBM Cognos Express Server.

Configuring an ODBC data source

To create a model definition, the administrator must first configure the ODBC for IBM Cognos Express Data Advisor.

Procedure

1. Click **Start** > **Control Panel**.
2. Double-click **Administrative tools** > **Data Sources (ODBC)**.

   Note: A 64-bit client system requires 32-bit ODBC data sources. Use the 32-bit data sources application. Click **Start** > **Run** and type:

   %WINDIR%\SysWOW64\odbcad32.exe
3. On the **ODBC Data Source Administrator** dialog box, select the **System DSN** tab and click **Add**.
4. In the **Create New Data Source** dialog box, from the menu, select the IBM INFORMIX ODBC data source driver, and click **Finish**.
5. In the **IBM ODBC Driver Setup** dialog box, on the **General** tab, specify `great_outdoors_sales` in the **Data Source Name** field.

   On the **Connection** tab, from the **Database Name** menu, select **gosales**.
6. Click **OK** until all dialog boxes close.

Creating a cube in IBM Cognos Express Data Advisor and analyzing the data in Express Advisor

With IBM Cognos Express Data Advisor you can create a multi-dimensional model definition. You can use this model definition for creating a package that contains a cube. You can analyze your data by creating a view, that is based on the cube, in IBM Cognos Express Advisor.

Creating the multi-dimensional model definition

Procedure

1. Start Express Data Advisor.
2. In the New Model Definition dialog box specify the following on the **General** tab:
   - For the **Name** type `GoSalesCube`
   - As the **Data Source** select `great_outdoors_sales`
   - For **Package** select **Store in my folder**.
   - For **Model** select **OLAP**.

   On the **Advanced** tab, for **Model generation**, specify the option **Client based**.
3. Click **OK**.

Configuring the multi-dimensional model definition

Procedure

1. On the **Select Data** pane, only select the *order_details* and *order_header* tables from the *gosales* schema.
2. Open the **Define Relationships** pane.
3. From the *order_details* table, drag and drop the *order_number* to the *order_number* column in the *order_header* table.
4. Open the **Create Dimensions** pane.
5. From the *order_details* table, drag and drop the *quantity* column in the **Values** dimension.
6. From the *order_details* table, drag and drop the *ship_date* column in the **Time** dimension.
7. You can choose to create and analyze the cube, or to just create the cube.

   Either

   - Click the **Create and Analyze Cube** icon  .

     Express Advisor starts and displays the view. You can now analyze your data with this view. For information on analyzing your data with Express Advisor, see "Tutorial - analyzing a cube in IBM Cognos Express Advisor" on page 32.

     or

   - Click the **Create Cube** icon  .

     The package is created.

Opening the multi-dimensional package in Express Advisor

Procedure

1. Start **IBM Cognos Connection**.
2. On the **My Folders** tab click **My Folders** > **Advisor Packages** > **GoSalesCube**.
3. Click the **Default Analysis** package.

   Express Advisor starts and displays the view. You can now analyze your data with this view. For information on analyzing your data with Express Advisor, see "Tutorial - analyzing a cube in IBM Cognos Express Advisor" on page 32.

Creating a relational package in IBM Cognos Express Data Advisor and using the data in IBM Cognos Query Studio

With IBM Cognos Express Data Advisor you can create a relational model definition. You can use this model definition for creating a package. You can use this package to analyze your data in IBM Cognos Query Studio.

Creating the relational model definition

Procedure

1. Start Express Data Advisor.
2. In the New Model Definition dialog box specify the following on the **General** tab:
   - For the **Name** type `GoSales`
   - As the **Data Source** select `great_outdoors_sales`
   - For **Package** select **Store in my folder**.
   - For **Model** select **Relational**.
3. Click **OK**.

Configuring the relational model definition

Procedure

1. On the **Select Data** pane, only select the *order_details* and *order_header* tables from the *gosales* schema.
2. Open the **Define Relationships** pane.
3. From the *order_details* table drag and drop the *order_number* to the *order_number* column in the *order_header* table.

   The **Relationship Properties** dialog box appears.
4. Verify that **one** is selected for the *order_header* and that **one or many** is selected for the *order_details* table.

   This means each order header has one or more order details.
5. You can create and use the model or just create the model. Do one of the following things:

   a. Click the **Create and Use Model** icon  . Query Studio starts. You can now analyze your data and create reports. For more information on using Query Studio, see "Tutorial - querying a package in Query Studio" on page 38.

   b. Click the **Create Model** icon  . The package is created.

Opening the relational package in Query Studio

Procedure

1. Start **IBM Cognos Connection**.
2. On the **My Folders** tab click **My Folders** > **Advisor Packages** > **GoSales**.
3. From the **Launch** menu, select **Query Studio**.

   Query Studio starts. You can now analyze your data and create reports. For more information on using Query Studio, see "Tutorial - querying a package in Query Studio" on page 38.

Tutorial - creating an ICAS cube in Architect

An IBM Cognos Analytic Server (ICAS) cube must contain at least two dimensions and can contain as many as 256 dimension. For this example, you create a cube with four dimensions that define the products your company sells through various channels across all months in a year. The cube uses the following dimensions:

- Channels
- Months
- Products
- Sales Plan Measures

The final dimension, Sales Plan Measures, may not seem like an obvious choice. However, a separate measures dimension gives your cubes the ability to adapt to change in the future. Including a measures dimension in every cube means that you can simply add additional measures to that dimension as your business requirements evolve.

Procedure

1. Click **Start**, **All Programs**, **IBM Cognos Express**, **Architect**.
2. In the Server Explorer, click the **+** next to **Servers** to reveal the IBM Cognos Analytic Servers that are available on your network.
3. Double-click **cxmd**.
4. On the login screen, enter your **User ID** and **Password**, then click **OK**.
5. In the Server Explorer, right click **Cubes**, then click **Create New Cube**. The Creating Cube dialog box appears.
6. In the **Available Dimensions** list, double-click each of the following dimensions, in order:
   - Months
   - Sales Plan Measures
   - Channels
   - Products

   Note: If you make a mistake, click the **Reset** button to start over.
   The dimensions are added to the **Dimensions in new Cube** list.
7. After selecting your dimensions, click in the **Cube Name** field and enter `Tutorial Cube` as the cube name.
8. Click **Create Cube**.
9. In the Server Explorer, click the **+** next to the Cubes group to reveal all the cubes on the server. Tutorial Cube appears in this list of cubes.

Chapter 5. Getting started with analysis

IBM Cognos Express Advisor allows you to perform flexible multi-dimensional analysis.

The Express analysis tool - Advisor

IBM Cognos Express Advisor helps you to understand your data in new ways and from different perspectives. You can customize reports or use Express Advisor to do dynamic analyses of results that are important to the decision-making process.

Features of IBM Cognos Express Advisor

With Express Advisor you can:

- Create dashboards
- Change selections
- Change the position of dimensions
- Format your data
- Create calculations
- Show data in tabular and graphical formats
- Print reports and views of your data
- Export your data to Microsoft Excel spreadsheets

See the Express Advisor user guide for detailed information.

Analyzing your data in IBM Cognos Express Advisor

IBM Cognos Express Advisor accesses cube data through a package. If your data is already available in a cube, you can use IBM Cognos Express Manager or IBM Cognos Framework Manager to create a package for that cube. If your data is not available in a cube, you can use IBM Cognos Express Data Advisor to create both the cube that contains your data and a package for the cube.

Starting IBM Cognos Express Advisor from IBM Cognos Express Data Advisor

You can start IBM Cognos Express Advisor from IBM Cognos Express Data Advisor. Depending on the complexity of your analysis definition and the relational data source, this may take some time.

The first time you start Express Advisor you will be asked to install it.

Procedure

With an analysis definition open in Express Data Advisor, click the **Create and Analyze Cube** icon  .
Express Advisor starts with a view that is based on your analysis definition.

Starting IBM Cognos Express Advisor from IBM Cognos Express Welcome page

If an existing database in a package (cube) is already available, you can start using Express Advisor from Express Manager.

The first time you start Express Advisor you will be asked to install it.

For more information see the *IBM Cognos Express Advisor User Guide*.

Procedure

1. In **IBM Cognos Express Manager** click **Launch** > **Advisor**.
2. On the toolbar, click the **Views** button  .
3. Select a package and click **New View**.
4. Select a database from the package and click **OK**.

Starting IBM Cognos Express Advisor from IBM Cognos Express Manager

If an existing database in a package (cube) is already available, you can start using Express Advisor from Express Manager.

The first time you start Express Advisor you will be asked to install it.

For more information see the *IBM Cognos Express Advisor* User Guide.

Procedure

1. In **IBM Cognos Express Manager** click **Launch** > **Advisor**.
2. On the toolbar, click the **Views** button  .
3. Select a package and click **New View**.
4. Select a database from the package and click **OK**.

Tutorial - analyzing a cube in IBM Cognos Express Advisor

In this tutorial you use samples. To use the samples in IBM Cognos Express Advisor you must create a package.

For information about installing the samples, see the *Managing IBM Cognos Express* guide, *Setting up the IBM Cognos Express samples*

Creating a package for Express Advisor

Procedure

1. Open the **IBM Cognos Express Manager** page.
2. Click the **Data** tab in the **Administration** section.
3. Click **Add**.
4. Specify the following:
   - **Data Source Type:** *TM1*
   - **Name:** *Sales Plan Tutorial*
   - **Admin Host:** <*Express Server*>

Specify the name of your Express server.

- **ICAS Server Name:** *CXMD*
- **Cube Name:** *Sales Plan*
- **Namespace:** *CognosExpress*

5. Click **OK**.

Analyzing a cube in Express Advisor

Procedure

1. Open the **Welcome to IBM Cognos Express** page.
2. Click **Analyze my Business with Advisor**.
3. Click the package *Sales Plan Tutorial*.
   Express Advisor starts.
4. Click the **Views** button on the toolbar tab.
5. On the **Public Folders** tab, click the *Sales Plan* **Package** icon .
6. Click **New**.
7. Select **View**.
8. Type the name of the new view.
9. Click **Open**.
   In the **Connection Information** dialog box, the package *Sales Plan Tutorial* is already selected.
10. From the **Database** menu, select the *Sales Plan* database and click **OK**.
    You can now analyze your data in the view you created.

Chapter 6. Getting started with reporting

IBM Cognos Express Reporter allows you to perform ad-hoc queries on your company data and to create professional reports for distribution to other users. The starting point for IBM Cognos Express Reporter is a self-service Web portal where you can view and store IBM Cognos Express Reporter content.

You can download to your computer an additional application called Framework Manager. This application allows you to model your company data and make packages available to other users who can then use the packages to create reports.

The tasks in this section help you to start using IBM Cognos Express Reporter and provide an overview of the various applications that are available to you.

The Express reporting tools - Report Studio and Query Studio

IBM Cognos Express Reporter contains two tools for creating and querying reports.

- IBM Cognos Report Studio allows you to author reports that analyze corporate data according to specific business needs.
- IBM Cognos Query Studio allows you to create self-service business intelligence reports.

Launching IBM Cognos Express

If you don't already know the Web address to launch IBM Cognos Express, ask your administrator to provide it to you.

The Web address to launch the Welcome page is usually as follows:

http://*express_server_name*:19300/cognos_express/manager/welcome.html, where *express_server_name* is the computer name of the IBM Cognos Express server.

Creating a report with Query Studio

The following steps will help you to create a simple report in Query Studio and will highlight some of the features that are available. In Query Studio, with minimal steps, you can view data, author basic reports, change the report layout, filter and sort data, add formatting, and create charts.

Procedure

1. Open Query Studio. On the IBM Cognos Express Welcome page, click **Query my business data with Query Studio**. You must select a package before you can continue. You can select a package that your administrator or another user published or a package that you created with Framework Manager.
2. In Query Studio, under **Insert Data** on the left side menu, browse the data tree and find the items that you want to include in your report.
3. Add data to your report by doing one or more of the following actions:
   a. Double-click the data items you want to add.
   b. To remove items, select them and click the delete icon  .

c. To rename items, double-click the title area and type the new title. To move items, drag them to a new position in the report.

4. To group data, select the columns that you want to group and click the **Group** icon  . If your report includes measures, notice that summaries, such as totals and subtotals, are added automatically.
5. To format data, right-click a cell in the report and click **Format Data**. For example, you can change the number of decimal places or add a currency symbol.
6. To change the appearance of your report, use the buttons on the style toolbar. For example, you can add color or change the font.
7. To narrow the focus of your report to one or more data items, select the column that contains the items that you want to use to filter and click the filter icon  (or right-click and select **Filter**).

   This opens a new screen that allows you to select only the data items that you want in your report. For example, include data for only a specific year or product line.
8. To add a visual representation of your data to the report, on the standard toolbar, click the **Chart** icon  . You see a list of available chart options to add to your report. Choose the one that best suits the data that you want to represent. Data is automatically plotted on the chart. To change the chart type, repeat this process.
9. To save your report, click the **Save** icon  . Provide a name for your report and select a location in IBM Cognos Connection to save your report. Save your report in **Public Folders** to make it available to others. Save it in **My Folders** to make it available only to yourself. To change the default location, click **Select another location**.

   Tip: By default, you cannot save reports at the top level of IBM Cognos Connection unless your system administrator has given you permission to do so.

Results

Now that you have saved the report, you can open it again later with Query Studio to change it or make it available to other users who can view and print it from the IBM Cognos Connection portal.

For more information about how to use Query Studio, see the *IBM Cognos Express Query Studio User Guide* and quick tour available from the **Help** menu.

Creating a report with Report Studio

You can use Report Studio to modify the report that you created and saved in the last section or to create a more sophisticated report. Report Studio allows you to create reports with more complex layout, formatting, and report user interactions.

Procedure

1. On the IBM Cognos Express Welcome page, click **Create professional reports with Report Studio**.

2. When prompted, select the same package that you used in the previous exercise, and then click **Open an existing report or template**. Choose the Query Studio report that you already saved. Alternatively, if you still have the Query Studio report open, from the **Manage File** menu on the left side of the Query Studio screen, select **Open in Report Studio**.
3. Change the list to a crosstab. Select a cell in the list report, and click the **Pivot list to crosstab** icon  .
4. View objects that you can insert in your report. At the bottom of the **Insertable Objects** pane, click the **Toolbox** tab  . From here, all the objects that you can insert into your report are available, such as calculations, filters, prompts, and layout objects. With these objects, you can add additional business logic and sophisticated formatting to the report.
5. Run the report. On the toolbar, click the drop-down arrow beside the **Run report** icon  . Here you will see a variety of options for viewing the report. Click **Run Report - PDF**. If you added prompts to your report, you are asked to enter values in your prompt before you can view the report. Your report opens in PDF format, which is suitable for printing and saving for distribution to other users.
6. To save your report, click the **Save** icon  . Provide a name for your report and select a location in IBM Cognos Connection. Save your report in **Public Folders** to make it available to others. Save it in **My Folders** to make it available only to you. To change the default location, click **Select another location**.

   Tip: By default, you cannot save reports at the top level of IBM Cognos Connection unless your system administrator has given you permission to do so.

Results

Report Studio provides you with all of the capabilities that you need to create highly formatted reports which can be distributed to end users through a variety of options.

For more information about how to use Report Studio, see the *IBM Cognos Express Report Studio User Guide* and quick tour available from the **Help** menu.

View content in IBM Cognos Connection

Launch IBM Cognos Connection from the IBM Cognos Express Welcome page and navigate to the locations where you saved the reports that you created in this chapter. Beside each report is a list of Actions that you can perform, such as running the report in different formats, scheduling the report to run at a later time, and opening the report in Query Studio or Report Studio for further authoring.

For more information about using IBM Cognos Connection, see the *IBM Cognos Connection User Guide*.

If your IBM Cognos Express administrator has installed and configured the samples that come with the product, you will see a **Samples** folder in Cognos Connection that contains predefined Query Studio and Report Studio reports. To view these reports, click **Samples** > **Models** and then select one of the blue GO

Sales folders to see the content that is available. You can run these reports by clicking on them, or open them in Query Studio or Report Studio to examine how each was created.

The sample reports provide you with examples of the types of features that are available in the product and how you can use these features to design and format your own report. Within these reports, you will find examples of how you can use charts, dynamic prompts, and the drill-up and drill-down features that can help to focus a report and provide real business value to yourself and other users.

Tutorial - Report Studio, Query Studio, Business Insight, and Business Insight Advanced

The following tutorials require that your IBM Cognos Express administrator has installed and configured the samples package that is included with the product.

Tutorial - querying a package in Query Studio

Procedure

1. Navigate to the **Welcome to IBM Cognos Express page**, log on with your user name and password when prompted, and then click **OK**.
2. Click **Query my business data with Query Studio**.
3. Under the list of packages, click **Samples** > **Models** > **GO Sales (query)**.
4. In Query Studio, under the **Insert Data** menu, expand the **Inventory (query)** folder, then expand the **Inventory**, **Branch**, **Product**, and **Time** folders.
5. From the **Time** folder, drag and drop the **Year** column into the blank report window in the middle of the page.
6. From the **Product** folder, drag and drop the **Product line** column onto the report to the right of **Year**.
7. From the **Product** folder, drag and drop the **Product type** column onto the report to the right of **Product line**.
8. From the **Inventory** folder, drag and drop the **Quantity Shipped** column onto the report to the right of **Product type**.
9. Within the report, click the **Year** title to highlight it, then select the **Group** icon  . Repeat this action with the **Product line** column.
10. Right-click on any number in the **Quantity Shipped** column and select **Format Data**. In the window that appears, set the **Category** to **Number**, the **Number of decimal places** to **0** and the **Thousands Separator** to **Yes**, then click **OK**. The data in the column is formatted accordingly.
11. Click the Chart icon  at the top of the screen to add a chart. Select **Pie** as the Chart type then click **OK**. A chart for each year is added to the report.
12. Click on the **Title** of the report to change the name and type **Quantity by Product Type** in the title box, then click **OK**.

    The new title is reflected at the top of the report.
13. Click the Save icon. Type **Quantity by Product Type** in the **Name** dialog box and click **Select My Folders**. Click **OK**.

Results

The report is now saved to the Cognos Connection portal on the **My Folders** tab.

You can find other tutorials for Query Studio by clicking the **Quick Tour** button at the bottom of the **Welcome to IBM Cognos Express** page. For more information about using Query Studio, see the *IBM Cognos Express Query Studio User Guide* by clicking the **Help** link in Query Studio.

Tutorial - reporting on a package in Report Studio

Procedure

1. Navigate to the **Welcome to IBM Cognos Express page**, log on with your user name and password when prompted, and then click **OK**.
2. Click **Create professional reports with Report Studio**.
3. Under the list of packages, click **Samples** > **Models** > **GO Sales (query)**.
4. In the **Welcome** dialog, select **Create a new report or template**.
5. Select the **List report** from the list of available templates, then click **OK**.
6. In Report Studio, expand the **Sales target (query)** folder, then expand the **Sales target**, **Product**, **Retailer**, and **Sales staff** folders.
7. From the **Sales staff** folder, drag and drop the **Sales region** column into the blank report window in the middle of the page.
8. From the **Retailer** folder, double-click the **Retailer site** column to add it to the list report.
9. From the **Product** folder, double-click the **Product line** column to add it to the report.
10. From the **Sales target** folder, double-click the **Sales target** measure to add it to the report.
11. Highlight the **Sales region** column title in the report and then click the **Section** button at the top of the page.
12. Click the **Retailer site** column title to highlight it and then click the **Pivot list to crosstab** button. This converts the list report into a crosstab.
13. From the **Product** folder in the **Insertable Objects** pane, drag the **Product type** column beside **Product line** in the report to nest it.
14. Click the **Filter** button.
15. Click the **Add** button at the bottom left corner of the dialog box, then under **Available Components**, select the **Data Items** tab to view the data that has already been added to the report.
16. Double-click **Sales region** to add it to the Expression Definition.
17. In the Expression Definition, beside Sales Region, type `= '?Sales Region?'`. Click **OK** to close the **Detail Filter Expression** box, then click **OK** to close the **Filters** dialog box.
18. Double click the text **Double click to edit** and type `Sales Target by Region` in the text box that appears, then click **OK**. The report title is updated.
19. Run the report by clicking the **Run** button. The prompt for Sales Region that was created in the last step is displayed.
20. Select a value from the drop-down box, for example Americas, then click **OK**. The report is displayed.
21. Select the **View** button at the top of the screen and from the drop-down box, select **View in PDF format**. The report is shown in this output.
22. Close the PDF report.
23. In Report Studio, select **File** > **Save As**. In the **Save As** dialog box, select **My Folders**, then type a name for the report. For example, Sales Target Report, and click **Save**.

24. Close Report Studio.
25. View the **My Folders** tab in Cognos Connection.

Results

The new report that you created appears. You can run it from this location or save it to a folder on the **Public Folders** to make it available to other users of IBM Cognos Express Reporter.

This tutorial on Report Studio provided information on just a small number of the features that are available within the product to create sophisticated reports for your business. You can find other tutorials for Report Studio by clicking the **Quick Tour** button at the bottom of the **Welcome to IBM Cognos Express** page.

For more information about using Report Studio, see the *IBM Cognos Express Report Studio Professional Authoring User Guide* or the *IBM Cognos Express Report Studio Express Authoring User Guide* by clicking the **Help** link in Report Studio.

Tutorial - creating a workspace using Business Insight and Business Insight Advanced

Use IBM Cognos Business Insight to build sophisticated interactive workspaces that facilitate collaborative decision making. You can open workspace widgets in IBM Cognos Business Insight Advanced to edit them.

In this exercise, you will open a Business Insight workspace widget in Business Insight Advanced to make changes and then view your changes in Business Insight.

You are a report author in the Sample Outdoors Company. You wish to create a workspace showing employee training by organization level. You have a report widget that shows some of the information you need, so you decide to customize this widget and create a workspace for future reference.

To perform this exercise, you must have the appropriate licensing and security permissions for this functionality.

Procedure

1. Open the **Welcome to IBM Cognos Express page**, typically `http://express_server_name:19300/cognos_express/manager/welcome.html`.
2. Click **Create my workspaces with Business Insight**.
3. Click **Create New**.
4. In the **Content** tab of the **Content** pane, expand **Public Folders** > **Samples** > **Models** > **Go Data Warehouse (analysis)** > **Business Insight Source Reports**.
5. Drag **Employee Training Cost** to the workspace.
6. Click the report actions icon  for the **Employee Training** widget, and then click **Do More...** The report widget opens in IBM Cognos Business Insight Advanced.
7. Click the chart body.
8. Delete **Course cost** in the **Default measure (y-axis)** drop zone.

9. Expand **HR (analysis)**, **Employee training**, and **Employee training fact**, and drag **Course cost** to replace **Employee expense type** in the **Series (primary axis)** drop zone.
10. In **HR (analysis)**, **Employee training**, expand **Organization**, **Organization**, and drag **Organization name (level 1)** to replace **Organization (level 1)** in the **Categories (x-axis)** drop zone.
11. Click **Done** to return to the Business Insight workspace. Note your changes to the Employee Training widget.
12. Click the report actions icon for Business Insight, and then click **Save as**.
13. Click **My Folders**, and type **My Employee Training** in the **Name** text box, and then click **Save**.

    The final report shows that Star Gazer 2 tent has the most lost revenue.

What to do next

For information about using Business Insight, see the *IBM Cognos Express Business Insight User Guide*.

Tutorial - creating a statement-style report using Business Insight Advanced

Use IBM Cognos Business Insight Advanced for financial report authoring, such as creating and maintaining statement-style reports. Financial authoring in Business Insight Advanced requires many but not all of the features that already exist in IBM Cognos Report Studio, combined with a more intuitive user experience, and interaction with live data.

The user interactions in Business Insight Advanced simplify the process of creating statement-style reports. A template featuring an appropriate starting point for financial report creation is included with the product.

In this exercise, you will learn how to create a statement-style report.

You are a report author in the finance department of the Sample Outdoors Company. You create a balance sheet that shows the assets, liabilities, and equity for the company over the last few years.

To perform this exercise, you must have the appropriate licensing and security permissions for this functionality.

Things to notice:

- When you use Business Insight Advanced, data is live. You do not have to run a report to see the data. From the **View** menu, you can switch between the **Page Design** and **Page Preview** views to see the live data and the design of your report.

Procedure

1. Open the **Welcome to IBM Cognos Express page**, typically `http://express_server_name:19300/cognos_express/manager/welcome.html`.
2. Click **Author reports with Business Insight Advanced**.
3. Click the **GO Data Warehouse (analysis)** package.
4. Click **Create new**, click **Financial**, and click **OK**.
5. Insert data in the crosstab zones:

a. In the **Source** tab of the **Content** pane, expand **Finance (analysis)**, **Finance**, **Account**, and **Balance sheet (total)**.
b. From **Balance sheet (total)**, drag **Assets (total)** to the **Rows** zone.
c. From **Balance sheet (total)**, expand **Liabilities & equities (total)**, and drag both **Liabilities (total)** and **Equity (total)** to the **Rows** zone, under the **Assets (total)**. **Tip:** When you drag an object to the crosstab, you will see a flashing horizontal or vertical bar. This indication tells you where the item will be placed in the crosstab.
d. In the **Source** tab of the **Content** pane, expand **Submission**, and drag **2006 Actual results in USD** to the **Columns** zone.
e. Drag **2005 Actual results in USD** to the **Columns** zone, to the right of **2006 Actual results in USD**.
f. In the **Source** tab of the **Content** pane, expand **Time dimension**, **2006**, and **Q4 2006**, and drag **December 2006** to the **Columns** zone, under the **2006 Actual results in USD**.
g. Expand **2005** and **Q4**, and drag **December 2005** to the **Columns** zone, under the **2005 Actual results in USD**.
h. From **Finance (analysis)**, expand **Finance fact**, and drag **Amount (year to date)** to the **Measures** zone.

   The report shows for 2006 and 2005, the amount (year to date) for assets, liabilities, and equity.

6. Expand the rows to view the company's breakdown of assets, liabilities, and equity:
   a. In the report, right-click **Assets (total)** and click **Expand Member** to examine the members of the company's assets.
   b. Repeat for **Liabilities (total)** and **Equities (total)**.
7. Change the title of the report to reflect the contents of the balance sheet:
   a. Double-click the heading title, type **Sample Outdoors Company**, and click **OK**.
   b. On the **Toolbox** tab, drag the **Block** object to the right of the **Sample Outdoors Company** title. Repeat the steps to add a second block underneath the first.
   c. On the **Toolbox** tab, drag the **Text Item** object inside the first block object. When the **Text** dialog box appears, type **balance sheet as at Dec 31, 2006**, and click **OK**.
   d. Repeat the steps in the previous bullet to add a second text item object to the second block object. In the **Text** dialog box, type **(with prior year comparative data)**, and click **OK**.
   e. Ctrl+click both block objects, and, using the toolbar, change the font to size **10 pt** and center the text.
8. Change the currency format of the balance sheet:
   a. In your report, under the **2005 Actual results in USD**, under **December**, use Shift+click to select the whole column.
   b. Right-click the selection, click **Style**, and click **Data Format**.
   c. In the **Format type** list, select **Currency**.
   d. In the **Properties** pane, click the **Currency** property, and select **$(USD) - United States of America**.
   e. Click the **No. of Decimal Places** property, and then select **0**.
   f. Click **OK**.

9. Use the pick up style button to repeat the previous step for the column under 2006:
   a. To copy all the formatting applied to the item, click the pick up style button, click the items that you want to format, and then click the apply style button.
   b. To copy only one of the formatting styles, click the down arrow to the right of the pick up style button and click the style that you want to copy. Then, click the item that you want to format and click the apply style button.
   c. If you want to make changes to a style that you copied, click the down arrow to the right of the pick up style button and click **Edit Dropper Style**. In the **Style** dialog box, specify basic and advanced style characteristics, and then click **OK**.
10. Change text formatting to reflect a standard balance sheet:
    a. Right-click **Amount (year to date)** and click **Edit Data Item Label**. In the **Data item label** text box, type **Year to date (USD $000's)**, and click **OK**.
    b. Select **Year to date (USD $000's)** and, using the toolbar, change the text to bold.
11. From the **Run** menu, click **Run Report - HTML**.

    The complete Sample Outdoors Company statement-style report appears.

What to do next

For information about using Business Insight Advanced, see the *IBM Cognos Express Business Insight Advanced User Guide*.

Chapter 7. Getting started with spreadsheet-based analysis

IBM Cognos Express Xcelerator extends your Microsoft Excel worksheets into multidimensional data structures using the IBM Cognos Analytic Server (ICAS). ICAS organizes your data into multidimensional database objects such as cubes, dimensions, hierarchies and rules that represent your business model. This combines the power of multidimensional data with the formatting and user interaction capabilities of Excel spreadsheets.

You can work with your business data directly in a Microsoft Excel spreadsheet, in a proprietary Cube Viewer, or by using the Xcelerator web client. When you use Xcelerator, no physical data or business calculations are stored in the spreadsheet, instead, they are all stored on the centralized ICAS.

The Express spreadsheet-based analysis tools - Xcelerator and Xcelerator client

IBM Cognos Express contains two tools for performing multi-dimensional analysis.

- IBM Cognos ExpressXcelerator allows you to view cubes and spreadsheets in a Web browser.
- IBM Cognos ExpressXcelerator client allows you to view and modify data stored in Xcelerator cubes while working in a familiar Microsoft Excel environment.

IBM Cognos Analytic Server overview

The IBM Cognos Analytic Server (ICAS) manages the database objects that make up any Xcelerator application. The three primary object types are cubes, dimensions, and rules.

- **Cubes:** These represent a multidimensional data structure that manages business data and contains the actual data values.

  A spreadsheet has two dimensions; rows and columns. An Xcelerator cube can have up to 256 dimensions that can use meaningful business names like product, customer or scenario.

- **Dimensions:** Dimensions represent the outline or edges of a cube.

  Xcelerator dimensions do not store actual data values, but define the shape of an Xcelerator cube. Dimensions typically include a hierarchy of its members. For example, various products rolling up into product groups, or customers rolling up into sales regions.

  Once you have defined a dimension in Xcelerator, you can re-use it in as many cubes as you wish. If you change the dimension by adding or deleting members or modifying hierarchies, those changes are automatically applied to every cube that uses that dimension.

- **Rules:** Rules are custom calculations that can apply sophisticated business rules to your cube data in order to model your business. For example, you can create calculations for pricing or discounting, cost allocations, or cube-to-cube calculations.

  Rules are similar to using formulas in a Microsoft Excel spreadsheet, except a rule applies to the entire cube, not just a single spreadsheet cell. An Xcelerator cube can have only one rule object, but that rule can include as many rule statements as you need to fully define your business calculations.

Rules are fully described in the *IBM Cognos Express IBM Cognos Analytic Server Rules Guide*.

Note: The ICAS database is named CXMD (Cognos Express Multidimensional Database). This database is also used by other products within the IBM Cognos Express product family. For example, IBM Cognos Express Advisor. The objects it creates can be recognized by the prefix CXA_. Any objects you create manually within CXMD using Xcelerator should also use a similar recognizable prefix, such as CXL_. Do not modify or delete any objects that you do not recognize, as they will likely be required by other Express users.

Tutorial - Xcelerator and Xcelerator client

The topics in this tutorial describe how to perform two common tasks in Xcelerator: creating a cube and viewing a cube. The tutorial uses the sample data that is included with Xcelerator, which contains over 20 pre-defined dimensions.

For complete details on creating and maintaining Xcelerator objects, including dimensions and cubes, please refer to the *IBM Cognos Express Xcelerator Developer Guide*.

Tutorial - creating a cube in Xcelerator client

An Xcelerator cube must contain at least two dimensions and can contain as many as 256 dimensions. For this example, you create an Xcelerator cube with four dimensions that define the products your company sells through various channels across all months in a year. The cube uses the following dimensions:

- Months
- Sales Plan Measures
- Channels
- Products

The final dimension, Sales Plan Measures, may not seem like an obvious choice. However, a separate measures dimension gives your Xcelerator cubes the ability to adapt to change in the future. Including a measures dimension in every cube means that you can simply add additional measures to that dimension as your business requirements evolve.

Procedure

1. Click **Start**, **All Programs**, **IBM Cognos Express**, **Xcelerator Client**.
2. If a macro security warning appears, click **Enable Macros**.

   The Xcelerator add-in to Excel will not work if you disable macros.
3. Click **CXL**, **Xcelerator** on the Excel menu bar.
4. In the Server Explorer, click the **+** next to **Servers** to reveal the IBM Cognos Analytic Servers that are available on your network.
5. Double-click **cxmd**.
6. On the login screen, enter your **User ID** and **Password**, then click **OK**.
7. In the Server Explorer, right-click **Cubes**, then click **Create New Cube**. The Creating Cube dialog box appears.
8. In the **Available Dimensions** list, double-click each of the following dimensions, in order:
   - Months
   - Sales Plan Measures

- Channels
- Products

Note: If you make a mistake, click the **Reset** button to start over. The dimensions are added to the **Dimensions in new Cube** list.

9. After selecting your dimensions, click in the **Cube Name** field and enter `Tutorial Cube` as the cube name.
10. Click **Create Cube**.
11. In the Server Explorer, click the **+** next to the Cubes group to reveal all the cubes on the server. Tutorial Cube appears in this list of cubes.

Tutorial - viewing a cube in Xcelerator

You can view your new cube in the Xcelerator web component.

Procedure

1. On the IBM Cognos Express Welcome Page, click **Manage my business performance with Xcelerator**.
2. In the Xcelerator window, click **Views**.
3. Click **Tutorial Cube**.
4. If there were defined views associated with Tutorial Cube, they would appear beneath the cube name. Because there are not yet views for this cube, click **New View**.

   The Xcelerator View Builder appears.
5. The View Builder lets you configure a view by setting the location of dimensions in the view. The *IBM Cognos Express Xcelerator Web User Guide* includes a full description of creating views with the View Builder. For this tutorial, accept the default view configuration.
6. Enter a name for the view in the **View Name** box.
7. Click **Save and View**. The view opens in Xcelerator.
8. If the view displays a **No Values Available** message, click the **Suppress Zeroes** button to reveal the data grid in the view. The new view appears with its default configuration. There is a single row dimension, *Channels*. There is a single column dimension, *Products*. There are two context dimensions, *Months* and *Salary Plan Measures*. Because this is a new cube and you have not entered or imported any data, all values are set to zero.
9. Rearrange the dimensions to suit your needs and preferences by dragging and dropping them in the Xcelerator window.

   For example, you can do the following things:

   - Put the Months dimension in the column area for a traditional annual budget collection perspective.
   - Put more than one dimension on the rows or columns. This is called stacking, and allows you to compare large amounts of information in a concise format.
   - Move dimensions to the title dimension area of the Cube Viewer window. Title dimensions are grouped above the data grid in the Cube Viewer.
10. Click the **Recalculate** button after you rearrange the dimensions in the Cube Viewer.
11. Click the **+** sign next to a member in a row or column dimension to expand or collapse the dimension hierarchy.

12. Click the drop-down menu on a title dimension to select a new dimension member.

Results

Experiment with navigating and expanding the hierarchies to view leaf-level cells. Leaf-level cells display without bold font, indicating that the cell is editable. Only leaf-level cells are editable in an Xcelerator cube.

For more information about working with cubes and dimensions in Xcelerator, see the *IBM Cognos Express Xcelerator User Guide* and the *IBM Cognos Express Xcelerator Developer Guide*.

Tutorial - viewing a Websheet in Xcelerator

A Websheet is a Microsoft Excel worksheet with IBM Cognos Express Xcelerator data that you can view in a web browser. By publishing an Excel spreadsheet to an application folder on an IBM Cognos Analytic Server, Xcelerator users can view the spreadsheet in a Web browser.

Procedure

1. On the IBM Cognos Express Welcome Page, click **Manage my business performance with Xcelerator**.
2. In the Xcelerator window, click **Applications**, **Great Outdoors**, **Sales Analysis**, **Sales_Forecast3.xls**.

   A Websheet titled 'Great Outdoors'opens. This Websheet is part of the Xcelerator sample data. It includes formatting to make the report easier to read, and has been configured so that users cannot modify the location of dimensions in the report.

   For full details on working with Websheets, see the *IBM Cognos Express Xcelerator Web User Guide*

Tutorial - viewing a cube in Xcelerator client

You can also view Xcelerator cubes directly in Microsoft Excel using the Xcelerator client. This example shows you how to export a cube view from the Cube Viewer to Excel using the Active Form feature of Xcelerator. In practice, your IBM Cognos Express administrator will likely make a number of Active Form spreadsheets available on your IBM Cognos Analytic Server.

Procedure

1. If necessary, click + next to the Cubes group to reveal all the cubes available on the IBM Cognos Analytic Server.
2. Double-click the **Tutorial Cube**.
3. In the Cube Viewer, click the **Recalculate** icon  on the toolbar.
4. Click **File**, **Active Form**.

   The cube opens in a new Excel worksheet. Unlike the Cube Viewer, you cannot rearrange the location of dimensions in an Active Form, but you can expand/contract dimension hierarchies and select different title dimension members.
5. Double-click **Total Products** on the column dimension to expand the dimension hierarchy.
6. Double-click **Camping Equipment** on the column dimension to reveal the child members of Camping Equipment.

7. Dcouble-click **All Channels** on the row dimension to expand the dimension hierarchy.
8. Double-click **Total Year** on the Months title dimension.

   The Subset Editor appears.
9. Click **Jan**, then click **OK**.

   The Active Form now includes a number of cells without any shading. These cells are editable.
10. Enter a numeric value in the cell at the intersection of **Outdoors Shop** and **Cooking Gear**.
11. Enter a numeric value in the cell at the intersection of **Warehouse Store** and **Cooking Gear**.
12. Press F9 to recalculate the Active Form. Note that the Total Products and Camping Equipment values update to reflect the values you entered.

    You can experiment with entering additional values in the spreadsheet.
13. On the Excel menu bar, click **CXL**, **Save Workbook on Server**, **Upload New Application File to Server**.

    The Select an Xcelerator Application Folder dialog box appears.
14. Double-click **cxmd**, then double-click **Applications**, then double-click **Great Outdoors**.
15. Click the **Sales Analysis** folder, then click **OK**.

    The Active Form spreadsheet is now saved as a file in the **Sales Analysis** folder under the **Applications** group on the cxmd server. You can double-click this file to view the cube data in the Xcelerator client.
16. To view the spreadsheet as a Websheet in Xcelerator, start Xcelerator, then click **Applications**, **Great Outdoors**, **Sales Analysis**, then click the file name.

Chapter 8. Getting started with planning

IBM Cognos Express Planner enables automated planning, budgeting and forecasting. Financial planners can create centralized planning models and users throughout the organization can make template-driven plan contributions on a continuous basis.

The Express planning tools - Performance Modeler and Planner Contributor

IBM Cognos Express Planner contains three tools: IBM Cognos Performance Modeler, IBM Cognos Planner Contributor, and IBM Cognos Insight.

- IBM Cognos Performance Modeler allows you to build models using dimensions, cubes, links, and rules. Create applications from cube views, assign workflow, and set up security. You can then deploy, administer, and maintain your applications.
- IBM Cognos Planner Contributor allows you to contribute to a planning application in a structured environment.
- IBM Cognos Insight allows you to analyze data, explore scenarios, and influence decisions by creating managed workspaces.

Tutorial - Planner

In the IBM Cognos Express Planner tutorial you use samples.

For information about installing the samples, see the *Managing IBM Cognos Express* guide, *Setting up the IBM Cognos Express samples*.

To perform the steps in this tutorial you must be an Express Administrator.

Creating a contributor view and an approval subset

To use a planning model with IBM Cognos Express Planner, it needs to have one or more contributor views which define the data entry sheets and also a dimension subset which defines the approval hierarchy.

Note: You will complete this exercise using IBM Cognos Express Architect. However, you can also use Performance Modeler for this task.

Procedure

1. Start Express Architect.
2. Expand the **Servers** node.
3. Double-click **cxmd** and log on as administrator.
4. Expand the **Cubes** node.
5. Double-click the *Price and Cost* cube. The **Cube Viewer** displays.
6. Drag and drop *TOTAL PRODUCTS* on *Versions*. The *Versions* and *Products* dimensions are swapped.
7. Double-click*Total Year* and expand *Q1*. Then select *Jan* and click **OK**.
8. Click *Products*. The **Subset Editor** displays.

9. On the toolbar click the **All** icon  .
10. On the toolbar click the **Filter by Level** icon  . The **Filter By Level** dialog box displays.
11. Select level 0 and click **OK** twice.
12. Click *Price and Cost Measures*. The **Subset Editor** displays.
13. Hold the Ctrl key and click *Unit Sale Price* and *Unit Cost* and click **OK**.
14. On the tool bar click the **Recalculate** icon  .
15. Click **File**> **Save as** and save the view as a public view (clear the **Private** option) called *Unit Price and Cost*.
16. Close the **Cube Viewer**.
17. Expand the **Dimensions** node.
18. Double-click on the **Channels** dimension. The Subset Editor displays.
19. From the **Subset** menu click **Save As** and save it as a public subset (clear the **Private** option) called *elist*.
20. Close the **Subset Editor**.

Designing and deploying an application

In IBM Cognos TM1 Performance Modeler, you can create applications for use in IBM Cognos Express Applications.

Applications are based on models that contain dimensions, cubes, and links. You can also administer those applications, assign security, and establish a workflow using Cognos TM1 Performance Modeler.

In this exercise, you will learn how to design an application from an existing model and deploy it to the portal.

To perform this exercise, you must have the appropriate licensing and security permissions for this functionality.

Procedure

1. Start Performance Modeler.
   a. Open the **Welcome to IBM Cognos Express page**, typically `http://express_server_name:19300/cognos_express/manager/welcome.html`.
   b. Click **Contribute to planning activities with Planner**.
   c. In the IBM Cognos TM1 Applications window, click the Open Performance Modeler icon  .
2. Create an application.
   a. Click the **Actions** icon  , then click **Application View**.
   b. Right-click the **Application** folder and click **New** > **New Application**.
   c. Type `Price and Cost`.
   d. Select **Approval** as the application type and click **OK**.
3. Define views.
   a. In the Design pane, expand the Price and Cost application and click the **Views** folder.
   b. In the TM1 Objects pane, expand the Price and Cost cube.

c. Right-click the Unit Price and Cost view, and select **Add to application** > **Price and Cost**.
d. In the TM1 Objects pane, expand the Channels dimension.
e. Right-click the elist subset, and select **Add to application** > **Price and Cost**.

4. Validate and deploy the application.
   a. In the Design pane, right-click the Price and Cost application and click **Validate Application**. A **Validation performed successfully** message is displayed. Click **OK**.
   b. Right-click the Price and Cost application and click **Deploy Application**. A **Deployment performed successfully** message is displayed. Click **OK**.
   c. Click **OK**.

Results

The application is ready to be activated on the Portal.

What to do next

For information about using Performance Modeler, see the *IBM Cognos Express Performance Modeler User Guide*.

Activating a planning application

You must activate the planning application to make it available to IBM Cognos Express Planner users.

Procedure

1. On the **IBM Cognos Express Planner** home page click the **Refresh** icon 
   .
   The newly created planning application Price and Cost displays.
2. On the right of the *Price and Cost* application, click the **Activate Application - Price and Cost** icon  to activate the application.
   The planning application is available.

Using a planning application

You can contribute to a plan or budget and review submitted contributions.

For more information on how to maintain and use planning applications, see the *IBM Cognos Express Contributor User Guide*.

Procedure

1. On the planning applications home page click the **Price and Cost** link.
   The *Price and Cost* planning application displays.
2. Click *Golf Shop*.
   The contributor page of the *Golf Shop* node displays.
3. On the toolbar click the **Take ownership** icon  .
4. In the Context section select *Budget Version 3* for the *Versions* dimension and then click the **Recalculate** icon  .

5. Enter data in the cells by typing values or by using any other method available for entering data in web sheets.
6. On the toolbar click the **Submit** icon  and click **Yes** when asked to confirm submitting *Golf Shop*.
7. Close the contributor page for the *Golf Shop* node and verify the state of this node is now **Locked**.

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