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CERTENT CDM Administration Guide

Introduction to CDM Administration Guide

The *CDM Administration Guide* describes how to perform administrative tasks in CDM.

CDM is a unified financial governance solution that focuses on improving financial processes and controls, particularly in the final stages before disclosure. It helps the finance department improve the timeliness and quality of financial management processes and reporting. CDM also facilitates audits, extends enterprise resource planning (ERP) transactional controls, and improves financial risk management.

Audience

The *CDM Administration Guide* is intended for individuals working in the Office of Finance, who need to create, manage, and administer financial reports and workflows that are created with CDM. In addition to administrators, users who have been granted various permissions can perform the administrative tasks in this guide. To use this guide, you should have experience in developing financial reports for regulatory submission.

Overview of CDM

CDM is a corporate reporting solution that combines numeric data with other presentation elements. Text and graphics can be used to supplement data in a report.

Many organizations manually produce their external financial reporting documents, for example, 10K, 10Q, and Board Books. With CDM, statutory financial reports are dynamically generated from a central database to produce highly formatted reports complete with appropriate commentary and supplementary notes.

CDM provides a collaborative environment that incorporates workflow and audit trails to ensure a high degree of data accuracy and to provide better internal controls for corporate governance.

Functionality of CDM

The CDM interface is used to produce and output financial reports.

CDM contains the following functionality and capabilities:

- **Performance**
  The document rendering mechanism is fast because rendered output is put into a cache that then is shared by all users working on the same part of the report.

- **Collaboration**
  Users can check out multiple report objects simultaneously.

- **Workflow**
  Users can easily see the status of each part of a financial document and determine which parts are overdue and who is responsible. Workflow includes automatic email notification to quickly contact the persons responsible for items that are overdue.

- **Internal Control**
  CDM provides a comprehensive set of internal controls to ensure that the proper steps are followed in the creation, submission, and approval of each document.

- **Audit Trail**
  Users can easily compare any two versions of the document to see what was changed, who changed it, and when it was changed. Audit trails are divided into the following sections:
  - **Login Audit** - Records every authentication request to the CDM database via the web service.
  - **Report Properties** - Records any changes that have occurred in a report.
  - **Report Object Properties** - Records any changes that have occurred in an object.

- **Data Sourcing**
  This feature provides an easy-to-use method to pull data from various data sources including the leading ERP systems, the leading consolidation systems, relational databases, OLAP databases, and Microsoft™ Excel.

- **Ease of Use**
  If users already know how to use Microsoft Excel, Microsoft Word, and Microsoft PowerPoint, using CDM is intuitive and easy. It provides a user interface that leverages all the calculation abilities of Excel, the formatting capabilities of Word, and the presentation abilities of PowerPoint.

- **Data Collection for Operational Data**
  CDM provides functionality so that the user can write back to Cognos® TM1® for data collection. External financial documents often include data that might not exist in your ERP or consolidation system.

- **User Security**
  CDM provides controlled access to sensitive information and helps to maintain privacy.

- **Business Rules and Validation**
  In some organizations, data might come from various sources. CDM business rules ensure that summary data in one area of the document always ties to detailed data that exists elsewhere in the document.

- **PowerPoint Integration**
  Users can create PowerPoint objects to output presentations using existing data in the report.

- **Report and Object Level Commentary**
  Gives users insight on the creation process for reports and report objects.

- **Dashboards**
  Users can present financial information in the form of charts, graphs, and grids by creating widgets in the dashboard.

- **Integration with IBM® and IBM Cognos® Products**

- **Ability to support Single Sign-On**

Typical Report Examples

You can use CDM to create various financial reports for internal or external publication for any organization.

Corporate and regulatory reports often contain repetitive sections that are time-consuming to reproduce and manage with consistency. CDM enables such reports to be used as templates, which can simplify and accelerate the process of submitting reports.

Statutory Reporting

In many countries or regions, federal securities laws require publicly traded companies to disclose information on an ongoing basis. You can use CDM to prepare statutory reports.

US Regulatory Reporting: 10-K, 10-Q, and 20-F

Regulatory bodies such as the Securities and Exchange Commission (SEC) require businesses to submit annual reports on Form 10-K, and quarterly reports on Form 10-Q for specified events. Businesses must comply with various other disclosure requirements. Foreign issuers must use Form 20-F to meet disclosure requirements.

The annual report on Form 10-K provides a comprehensive overview of the company's business and financial condition and includes audited financial statements. The annual report on Form 10-K is distinct from the annual report to shareholders.

Form 10-Q includes unaudited financial statements and provides a continuing view of the company's financial position during the year. The report must be filed for each of the first three quarters of the company's fiscal year.

Form 20-F is a comprehensive core disclosure document that foreign private issuers must file annually with the SEC to register securities when they are offered in the US.

Exhibits specifically refer to attachments that the SEC officially defines in its rules and regulations. The SEC might require one or more exhibits to be included with a 10-K or 10-Q filing.

Canadian Regulatory Reporting: Annual Reports and MD&A

In Canada, public and privately owned corporations are required to produce annual reports and to disclose important events that affect the business in Management Discussion and Analysis (MD&A) reports. You can also use CDM for various other required reports.

UK Regulatory Reporting: Annual Reports and Form 363

The EU Transparency Directive is designed to bring all European stock exchanges up to the same level, with a uniform set of rules for Listing and Disclosure that apply across the European Union. There are more stringent requirements for interim and annual reports.

In the UK, the Companies House and Financial Services Authority (FSA) requires businesses to submit various reports and forms on a timely basis. For example, the Companies House requires an Annual Return (Form 363) to update company contact information, including contact information for corporate executives, and to provide a statement of principal business activities.

Corporate and Industry Reporting

You can use CDM to create standard corporate reports, such as quarterly and annual reports. You can also create industry-specific reports, such as airline industry reports.

Quarterly Reports, Annual Reports, and Board Books

In general, corporations in different countries and regions are required to produce quarterly and annual reports, displaying financial results for the period. CDM enables consistent report formatting and presentation of data.

You can also use CDM to create and manage content related to board meeting agenda packets, known as board books.

Airline Industry: Form 41

The Form 41 provides valuable information for those who need to analyze and understand the US airline industry and its member carriers. Form 41 reports on carrier costs, operations, profit and loss statements, and balance sheets.

Internal Reporting

You can also use CDM to create reports used for internal control. You can also maintain existing customized reports.

Any report that was built in Microsoft™ Excel, Microsoft Word, or any presentation built in Microsoft PowerPoint can be created and maintained in CDM. Additional functionality, such as Workflow and Audit Trail, can then be applied.

Basic Concepts

Before you begin to use CDM, you should understand some basic concepts.

> **Important:** Using CDM requires a working knowledge of Microsoft™ Excel, Microsoft Word, and Microsoft PowerPoint. The advanced functionality for Microsoft products is beyond the scope of this guide. However, some topics are included for your convenience. For more information, see the Microsoft documentation.

Report Overview

In CDM, the administrator creates reports and assigns users the ability to work on various parts of the report. Users can access data, adjust, or calculate data values, and present data with formatting, text, and images.

User Object Summary Tab

When you open a new or existing report in CDM, you first view it in the User Object Summary tab, which displays information about the report as it is completed. The work area of the User Object Summary tab lists the report objects for which you have workflow permission to view or edit. You can review report objects that you have checked out or that other users have checked out. You can also view report objects checked out by other users for which you have workflow permission. Double-click a report object in the report tree to open that report object.

You can view the following information in the columns of the User Object Summary tab area for reports, and sort the columns in ascending or descending order by clicking the column header.

- **Name**
  The user-specified name of each report object in the report.

- **Document Type**
  The purpose of a Word object. For example, if the Word object contains page setup content, the document type is PageSetup.

- **Printable**
  The print setting for the report object. A check mark indicates that the object is printable. An x indicates that the object is not printable. Only the documents and objects marked as Printable will be included in the final generated report.

- **Report Object Due Date**
  The date when the report object must be complete, as set by the administrator.

- **Workflow Status**
  The current workflow state for the report object. The state can be updated at any time by an administrator or by a valid user in the workflow approval process.

- **Workflow Due Date**
  The deadline for completing the workflow process for the report object, as assigned by the administrator. A deadline is displayed only if the administrator set a deadline within the workflow process for that report object.

- **Checkout Status**
  The checkout state for the report object. An object is checked in or checked out (locked) by the current user or another user. A message appears on your screen, identifying the person who checked out the report object.

The following commands are available in the ribbon for the User Object Summary tab:

Name	Description
Refresh	Used to refresh the information in the User Object Summary tab.
Preview	Used to open a Word or PowerPoint report object selected in the work area as checked in and displaying any variables as resolved (that is, how hey will appear in a generated report). This cannot be used for Excel report objects.
Edit	Used to open and edit a report object selected in the work area. Word or PowerPoint report objects are opened as checked out and any variables are displayed as unresolved (that is, they are not shown as they will appear in a generated report). Excel report objects are opened as checked out and any variables are displayed as resolved (that is, how they will appear in a generated report).
Open	Used to open the report object selected in the work area as checked in and any variables displayed as unresolved (that is, they are not shown as they will appear in a generated report).
Printable	Used to toggle between printable and non-printable for the report object selected in the work area.
Export List	Used to output the information in the User Object Summary tab to an Excel spreadsheet.
Workflow	Used to view and modify the workflow for the report object selected in the work area.

Open a Report

To edit the content of a report, you must sign in to CDM, and then open the report.

You can use several methods to open a report:

- Click **File** > **Open** > **Reports**, and double-click the report that you want to open. After the report is open, the **User Object Summary** tab displays. You can optionally export the content into a CSV file by right-clicking in the work area and clicking **Export as .csv**.
- If you opened the report previously, and you want to open it again, click **File** > **Recent**, and then double-click the report that you want to open.
- On the quick access toolbar, click the **Open** icon, and then double-click the report that you want to open.
- If you receive an email indicating that the report object is ready for review, you can click the report object name to open the report object directly.

Copy a Report as a URL

To copy a report as a URL, select the report name in the report tree, and then right-click and select **Copy as a Link**. This action allows you to send the location of the report as a URL. When a user clicks the URL, the report opens directly in CDM if the user has the appropriate **View Report** permission.

Lock a Report

If a report in CDM is nearing its deadline for filing, you can lock the report. Locking a report prevents any updates to variables, data queries, and reference objects when new information becomes available in the source. This is useful when the report does not require a refresh for new information, for example, if the user is nearing quarter close when data needs to be finalized.

Users granted the **Manage Report Workflow** permission can perform this task.

To lock a report:

1. Open the report that you want to work with.
2. Select the report.
3. Click **Home** > **Lock Report or Report Object**.
4. The report is locked as indicated by the **Lock** icon  in the report tree and the Lock Report or Report Object command on the Home tab remains highlighted.
5. To unlock the report, click **Home** > **Lock Report or Report Object**. The command is no longer highlighted and the report is unlocked.

Report Object Overview

A report object defines the type of content that is in a report. Report objects represent most of the content of your report in CDM.

There are five types of report objects in CDM: Excel, Word, PowerPoint, Web Page, and PDF. If you are the administrator, you can add report objects to any report.

Overview of Excel Objects

Excel objects are primarily used to work with data values in CDM.

When an Excel object is added to a report, the Excel object has no data. You can reference and display data from the database or an external source in the Excel object. You can also add text or data manually.

When the data is in the Excel object, it can be referenced by other Excel formulas. You can reference a large data set and display only some of the values. You can also import external Excel files directly into Excel objects for reference and storage.

Overview of Word Objects

Word objects are primarily used to present textual information in a report in CDM.

When a new Word object is added to a report, the Word object contains no text. CDM can leverage existing reports by importing them directly into the Word object for use in the report. You can add text, images, graphs, or data to enhance the report. Every time you save a Word object, the data is saved in the CDM database.

You can view an audit trail for the report object information and content in the database and you can compare different versions.

Overview of PowerPoint Objects

In CDM, PowerPoint objects are primarily used for visual presentations in a report.

When a new PowerPoint object is added to a report, the object contains no text. CDM can take advantage of existing PowerPoint documents by importing them directly into the PowerPoint object for use in the report. You can add charts, display ranges, or image ranges containing data or graphics to enhance the PowerPoint object. Every time you save a PowerPoint object, the data is saved in the CDM database.

You can view an audit trail for the report object information and content in the database and you can compare different versions of the PowerPoint object.

Note: If you work in Microsoft™ Office 2007, you can work with only one instance of a PowerPoint object at a time. When you view audit trails for PowerPoint objects, the audit trail content does not load because of this limitation. You will receive a message in which you can save the logs separately. If you work in a later version of Microsoft Office, this restriction does not apply.

Overview of Web Page Objects

You can use Web Page objects to display web pages in a report in CDM for reference.

Web Page objects can be included in the report for reference while you are working on the report, but they are not generated upon output.

Note: Because Web Page objects are not included in the generated report, Web Page objects cannot be included in the Table of Contents.

Overview of PDF Objects

You can use PDF objects to attach documents in Portable Document Format (PDF) to a report in CDM for reference.

PDF objects can be included in the report for reference while you are working on the report, but they are not generated upon output.

Note: Because PDF objects are not included in the generated report, PDF objects cannot be included in the Table of Contents.

Object Ribbon

The object ribbon in CDM contains icons that provide functionality specific to the report object in CDM.

When you work in an Excel, Word, or PowerPoint object in CDM, you can use the same interface that you use in Microsoft™. The interface contains generic Microsoft commands that you can use to create, control, edit, delete, and format information in the object. When you open a PDF object in CDM, the object has the same functionality as found in Adobe™ Reader or Adobe Acrobat.

You can view the object ribbon inside your object by clicking the **Section View Mode** icon in the status bar. To switch back to the main ribbon, click the **Default View Mode** icon.

Workflow and Auditing Overview

A workflow is a process that is used to track the progress of a report and its report objects toward completion. The workflow defines what needs to be done at each point in the approval process. You have permission to view and work with report objects that are associated with your assigned workflow state.

You can also advance or reject a report object through all the statuses configured for that report object or section. A user can only advance the current status to the next status in the approval chain, or reject and revert a report object to its previous status.

Audit Trail

CDM has an Audit Trail feature that records every submission to the database, along with the user name and date of submission. It can be used to view all status changes to report objects in the report.

Data Source Overview

A data source is the physical connection to a data repository such as a relational database, an OLAP cube, or a Microsoft Excel file.

A data source connection specifies the parameters needed to connect to the data source, such as the location of the database. It can also include credential information and other details specific to the data source.

In CDM, the administrator can add data source connections to these types of databases:

- OLAP
- Relational
- Microsoft™ Excel
- Hyperion Financial Management (HFM)

The administrator must create a data source connection before users can create queries. After the administrator adds a data source, users should be informed that the data source is available for them to perform queries and run reports.

Query Overview

A query is a request for information from a database that is based on specific conditions. You can use a query to create custom data queries on data from the data sources available to CDM and retrieve the results into a report. The query can then be inserted into an Excel object.

When querying relational data sources, you retrieve data through SELECT statements. However, you can also use other query commands against the database, as permitted by the data source provider.

Important: The advanced functionality for Microsoft™ products is beyond the scope of this guide. However, some topics are included for your convenience. For more information, see Microsoft documentation or Microsoft online help.

Checklist Overview

In CDM, a checklist is primarily used to provide task-oriented information and reference within a report. You can create customized checklists as a means of process control, compliance, and verification.

You can add or delete checklists at any time when you are building a new report or when you are working with an existing report. You can leverage your existing checklists and procedures, or you can configure CDM to provide standard checklist types to use with your reports.

Users can add or delete checklists in a report and also append files to a checklist for reference and support in the reporting process.

These default checklists are available:

- **Task**
  Represents a task that the user needs to complete.
- **Information**
  Represents informational content.
- **Reference**
  Includes a reference to a file attached to the checklist.
- **Misc.**
  Represents a checklist of any other type.

Task and Task List Overview

In CDM, administrators can define tasks in an hierarchical or task list that users are required to complete.

Task lists can coordinate a long process such as steps required to configure CDM for a 10K/Q report or as simple as a list of set up tasks. Task lists can be either ordered, or unordered. You can also assign different icons to different tasks.

Dashboard Overview

A dashboard is an interface that integrates data from a variety of sources and provides a unified display of relevant and in-context information. Fixed dashboards are available in CDM to view the progress of a report by graphical means. The administrator also has the ability to create custom dashboards and make them available to the user.

The function of the dashboard differs, depending on whether your role in CDM is as an administrator or a user.

- The administrator can add, edit, and configure the dashboard by opening the **Administration** tab in the Navigation Pane.
- The user can view a dashboard by opening the **Dashboard** tab in the Navigation Pane. The Dashboard tab contains a list of dashboards that are configured for the user.

When a dashboard is configured, you can open and view the dashboard types.

Custom Dashboards

A custom dashboard is a dashboard that is created by the user from widgets and various data sources to meet specific requirements. It is not supplied with the application. A custom dashboard is configured by a user who has administrative rights.

You can use these widgets in a custom dashboard:

- **Chart**
  Shows the progress as an area, bar, line or pie chart. Both 2D and 3D charts are available.
- **Grid**
  Shows textual information in a grid format. You can optionally export the contents of the grid into a CSV file by right-clicking in the grid widget and clicking Export as .csv.
- **Gauge**
  Shows one value from a column of values.
- **Image**
  Allows the user to add an image to the dashboard.
- **Web browser**
  Allows the user to enter a link to a web page in the dashboard.

Fixed Dashboards

A fixed dashboard is a dashboard that is supplied with the application to provide report and data source information in a graphical format. CDM includes these fixed dashboards: Report Summary Dashboard and Excel Analysis Dashboard.

You cannot edit or delete a fixed dashboard, even if you are an administrator.

Bidirectional Language Overview

If you use CDM in Arabic or Hebrew, the direction of most content appears on your screen from right to left automatically, as you would expect. Arabic or Hebrew are considered bidirectional languages because some content should appear in the opposite direction from the basic text.

The default text direction of a language does not allow the proper display of Arabic or Hebrew text in an English user interface, and Latin-based text in an Arabic or Hebrew user interface. Also, numbers and some other special types of content should normally appear from left to right, regardless of the language of the surrounding text. CDM uses a concept called base text direction to apply your preference for the direction in which certain types of bidirectional items appear in the user interface.

In addition, if you use CDM in Arabic, you can choose to view digits in the manner normally seen in English and many other languages, or in the digit shaping common in Arabic. CDM uses a concept called digit shaping to apply your preference for the appearance of digits in the user interface.

Base Text Direction for Arabic or Hebrew

If you use CDM in Arabic or Hebrew, you can ensure that special types of content appear in the correct direction in your user interface. To do this, you must specify your preference for base text direction.

CDM uses a concept called base text direction to apply your preference for the direction in which certain types of bidirectional items appear.

- For left-to-right sentences in English and other Latin-based languages, the proper base text direction is left-to-right, even if the sentence includes Arabic or Hebrew words.
- For right-to-left sentences in Arabic or Hebrew, the proper base text direction is right-toleft, even if the sentence includes English words or numbers.

This list displays some of the types of content that should appear left-to-right even if the main content is right-to-left:

- Text in English or another left-to-right language
- Numbers
- URLs
- Email addresses
- File paths
- Trademark symbols

Important: Your selection for base text direction is not applied in password fields, and just the content of the field is mirrored according to the selected language (locale).

To select the base text direction for Arabic or Hebrew:

1. Click **File** > **Options**.
2. In the **Options** window, select your preferred language in the **Language** field.
3. Click the **Base text direction** field, and select one of these options:
    - **Default** - To inherit the default natural direction of the language that is used in the user interface. If you want to use the default behavior of the language in your user interface, this is your best choice.
    - **Left-to-right** - To properly display text in left-to-right languages such as English and French. If you are sure that your content contains text from English or any Latin-based language only, this is your best choice.
    - **Right-to-left** - To properly display text in right-to-left languages such as Arabic and Hebrew. If you are sure that your content contains text from Arabic or Hebrew only, this is your best choice.
    - **Contextual** - To properly display text whose direction is not known in advance. CDM selects the direction based on the context of the most recent strongly directional character. If your content might contain both Latinbased text and also Arabic or Hebrew text or any special content elements, this is your best choice. For example, in a right-to-left context, a trademark sign is considered to be right-to-left, and it would be displayed in an incorrect order if the brand name is in English or a Latin-based language. In an Arabic or Hebrew

report, to correctly display a trademark sign for an English name brand (left-to-right), you must select Contextual.

4. Click **OK**.
5. To ensure that all your selections are applied to your user interface, exit from CDM and log in again.

Special content appears in your user interface in the order that you specified. If you want, you can apply similar preferences to your Excel, Word, and PowerPoint objects. For more information, see Microsoft™ documentation or Microsoft™ online help.

Digit Shaping for Arabic

If you use CDM in Arabic, you can specify whether you want to view digits in Arabic style in your user interface. To do this, you must specify your preference for digit shaping.

In Arabic, digits often have an appearance that is different from the appearance of digits that are used in other languages. If you do not specify your preference, CDM applies digit shaping in your user interface based on your selection in the Digit Shaping field in the General tab of the Options window.

Note:

- In your database, all numbers are stored in Latin-based format, even if you choose to display them in Arabic style.
- CDM does not support numeric shaping when you generate Word reports from Excel objects.

To select digit shaping for Arabic:

1. Click **File** > **Options**.
2. In the **Options** window, select **Arabic** in the **Language** field.
3. Click the **Digit Shaping** field, and select one of these options:
   - **National** - To specify digit shaping based on the language that you are using when you work in CDM.
   - **Contextual** - To specify digit shaping based on adjoining characters in the value. Latin-based digits follow Latin scripts, and Arabic digits follow Arabic text. When there is no preceding text, the value in the Base text direction field determines digit shaping.
   - **None** - To display the digits in their Latin-based form and shape. The digit shape appears in CDM as it appears in your regional settings form if you specify None in the Digit Shaping field.
4. Click **OK**.
5. To ensure that all your selections are applied to your user interface, exit from CDM and log in again.

Digit shaping appears in your user interface as you specified. If you want, you can apply similar preferences to your Excel, Word, and PowerPoint objects. For more information, see Microsoft™ documentation or Microsoft™ online help.

Note: If you use CDM in Arabic, and if you select **Contextual** for **Digit Shaping** in the Options window, some dates in report properties might appear with Latin-based number shaping. The dates that appear with Latin-based number shaping are those that are selected through a calendar field in CDM.

EDGAR HTML Overview

You can use the HTML tools for Electronic Data Gathering, Analysis, and Retrieval (EDGAR) in CDM to preview your HTML file for the SEC.

You can use CDM to generate valid EDGAR content for the SEC in this way:

- You can generate HTML output. You can find information on this method in this documentation.
- You can generate output that conforms with SEC EDGAR Filer Manual rules. The EDGAR Filer Manual validates that the taxonomy and instance document comply with the rules. You can find information on this method in the *CDM XBRL User Guide*.
- You can generate high definition HTML output. You can find information on this method in this documentation.

Desktop Publishing Overview

You can adapt the output from CDM for use in a desktop publishing application such as Adobe™ InDesign.

For Excel objects, you must tag specific content for your desktop publishing application. For Word objects, you have the option of tagging specific content or enabling the desktop publishing utility to allow you to generate content to desktop publishing automatically without the use of tags.

The tags that you create in CDM will be stored in the form of XML when the report is generated. The generated XML file can then be imported in the specified application.

To set up desktop publishing styles in CDM, the administrator must set up styles and apply permissions to the appropriate users and user groups. Then, the users can apply those styles to content in Excel and Word objects.

Important: The functionality for desktop publishing products such as Adobe InDesign is beyond the scope of this guide. For more information, see the appropriate documentation or online help.

Automatic Generation Without the Use of Tags

To generate content to desktop publishing automatically without the use of tags you must first modify the server-specific **CDM.config** file (default path is `C:\inetpub\wwwroot\CertentCDM-Server\Config`) by adding the `<EnableDesktopPublishingAutomaticWordGeneration value="true" />` key. This enables the desktop publishing utility.

Also, to prevent styles from being duplicated during report generation, you must ensure the `reduceStyles` value is set to **true** in the `<ReportGeneration imageDpi="200" reduceStyles="true" />` key. After modifying the CDM.config file, you must then perform an IIS reset of the server machine and then open the client.

To generate content to desktop publishing, the paragraphs and table styles being used in the Word objects must exist in the Administration desktop publishing styles. Contact your administrator to ensure the styles are present. The style names there must be identical to the ones in the Word objects (the names are case sensitive) you want to generate.

If a paragraph in a Word object contains a character style that does not exist in the Administration desktop publishing styles, but the paragraph style is present, then the paragraph's entire content is generated under the same XML node (in effect, tag). If a paragraph contains a character style that exists in the Administration desktop publishing styles, but the paragraph style doesn't exist, then the paragraph's content is not generated in the XML file.

To generate Word tables, the paragraph and character styles that exist in a table's cell must also exist in the Administration desktop publishing styles as well. If not, the generated table is empty. The Table Style must also exist or the table will not generate.

Range variables (`##D` for named ranges) are generated with the **Table Normal** table style and **Normal** paragraph styles in cells. These styles must exist in the Administration desktop publishing styles to generate the range variables to desktop publishing.

Objects other than charts and images are not generated (for example, text boxes, shapes, and so on). Paragraph styles on which charts and images rely must exist in the Administration desktop publishing styles to generate the chart or image. Charts and images that are not inline with text are not generated.

If you have a style that can be applied both to paragraphs and characters and it is used on characters, its name suffixed by a space and the **Char** text must exist in the Administration desktop publishing styles to generate that nested tag. For example, you have defined a style named **My Style** that can be used both for paragraphs and characters. To generate this style for characters, you need to have the **My Style Char** style added in the Administration desktop publishing styles.

All XML nodes for charts and images are generated with the name found in **Alt Text Description** for Word objects and actual chart or image names for Excel objects.

It is not recommended to use Word tables for automatic word generation to desktop publishing as there are limitations with resolving merged cells. It is recommended that you create the tables in an Excel object and tag them there.

The < and > characters are not escaped. If needed, a placeholder can be used instead that can be replaced with the appropriate content in the generated XML (in effect `<` for < and `>` for >).

When generating content to desktop publishing, the style names might be modified to comply with the XML naming rules. For example, for the Word style **1_My Style** to be generated, the same style name, that is 1_My Style, must exist in the Administration desktop publishing styles and the XML node will have the name **_MyStyle**.

Getting Started

To get started in CDM, you need to know how to log in. You also need to know your role because your role determines the tasks that you can perform.

Roles

CDM provides a collaborative environment for users to contribute to the report, based on the role of the user. Your contributions depend on whether your role is administrator or user.

Administrator Role

The administrator in CDM creates the initial structure of a report and provides security access to the report. The administrator assigns parts of the report to users, along with a deadline for submission.

The administrator can edit any part of the report, maintain the overall structure of the report, manage the project deadlines, configure user access levels, configure dashboards, and monitor work status and submissions.

The administrator can also publish the report for the users. The administrator can choose to delegate some administrative tasks to non-administrative users.

User Role

Users can contribute content to various parts of a report in CDM, and multiple users can work on different aspects of the same report.

Users can view details, but they can update the report only within the documents that were assigned to them. By default, tasks such as changing deadlines for submission or changing global settings for all reports are normally performed only by the administrator. Users with the correct permissions can view the dashboards that are created for them. The administrator can choose to delegate some administrative tasks to non-administrative users.

Sign In to Certent CDM

The administrator provides you with your login credentials for CDM.

1. Select your server and click **OK**. At any time you can click **Switch Server** to enter a specific server address.
2. In the **Sign in** prompt, enter your user name and click **Next**.
3. In the **Enter password** prompt, enter your password and click **Sign in**.

   Note: Depending on security set by the administrator, if you enter an incorrect name or password, you might have to wait for a period before you can attempt another log in. It is also possible that your account is locked immediately. If this occurs, contact the administrator to unlock it.

4. If you have any objects that are checked out from a previous session, you are prompted to load the report that the objects are in. Select the report and click **OK**. Optionally, expand the hierarchy of the report and select the object that was checked out in a previous session. The report and

objects open in the same session as when you last logged out. Or, click **Cancel** to start CDM without opening the report with objects that were checked out.

CDM opens, with the Open tab in view or a report with checked out objects in view. Depending on your role, you can now select a report or dashboard, or you do other tasks.

Important: For security reasons, sign out when you finish working with CDM.

If you want to change your password, use one of these methods:

- In the status bar, click your user name. In the **User Profile** window, enter your old password and new password. Confirm the new password and click **OK**.
- If you have sufficient permission, click **Administration**, and then under **Security**, double-click **Users**. Right-click your name and click **Change Password**. Enter and confirm a new password, and then click **OK**.

Report Creation and Design

In CDM, data is stored in tables in the CDM database. You can use CDM to access data, to adjust or calculate data values in the report, and to present data with formatting, text, and images.

Report Building Process

You can use CDM to design your reports and to add content.

The report building process consists of the following tasks:

1. The administrator constructs a new report.
2. The administrator organizes the report by adding sections and report objects to the report.
3. Users add text and numeric data to the report objects, and can collaborate on content and further customize information displayed in the report.
4. A report can be produced in various formats.

Add a Report

You can create a financial report for internal or external publication. CDM can simplify and accelerate the process of submitting reports.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Reports**. The Reports tab opens in the work area.
3. In the report list, right-click the report group and select **Add Report**. A new row representing the new report opens in the table.
4. Type a name for the report, and press **Enter**.
5. If a workflow template in **Administration** > **Workflow** > **Workflow Templates** has been designated as the default workflow template, it is assigned to the new report.

Reuse Existing Reports with the Rollforward and Cascade Features

You can reduce the amount of time required to create a new report by reusing an existing report or report object.

You can use the Rollforward or Cascade feature to copy existing reports or report objects to new reports.

- The Rollforward feature creates a complete copy of a report or report object in the destination report. All report features, including the report structure, security settings, shared objects, data, and XBRL projects along with their associated facts are duplicated in the destination report.
- The Cascade feature converts shared objects to reference objects in the destination report.

The checkout and lock status of reports or report objects does not affect the ability to perform a rollforward or cascade operation. If a report object is checked out, the most recent version from the database is used.

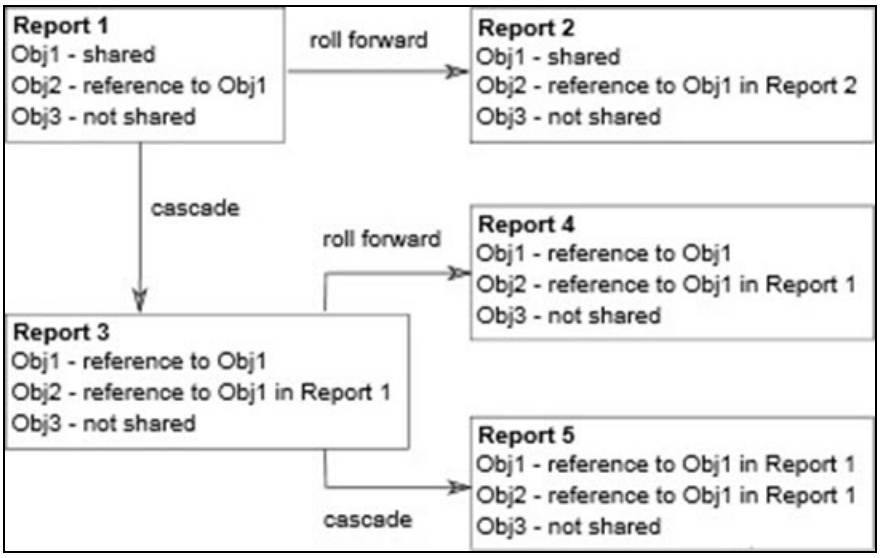
For both features, the association between the source report and the destination report is recorded in the CDM database. The association record can include the path between more than two reports. For example, if you cascade Master 1 to Report 1, and then cascade Report 1 to Report 2, the association record would include the path between three reports. The report path appears in the Object Explorer status bar. The association records for reports support the Change Reference and Push Down features.

These records are also created for reference objects, which support the Break Reference feature and allows you to change which source object they reference in the rollforward or cascade wizard.

The following example describes the processing of report objects with Rollforward and Cascade features.

Report 1, the source report, contains Obj1 (a shared report object), Obj2 (a reference object to Obj1), and Obj3 (a non-shared report object). Obj1, Obj2, and Obj3 are associated with a defined query, Query1. Query1 depends on the query variable QueryVar1. QueryVar1 is defined at the report level (Report 1,QueryVar1) and for each report object (Obj1,QueryVar1, Obj2,QueryVar1, Obj3,QueryVar1).

The following diagram shows the results of rollforward and cascade actions. Report 4 and Report 5 show the results of subsequent rollforward and cascade actions.



Rollforward and cascade operations do not duplicate queries. Queries are not linked to a specific report. The associations between report objects and queries are copied to the destination report. The report-level and object-level query variables are copied to the destination report. In the rollforward or cascade wizard, you can modify the query variables. You can modify the value for object-level and data query-level variables.

If the report is associated with an XBRL project, when you roll forward a report, you can create a new XBRL project and can edit the time periods in the report. Any XBRL tags in the source report remain in the destination report. You must have application permissions to manage projects in order to do this.

To reuse an existing report using the Rollforward or Cascade feature:

1. In the Reports tab in the work area, right-click the source report and select **Rollforward** or **Cascade**.
2. Complete the steps in the wizard that opens.
3. The new report appears in the destination report groups.

Edit the Properties of a Report

You can edit the properties of a report. Properties are elements such as the name and owner.

1. In the Reports tab in the work area, select the report that you want to edit.
2. Right-click the report and select **Properties**.
3. In the **Properties** tab of the **Properties and Comments** window, edit the properties as you want. You can change any property that is not gray.
4. Click **OK**.

You can view or edit the following information:

Property	Description
Name	The user-specified name of the report.
Report Owner	Shows the initial creator of the report. This name can be changed in the Properties and Comments window.
Description	Displays the report description
Period Start Date	Displays the starting period date of the report.
Period End Date	Displays the ending period date of the report.
Report Due Date	Displays the configured due date for the report.
Current State Due Date	Displays the due date for the current state in the report.
Submission Date	Displays the submission date for the report.
Zero Amount Shown As	Specifies a character to represent the zeros in the report when the report is generated.
Current Workflow State	Displays the current workflow state for the report.
Template Workflow Assigned	Displays the workflow template assigned to the report.
PowerPoint Print Options	Allows you to specify the orientation of slides in PowerPoint objects. The default choice is Landscape.
Language and Region Options	Allows you to set the preferred language and region that will be used to generate Excel print areas and variables to Microsoft Word, Microsoft PowerPoint, Adobe PDF and Edgar HTML.
Generate charts as images	Allows you to generate charts as images. If selected, this option will be set as an active default for the report. Users, however, can clear it when working with reports or when generating a report. If you generate charts as images, you can view the information in your generated report, but you cannot change it afterward. If this option is not selected, charts are generated as Microsoft™ Office chart objects. It is recommended that charts be generated as Microsoft Office chart objects.
Replace Embedded Fonts in HD	Allows you to replace embedded fonts in the report as base64 in HD generation.
Report Row Height (At least)	When enabled, if the content in an Excel cell is word-wrapped and is not completely displayed because the height of the corresponding row is specified to a smaller value, CDM will apply the least row height that can accommodate the whole content in Word generation to make the entire content visible.

Property	Description
Use Advanced Refresh	This option must be enabled in the CDM.config file to appear in the report properties. When enabled, queries are updated immediately after the data source expires according to its expiration settings. Also, Excel report objects are updated immediately after a data query or a destination variable is enabled. CDM performs the Advanced Refresh operations using the Refresh Service Account. In CDM, refreshing data is an audited process, so CDM needs to have an identity for background tasks. CDM hence creates the Refresh Service Account by default and applies it to start background data refresh processes automatically. As stated in its name, the Refresh Service Account is a service account in the database (in the IsService column of the core.User table) and therefore cannot be used for logging in to CDM. **Note:** • It is not possible to change the name of the Refresh Service Account in the database; otherwise, CDM won't recognize it anymore. • The Refresh Service Account is not visible when administering CDM native users.
Use cell value for report and workflow validation	Allows you to switch between cell display value and cell actual value when evaluating either a report validation rule (`##R`) or a workflow validation rule (`##WF`).

Specify Report and Section Due Dates

A due date is applied to a report or a section to indicate a deadline for when work should be completed.

How Due Dates Are Used

Users granted the **Modify Report Properties** permission can assign a due date to a report. Users granted the **Manage Report Object Properties** permission can assign a due date to a section or to a report object.

The due dates are used to indicate the date on which all work should be completed. If the due date is equal to the current date or has passed, **Current State Due Date** in the **Properties and Comments** window is highlighted.

Manage Due Dates and Due Date Inheritance

Due dates can be managed at any level of a report (report, section, or report object).

- **Create and apply report-level due dates to all sections and report**
  - To set or change a due date for a CDM report, in the **Report** tab in the **Navigation Pane**, right-click the report and select **Properties** > **Manage All Report Properties**, then enter a date in the **Report Due Date** field.

- To apply the due date to all sections and report objects in a report, right-click the report and select **Properties** > **Apply Report Due Date**. The descendant report objects and sections will now inherit the due date from the report due date setting.

- **Create and apply section-level due dates to all descendants within a section**
  You can set an explicit due date for a section by clearing the **Inherit Due Date** checkbox in the Properties and Comments window (right-click the section and select **Properties** > **Manage All Section Properties**) and setting a new due date. When set, the due date is inherited by any new objects or sections that are added as descendants to the section. At any time, you can apply the section due date to all sections and report objects within the section by right-clicking on the section and selecting **Properties** > **Apply Section Due Date**. Due dates for the descendant sections and report objects are discarded and they inherit the section due date.
- **Create and apply report object-level due dates to an individual report object**
  You can set an explicit due date for a report object by clearing the **Inherit Due Date** checkbox in the Properties and Comments window (right-click the report object and select **Properties** > **Manage All Object Properties**). You then enter a new due date for the report object in the **Report Object Due Date** field.

Workflow State Due Dates

Due dates can also be applied to workflow states to enforce when certain stages in the workflow must be completed.

When the due date for a workflow state has passed the workflow due date of the report object, the section or report will be highlighted in the Properties.

The workflow state due date for a report object, section, or report is calculated relative to its due date.

To learn more about how to set workflow state due dates and how they are calculated, see Workflow State.

Refresh a Report

When you generate a report, CDM reloads data from the application cache. You can choose to manually refresh the report to make sure that the data is up to date.

1. Open the report that you want to work with.
2. Click **Home** > **Refresh Report** > **Quick Refresh Report** or **Full Refresh Report**. Quick Refresh Report reloads data from the local cache while Full Refresh Report fetches data from external data sources.

Data and any modified settings are updated throughout the report. If the parts of the report are delegated to other users, the changes appear when the other user logs in to CDM or refreshes the report.

Delete a Report

If you no longer need a report , you can delete it. You can delete a report only if no report objects are checked out, and if the report does not contain shared objects that are referenced in another report.

Important: If you delete a report, you cannot undo your action. Proceed with caution. You should create the necessary database backup for future reference.

To delete a report:

1. In the Reports tab in the work area, select the report that you want to delete.
2. Right-click the report and select **Delete**.
3. In the confirmation window, click **Yes**.

Report Management

When you have Reports under Administration opened, you can centrally manage all report and report groups, as well as the report workflows in the application by performing the following tasks:

- **Refresh**
  Refreshes the Reports tab to update the latest information.
- **Save**
  Saves changes to the report.
- **Add**
  Creates a new report group in the application as a container for other reports. If a report group is selected, you can add a new report to the report group. You can add a report group as a sibling or child of another report group.
- **Edit**
  Opens the Properties and Comments window for the currently selected report.
- **Delete**
  Deletes the currently selected report.
- **Import**
  Imports source data from outside of the CDM database.
- **Export**
  Exports content from Excel objects, Word objects, PowerPoint objects, and PDF objects from CDM into external files.
- **View By**
  Used when you manage application or report permissions, and when you associate users with groups.
- **Rollforward**
  Starts the Rollforward wizard.
- **Cascade**
  Starts the Cascade wizard.
- **Change References**
  Starts the Change Reference operation for the selected report.
- **Manage Workflow**
  Opens the Manage Workflow window where you can configure your report workflow. You can

apply report workflow to one or more reports. If you select a report group and apply a report workflow, the workflow is applied to all of the child reports of this group.

- **Workflow Template**
  Associates a workflow template with the selected reports. If you select a report group and associate it with a workflow template, then all of the child reports of the selected group have this workflow template associated with them.

Report Groups

You can use a report group to organize types of reports in CDM. For example, you might create separate report groups for different corporate entities such as companies, divisions, or cost centers.

After you create your report groups, you can create multiple reports for each report group.

Add a Report Group

You can add a report group to organize your reports. You can add a report group as a sibling or a child of another report group.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Reports**. The Reports tab opens in the work area.
3. In the report list, right-click a report group and click **Add Report Group** > **As Child/As Sibling**.
4. Type a name for the report group and press **Enter**.

Rename a Report Group

You can change the name of a report group.

1. In the Reports tab in the work area, right-click the report group you want to rename and click **Rename**.
2. Type a new name and press **Enter**.

Delete a Report Group

If you no longer need a report group, you can delete it. You cannot delete the report group if any of the reports in the group contains report objects that are checked out.

Important: If you delete a report group, you cannot undo your action. Proceed with caution.

To delete a report group:

1. In the Reports tab in the work area. right-click the report group you want to delete and click **Delete**.
2. In the confirmation window, click **Yes**.

Report Objects

A report object is a type of content in a report in CDM. You can add as many report objects as necessary to a report.

As the administrator, you can add or delete report objects at any time when you are building a new report, or when you are working with an existing report. Users can edit existing report objects, but they cannot add report objects to, or delete report objects from, a report.

CDM includes these report object types:

- Excel objects
- Word objects
- PowerPoint objects
- PDF objects
- Web Page objects

Add a Report Object to a Report

You can add a report object to a report.

When a report is opened by filtering one or more custom groups, report objects that are added are automatically assigned to the custom group or groups.

To add a report object to a report:

1. Open the report that you want to work with.
2. In the report tree on the left, right-click the name of the report, click **Add Child**, and then the report object type. You can select one of the five report object types: **Excel Object**, **Word Object**, **PowerPoint Object**, **PDF Object**, and **Web Object**. You can also select **Shared Report Object** or **Section**.
3. The report object appears in the **User Object Summary** tab in the work area.

Change the Order of Report Objects in a Report

You can change the order of report objects in a report. Report objects can appear in any logical order in a report.

1. Open the report that you want to work with.
2. The report objects display in the report tree in the order that they will appear in the report when it is generated.
3. To change the order that a report object appears in the report, drag and drop it to a different location in the report tree. When you drag the report object, you can see icons that indicate locations that are, or are not, appropriate new locations. You can also see the following messages to help you place the report object where you want it: **Drop Before**, **Drop After**, and **Drop In**.
4. Click **Refresh**.

Edit the Properties of a Report Object

1. Open the report that you want to work with.
2. In the report tree, right-click the report object and click **Properties** > **Manage All Object Properties**.
3. In the **Properties** tab of the **Properties and Comments** window, edit the properties as you want. You can change any property that is not gray.
4. Click **OK**.

You can view or edit the following information:

Property	Report Object Type	Description
Name	All	User specified name for the report object. Each report object or section must have a unique name.
Report Object Due Date	All	The due date of the report object.
Inherit Due Date	All	If selected, the report object inherits the due date from its parent section due date or the report due date, depending on its position in the report hierarchy.
Workflow Due Date	All	The due date of the current workflow.
Inherit Workflow	All	If selected, the report object inherits the workflow due date from its parent section workflow due date or the report workflow due date, depending on its position in the report hierarchy.
Document Type	Word	The document type for the current Word object. • **Page Setup** - Defines the Word object as a page setup object that can enforce certain styles and formatting throughout the entire report. • **Normal** - Defines the Word object as a normal page. • **Header** - Defines the Word object as a header. **Note:** When you generate a section of a report, the header from a previous section is sometimes generated even if the header is not associated with the

Property	Report Object Type	Description
		generated section. • **Footer** - Defines the Word object as a footer. • **Header Footer Placement** - Enabled when you select header or footer. You can display the header or footer on odd or even pages. • **Footer Reset Style** - Enabled when you select Footer. This setting defines the style used for page numbers. • **Page Reset Number** - Enabled when you select Footer. This setting controls how many pages are reset when you define the page number. For example, you browse to the Word object and by using the context menu, you click **Properties**. You can define the number of pages that you need to reset the overall page number by using this option. This is useful when you require the page numbers to reset to Page 1 after you create a specific number of report objects.
Print Options	Excel, Word, and PowerPoint	The print options for the current report object. • **Printable** - When the report is generated, the report object is printed. • **Not Printable** - When the report is generated, the report object is not printed. An icon in the report tree beside the report object name indicates that the report object is not printable. Web Page and PDF objects are automatically not printable. • **Exhibit** - This is a read-only checkbox. It is shown as selected if the report object is grouped with other exhibit

Property	Report Object Type	Description
		report objects under an Exhibit section. When the report is generated, the report object is combined with the other exhibit documents in the Exhibit section into one document seperate from the report. An exhibit is a mandatory document that is required by the regulatory body, along with the report itself. • **Supporting Document** - If selected, when the report is generated, the report object is printed as a separate document. Optionally, a supporting document can be included as part of the report content at generation. A supporting document is an additional optional document that a company chooses to submit along with the mandatory content.
Break Type	Excel, Word, and PowerPoint	When you specify a break type, you can specify the number of pages, rows, or slides to use for spacing. You cannot assign break types to Web Page and PDF objects because these report objects are not included in the generated report.
Continue with Next	Word	Specifies a string of text that is displayed on the second and later pages of a report if the current report object that contains a note variable heading exceeds one page.
ToC Variable	Excel, Word, and PowerPoint	Defines a table of contents variable for the report object. You cannot assign ToC variables to Web Page and PDF objects because these report objects are not included in the generated report.
Note Type	Excel and Word	Specifies the note types that the report uses. • **Automatic** - Enables the Note Variable field. • **Manual** - Enables the Note Number and Note Variable fields.

Property	Report Object Type	Description
		◦ You can use the Note Number field to enter the value of the note number required. ◦ You can use the Note Variable field to specify the name of the variable that is associated with this note. You cannot assign note variables to Web Page and PDF objects because these report objects are not included in the generated report.
Active User	All	Displays the user who checked out the current report object.
Current Workflow State	All	Shows the current workflow state of the report object.
Share Report Object	All	Marks the current report object as shared and makes the report object visible in the window that opens when you add reference objects. When a report object is set as shared, an icon in the report tree beside the report object name indicates that the report object is a shared object.
Include in XBRL Inline Generation	PDF	Specifies whether to include the PDF content in XBRL inline generation. This feature is only available for ESMA jurisdiction. It allows you to add supplementary documents to an annual filing to meet a jurisdictional compliance requirement. • **Do not include** - Specifies not to include the PDF. • **Include before** - Specifies to stitch the PDF content at the beginning of the generated document. • **Include after** - Specifies to stitch the PDF content at the end of the generated document. When multiple PDF objects are included before/after the generated document, they will be stitched at the beginning/end of the document, in the same order they are found in the report tree. The PDF content will

Property	Report Object Type	Description
		always start on a new page.

Note:

- You can modify properties for a report object only if you have checked it out and have permission to modify report object properties. You cannot modify report object properties if the report object is checked out by another user. Also, if a report object is checked out and the session state is invalid, for example as a result of a crash, you cannot modify report object properties, until the object is forcefully checked back in.
- If you use CDM in Arabic and you select **Contextual** for **Digit Shaping** in the Options window, some dates in report properties might appear with European number shaping. The dates that might appear with European number shaping are those that are selected through a calendar field in CDM.

Associate a Report Object with a Custom Group

You can associate a report object with a custom group. However, before doing this, you must define the custom groups that you need. For each Excel, Word, or PowerPoint object, you can select one or more groups.

When a report is generated using a custom group, CDM filters out and excludes any report objects that are not part of the selected group.

When a report is opened by filtering one or more custom groups, report objects that are added to the report are automatically assigned to the custom group or groups.

To associate a report object with custom groups:

1. Open the report that you want to work with.
2. In the report tree, right-click the report object that you want to associate with a custom group and select **Properties** > **Custom Groups**.
3. Select the custom group that you want to associate with the report object and click the single arrow to move it to the appropriate pane. To associate all custom groups with the report object, click the double arrow to move them to the appropriate pane.
4. Click **OK**.

Include or Exclude Report Objects in a Generated Report

Print options can be used to control print and print-type properties for report objects and sections.

Printable Property

You include or exclude report objects from a generated report by using the **Printable** property.

You can set the Printable property for an individual report object to include or exclude it from a generated report. You can also set the Printable property for a section to include or exclude all its report objects and subsections from the generation.

When a section is set to **Not Printable**, the descendant report objects and sections appear as Not Printable. The section descendants' Printable property is grayed out and you cannot change their Printable property.

The explicit Printable property of report objects and sections is maintained in CDM, therefore, you can change the Printable property of a parent section without modifying the Not Printable property of a report object that is not to be printed.

Variables defined in Microsoft Excel objects that are Not Printable are still resolved when referenced in other CDM report objects.

Print Type Property

You can use the **Print Type** property to determine if Microsoft Word, PowerPoint, and Excel objects or sections are to be generated in the main report, in an exhibit, or are supporting documents.

When adding or importing a child report object or section to an exhibit section, the Print Type property is automatically set to **Exhibit**. The report object or section is included in the generation of the exhibit section. This property can not be changed. Such report objects can be additionally marked as **Exhibit Supporting Document** using the report object properties.

In all other scenarios, the default Print Type for newly created or imported report objects and sections is to be included in the main report. Such report objects can be additionally marked as **Supporting Document** using the report object properties. You can then use the **Include Supporting Documents** and **Include supporting documents in the main report** generation options to control how supporting documents are generated and accessed.

Set the Printable Property for a Report Object or Section

1. Open the report that you want to work with.
2. To exclude a single report object from generation, right-click it and select **Properties** > **Printable** > **Not Printable**.
3. To exclude all of descendant report objects in a section, right-click the section and select **Properties** > **Printable** > **Not Printable**.
4. To make a report object or section eligible for generation again, right-click and select **Properties** > **Printable** > **Printable**.

Tip: When sections or report objects in a report are set as Not Printable, their names in the report tree become lighter and more transparent. You can also set a report object or section as Not Printable in their Properties and Comments window (right-click and select **Properties** > **Manage All Object Properties** and clear the **Printable** checkbox).

Push Report Objects Down to Cascaded Reports

You can push down one or more report objects from a master report to cascaded reports.

- In the destination report, you need permission to view the report and to add report objects.
- In the source report, you need permission to push down report object updates and to create report objects.

As you add new report objects to a master report, you can add copies of these report objects to any cascaded reports by pushing the report objects down.

In a cascaded report, pushed-down report objects appear in the report tree under the **Pushed Down Objects** heading. Report objects under this heading are not included when you generate the report. If you want to include any pushed-down report objects in a generated report, drag the report objects to a different part of the hierarchy.

To push report objects down to cascaded reports:

1. Open the report that you want to work with.
2. In the report tree, right-click the report object that you want to push down to the cascaded reports and select **Pushdown**.

   Tip: If you want to push down more than one report object at once, press CTRL and select multiple report objects. Then right-click in the report tree and select **Pushdown**.
3. Select the checkboxes for the cascaded reports that you want to push the report object down to, and click **OK**.
4. A copy of the report object is pushed down to the cascaded reports. If you push down a report object that already exists in the cascaded report, a number is added to the name of the report object.

Note: By default, pushed-down report objects are not printable.

Delete a Report Object from a Report

If you no longer need a report object, you can delete it.

Important: If you delete a report object, you cannot undo your action. Proceed with caution.

To delete a report object from a report:

1. Open the report that you want to work with.
2. In the report tree, right-click the report object that you want to delete and select **Delete**.
3. In the confirmation window, click **Yes**.

Report Object Templates

You can use report object templates to define, manage, and enforce templates used in CDM.

Report object templates enforce style management, layout, and page settings for a project. Report object templates automatically enforce the settings for newly created objects in the report. Bidirectional users have the option to set sheet or paragraph direction for all objects.

You can export a predefined template to be edited in Microsoft™ Office and imported back into CDM. These predefined report object templates are available:

- Excel 2007 and later
- Word 2007 and later
- PowerPoint 2007 and later

The templates cannot be created or deleted. You can export a predefined template to be edited in Microsoft Office and imported back into CDM and you can reset the template back to the default template.

> **Note:** The report object template applies styles and layout to new report objects. If you make changes to a template, the formats of existing report objects are not changed.

Export a Report Object Template

You can export a report object template and make it available on your system, either for use on another system or to edit in Microsoft™ Office.

These steps illustrate the workflow for editing a template:

1. Export the template to your system from CDM.
2. Edit the template in Microsoft Office.
3. Update the template in CDM.

To export a report object template:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Resources**, double-click **Report Object Templates**. The **Report Object Templates** tab opens in the work area.
3. Select the template that you want to export for editing.
4. Click **Home** > **Export**, and save the template on your system. The template is now available for you on your system.

Update a Report Object Template in CDM

A report object template on your system can be used to set the default style for new objects created in CDM.

Make sure that you have the correct template on your system. This template will overwrite the current template in CDM.

To update a report object template in CDM:

1. In the Report Object Templates tab in the work area, select the template that you want to update.
2. Click **Home** > **Edit**.
3. Select **Use custom template**, browse to where you have saved the edited template, and click **Open**.
4. Click **OK** to save the template for use in CDM.

Apply the Default Setting to a Report Object Template

If you are not happy with the changes that you have made to a report object template in CDM, you can revert to the default report object template.

1. In the Report Object Templates tab in the work area, select the template that you want to revert to the default setting.
2. Click **Home** > **Edit**.
3. Select **Use default template** and click **OK**. The selected template is reverted to the default settings.

Shared Objects and Reference Objects

You can select an existing report object in CDM and make it as a shared object.

A shared object is a report object that is made available for its content to be referenced within the same report or across reports. Any report object in CDM can be shared within the same report or any other report.

A shared object can be added as a copy of the shared object or as a reference object that is updated with the shared object. A reference object does not contain its own content.

If necessary, a shared object can be unshared, which prevents the report object from being referenced in other locations or reports.

Shared Objects

Any report object can be shared within the same report or any other report.

Before you can share a report object, you first configure that report object as a shared object. You can then add that report object to a different location in the same report or in another report.

Share a Report Object

1. Open the report that you want to work with.
2. Right-click the report object that you want to share, then click **Properties** > **Shared** > **Share**.
3. The report object is now configured as a shared object and can be added to the current report or another report as a copy object or reference object.

Add a Shared Object to a Report

You can add a shared object from one report to other reports.

1. Open the report that you want to work with.
2. In the report tree on the left, right-click the report that you want to add a shared object to, and click **Add Child** > **Shared Report Object**.
3. Select the shared object that you want, and click either **Copy** or **Reference**. You can select a report object only if it is configured as a shared object.
4. The shared object is added as the last report object in the report, either as a copy object or a reference object.

Reference Objects and Copy Objects

When a report object is configured as a shared object, that shared object can be inserted as a reference object or copied as a new report object within the same report or in a different report.

What Are Reference Objects and Copy Objects

A report object that is added to a report as a copy of a shared object is called a copy object. A copy object is not associated with the original source object. A copy object is a copy of the information in the source object when the copy object is added. If the source object is modified, the information in the copy object is not updated. However, users can modify the copy object. The information in the source object is not modified if the copy object is modified. A copy object can be used as a template in other reports. For example, an administrator can create a format in an Excel object and share that format with other reports by adding a copy of that Excel object.

A report object that is added as a reference to a shared object is called a reference object. The shared object to which the reference object is linked is called a source object. A reference object does not contain its own content. It remains associated with the original shared object (the source object). When a report with a reference object is refreshed, the information in the reference object is updated from the source object. If the information in the reference object needs to be updated, it must be done at the source. A reference object is read-only and cannot be modified directly. The administrator can use a reference object to share a report object with different users and set different workflow privileges.

You can remove the reference to the shared object (breaking the reference) if needed. You can also change the source object a referenced object currently references by selecting a different source object. To change the source object of a reference object, you need to have at least a roll forward of the report that contains the original shared object, in effect, the same base shared object but in a different report.

To determine whether a report object is a shared object or a reference object, you can use any of these indicators:

- Shared and reference objects display a small indicator with the report object name in the report tree.
- A tool tip indicates whether a report object is a shared object or a reference object.
- Any report object that references another report object displays a message in the information bar.

Add a Shared Object as a Copy

If a report object is configured as a shared object, you can create a copy of that shared object within the same report or in a different report. A copy object can be modified, but any modifications in the original source object are not applied to the copy object.

To add a shared object as a copy object to a report:

1. Open the report that you want to work with.
2. In the report tree on the left, right-click the report object where you want to insert a shared report object as a copy, and click **Add Sibling** > **Shared Report Object**.
3. From the list, select the shared object that you want to copy and click **Copy**.
4. Apply a workflow to the copy object. The workflow for a copy object can be different from the source object.

Add a Shared Object as a Reference

If a report object is configured as a shared object, you can add it as a reference object within the same report or in a different report. When a report is refreshed, the information in a reference object is updated from the source.

To add a shared object as a reference object to a report:

1. Open the report that you want to work with.
2. In the report tree, right-click the report object where you want to insert a shared report object as a reference, and click **Add Sibling** > **Shared Report Object**.
3. From the list, select the shared object that you want to link to and click **Reference**.

   Tip: When you hover your mouse over a reference object, you can see the names of its source report and source report object. To open the reference object, right-click it and click **References** > **Open**.
4. Apply a workflow to the reference object. You can change the workflow of a reference object. A reference object can have a workflow that is different from the workflow of the source object.

The information bar for the reference object contains the following message in the work area for the report object:

This object is referencing another object.

Change the Source Report Associated with a Reference Object

After you roll forward or cascade a report, you can change the source report that is associated with any reference object in the resulting rollforward or cascaded report.

You can change the source for a reference object, but only if the source is contained in a report that is part of a rollforward chain. You can also change the source report associated with a reference object when performing a rollforward or cascade operation on a report.

To change the source report associated with a reference object:

1. Open the report that you want to work with.
2. In the report tree, right-click one or more selected reference objects and click **References** > **Change**. The **Change References for Selected Report Objects** window opens.
3. Use the drop-down menu for each selected reference object to choose the source report you want it associated with. Only source reports for which you have the appropriate permissions are made available for selection.
4. Click **OK**. The selected reference objects are now associated with the source report you specified.

Break a Reference

You can break the reference between a reference object and the source object. The reference object becomes a non-reference object.

1. Open the report that you want to work with.
2. In the report tree, right-click the reference object and click **References** > **Break**.

The report object no longer references the original source object and can be modified. Modifications in the original source object are not applied to the report object.

Reference Objects in Cascaded Reports

When you cascade an existing report, any reference objects in the cascaded report reference the shared objects in the original report.

You can use cascaded reports for single sourcing. Cascaded reports contain all the report objects in the original source report. When you modify a shared object in the original report, the changes are automatically copied to the associated reference object in cascaded reports.

If needed, you can update the source object for all reference objects to a new source. For example, if you cascade a report for use in a different year, the reference objects remain associated with the original report and the original data. You can change the references from the original source report to any other report, as needed.

When you create a cascaded report based on another cascaded report, reference objects in subsequent cascaded report also reference shared objects in the original report.

Note: All referenced objects in copied reports are read-only.

Unshared Objects

If a report object was configured as a shared object, an administrator can change that shared object to unshared if needed. Users cannot copy or reference an unshared object.

To convert a shared object to unshared:

1. Open the report that you want to work with.
2. In the report tree on the left, select the shared report object.
3. Click **Show Properties**.
4. In the **Properties** pane, clear the **Share Report Object** checkbox.
5. Click **OK**. The report object is no longer shared and users cannot select the report object in the **Add shared object** window.

When you change a shared object to an unshared object, you must consider whether the shared object is referenced by other report objects. In general, you can convert the reference objects associated with that shared object to non-referenced (normal) report objects or delete the referenced objects. You can also change the source object a referenced object currently references by selecting a different source object. To change the source object of a reference object, you need to have at least a roll forward of the report that contains the original shared object, in effect, the same base shared object but in a different report.

Note the following special situations:

- If the reference object contains child objects, the child objects remain unchanged or deleted. However, if the child object is checked out in the current report or another report, the reference

object and its child object are not deleted.

- If the reference object contains a child object that is shared and referenced by other objects, the following conditions apply:
  - You can choose to convert the reference object to a non-reference object. The child objects do not change.
  - You cannot delete the reference object.

You might need to refresh or reload the report to see the changes.

> **Note:** You cannot add children to report objects in CDM v10.2.6 Refresh Pack 1 or later. Instead, you must create a section. However, reports that were created before upgrading to CDM v10.2.6 Refresh Pack 1, or if they are imported from another version, will still function as they did previously.

Exhibits and Supporting Documents

You can append additional documents called exhibits and supporting documents to your reports in CDM. Exhibits and supporting documents add important information to the financial reports that you create.

An exhibit is a mandatory document that is required by the regulatory body, along with the report itself. An exhibit is usually a Word object, and it can also be an Excel object. Exhibit objects are grouped into sections that are designated as Exhibit sections. When you generate a report, all exhibit objects grouped under an exhibit section are combined into one document that accompanies the report.

A supporting document is an additional optional document that a company chooses to submit along with the mandatory content. A supporting document can be an Excel, Word, or PowerPoint object. When you generate a report, supporting documents are generated separately by default. If you prefer, you can combine all supporting documents in the main report. Supporting document objects can also be grouped under an exhibit section but thereby become an exhibit document object and are added to the exhibit document that is generated for that exhibit section.

Add and Generate an Exhibit

You can designate a report object as an exhibit object by grouping it under an exhibit section. When the report is generated, all exhibit objects (including exhibit objects grouped in descendant exhibit sections) are combined into one document.

For example, you have a report that is organized like this:

REPORT
----Report Object 1

----Report Object 2

----**Exhibit Section 1**

--------Exhibit Object 1

--------Exhibit Object 2

----------**Exhibit Section 2**

----------Exhibit object 3

When the report is generated, Exhibit Objects 1, 2, and 3 are combined into a single document.

Exhibits are included in report snapshots.

To add an exhibit in a report:

1. Open the report that you want to work with.
2. Determine the location in the report hierarchy where you want to add a section that will be the exhibit section under which you want to group your exhibits.
3. Right-click and select **Add Child** or **Add Sibling** and then **Section**.
4. Enter a name for the section.
5. Right-click the section and select **Properties** > **Manage All Object Properties** and then select the **Exhibit** checkbox.
6. Enter an exhibit type, description, and file name in the respective **Exhibit Type**, **Exhibit Description**, and **Exhibit File Name** fields. The information you enter will be displayed in the manifest that is created upon report generation. Exhibit File Name will also be used as the file name for the exhibit document created upon report generation.
7. Click **OK**.
8. Add or import Word or Excel report objects under the exhibit section. They automatically become designated as exhibit documents.
9. You can also click and drag any Word or Excel report object in the report and place them under the exhibit section. They automatically become designated as exhibit documents.

Note: When you designate a section as an exhibit section, any descendant report objects or sections currently grouped under that section automatically become exhibit objects. You can only change their exhibit object designation by clicking and dragging them out from under the exhibit section to another location in the report hierarchy.

Add and Generate a Supporting Document

Supporting documents are included in report snapshots.

To add and generate supporting documents in a report:

1. Open the report that you want to work with.
2. Determine the location where you want to insert a supporting document, and create the Excel, Word, or PowerPoint object.
3. Right-click the report object and select **Properties** > **Manage All Object Properties**. The **Properties and Comments** window is displayed.
4. In the **Report Object Configuration** > **Print Options** section, select the **Supporting Document** checkbox.
5. Insert the appropriate content for the supporting document.

6. When you are ready to output the report, select **Include Supporting Documents**. If you want to combine all supporting documents in the main report, also click **Include supporting documents in the main report**.

Hyperlink to Exhibits

Managing hyperlinks to content being authored can be a hassle. CDM manages the hyperlink to exhibit files being created regardless of the generation format: Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Edgar HTML, Adobe PDF, or inline XBRL.

Insert a Hyperlink to an Exhibit Section

In a report, you can have one or more sections containing multiple report objects defined as Exhibit sections. You can place a hyperlink to an exhibit section in a report object.

1. Open the report that you want to work with.
2. Open and check out the report object in which you want to place a hyperlink to an exhibit section.
3. In the **Report Object** tab on the ribbon, click **Insert Variable** > **Exhibit**. The **Reference Variables** pane is displayed, listing all exhibit variables in the report.
4. In the report object, click on where you want to insert the hyperlink.
5. In the Reference Variables pane, select an exhibit section variable and click **Insert** (or double-click the exhibit section variable). The hyperlink is inserted.
6. Save and check in the report object.

If the exhibit file name property is set, the exhibit links the report main document to it.

If the exhibit file name property is not set, the exhibit links the report main document to the name of the exhibit section. The exhibit is generated with the file name set to the name of the exhibit section.

Insert a Hyperlink to a Web Object (External URL)

In a report, you can define Web objects as exhibits. You can then place a hyperlink to a Web object exhibit in a report object.

You can define a Web object as an exhibit by right-clicking on it and selecting **Properties** > **Manage All Object Properties**, and then selecting the **Is Exhibit** checkbox and clicking **OK**.

To insert a hyperlink to a Web object:

1. Open the report that you want to work with.
2. Open and check out the report object in which you want to place a hyperlink to a Web object exhibit.
3. In the **Report Object** tab on the ribbon, click **Insert Variable** > **Exhibit**. The **Reference Variables** pane is displayed, listing all exhibit variables in the report.
4. In the report object, click on where you want to insert the hyperlink.
5. In the Reference Variables pane, select a Web object exhibit variable and click **Insert** (or double-click the Web object exhibit variable). The hyperlink is inserted.
6. Save and check in the report object.

If you generate the report to EDGAR HTML and open the HTML, hyperlinks point to the selected section exhibits file when you click the links. Or if you generate in Word and save the generated Word document, the hyperlinks point to the correct linked files or URL for the Web object.

Sections

You can add sections in any report in CDM to group and organize report objects in the report.

Full reports can contain many report objects. Administrators can add sections periodically throughout the report and organize the report objects in the sections. The sections make it easier for users to navigate the report hierarchy.

You can apply a workflow to a section and have all new or existing descendant report objects and sections below it in the report hierarchy inherit that workflow, eliminating having to individually create workflows for each of the report objects.

You can also designate top-level sections as exhibit sections. All descendant report objects in an exhibit section become exhibit documents and are combined into one exhibit document that is included with the report when using Word generation.

Add a Section to a Report

You can add sections to provide spacing and grouping of report objects.

After adding a section, you can click and drag it to reposition it anywhere in the report hierarchy. When you add a section, the template workflow assigned to the report is automatically applied to the section workflow and any report objects and sections below it in the report hierarchy that have **Inherit Workflow** enabled.

To add a section to a report:

1. Open the report that you want to work with.
2. Determine the location where you want the section.
3. Do any of the following:
    - If adding a section to the report, right-click and select **Add Child** > **Section**. The section is placed immediately below the report in the report tree structure.
    - If adding a section to another section, right-click the section and select **Add Sibling** > **Section**. The new section is placed on the same level in the report tree structure as the section you selected. Or right-click the section and select **Add Child** > **Section**. The new section is placed one level below in the report tree structure as the section you selected.
    - If adding a section between report objects, right-click the report object that immediately precedes that location and select **Add Sibling** > **Section**. The section is placed below but on the same level as the report object you selected.

Edit the Properties of a Section

You can view and modify the properties of a section to tailor the section in a specific way.

1. Open the report that you want to work with.
2. In the report tree, right-click the section and select **Properties** > **Manage All Section Properties**.

3. In the **Properties** tab of the **Properties and Comments** window, edit the properties as you want. You can change any property that is not gray.
4. Click **OK**.

You can view or edit the following information:

Property	Description
Name	User specified name for the section. Each section in a report must have a unique name.
Section Due Date	The due date of the section.
Inherit Due Date	If selected, the section inherits the due date from its parent section due date or the report due date, depending on its position in the report hierarchy.
Workflow Due Date	The due date of the section's workflow.
Inherit Workflow	If selected, the section inherits the workflow due date from its parent section workflow due date or the report workflow due date, depending on its position in the report hierarchy.
Print Options	The print options for the section. • **Printable** - When selected and the report or section is generated, descendant report objects whose properties have Printable selected are included in the output. When not selected, all descendant report objects are excluded in generation output and their names in the report outline become lighter and more transparent. • **Exhibit** - When selected, designates the section as an Exhibit Section. If selected, report objects grouped together in the section are combined into one document separate from the report. Enter values for these fields: ◦ **Exhibit Type** - The type of exhibit that is being included with the report. ◦ **Exhibit Description** - Used to enter a description about the exhibit document. ◦ **Exhibit File Name** - Designates the file name for the exhibit document created at generation. If this field is left blank, then the name given to the section is used.

Check In and Check Out Report Objects in a Section

You can check in or check out multiple report objects that are in a section in one action.

1. With the report open, right-click on the section in the report tree.
2. Select **Check In** (if you want to ensure in all report objects in the section have a checked-in status) or **Check Out** (if you want to check out all the report objects in the section for editing).
3. The **Checkout Status** for the report objects is updated in the **User Object Summary** tab.

Delete a Section from a Report

If you no longer need a section in a report, you can delete it.

When deleting a section in a report, any report objects or sections that are descendants (children) of that section will also be deleted.

To delete a section in a report:

1. Open the report that you want to work with.
2. In the report tree, right-click the section that you want to delete and select **Delete**.
3. In the confirmation window, click **Yes**.

Report Format and Print Settings

You can apply common formatting such as fonts, margins, and columns across all report objects in a report in CDM.

How Does It Work

The Page Setup Word object must have the Page Setup property. When you generate the report output, CDM applies the settings.

CDM compiles the entire report in descending order. The location of the Page Setup Word object among the other report objects determines where you want to start to apply the print settings. The settings are applied only to the report objects that appear after the Page Setup Word object containing the setting information. For example, if you insert the Page Setup Word object containing the setting information after the third report object in the report, CDM applies the settings to all subsequent report objects, but not to the first three report objects.

It is possible to have more than one Word object containing print settings. For example, if you want to apply different formatting after the ninth report object, insert a new Page Setup Word object after the ninth report object. CDM applies the new settings to all subsequent report objects.

The first Page Setup Word object that contains font settings is used to apply a common font style and size across the entire report. If a subsequent Page Setup Word object contains different font styles or sizes, all subsequent report objects after the second Page Setup Word object inherit the font size and type from the Page Setup Word object. The first Page Setup Word object continues to apply the formatting to all report objects until the second Page Setup Word object is found.

Important: Word objects in CDM have the same functionality as Microsoft™ Word. The advanced functionality for Microsoft products is beyond the scope of this guide. However, some topics are included for your convenience. For more information, see Microsoft documentation or Microsoft online help.

Apply Page Setup Formatting in a Report

You can specify your settings in a special Word object called a Page Setup Word object to apply common formatting such as fonts, margins, and columns across all report objects in a report.

The first step in formatting your report is creating a Page Setup Word object, and then placing it in the report tree. When you generate your report, all report objects that follow the Page Setup Word object

will have the formatting in the Page Setup Word object. If you need different formatting in one or more report objects, you can change settings in those report objects.

To create a Page Setup Word object for applying page setup formatting in a report:

1. Open the report that you want to work with.
2. To insert a Word object that will contain your common formatting information, complete these steps:
   a. Determine the location where you want common formatting to start.
   b. Right-click the report object that immediately precedes that location, and click **Add Sibling** > **Word Object**.

      Tip: If you insert the Word object in the wrong location, you can drag and drop it in the correct location.

3. Click **Show Properties**.
4. Select these property settings:
   - **Name** - Specify the name as **Page Setup**.
   - **Document type** - Set the property to **Page Setup**.
5. Click the **Section View Mode** icon in the status bar.
6. To indent the table that will contain the content in Word objects, insert a table in the Page Setup Word object, select the table, and click **Indent from Left**. You can use this option to indent tables from the left margin by a certain measurement.

   Note: This property is available only for tables in Word objects that are indented from the left margin. If the table is centered or indented from the right using table enforcement settings, then the measurement in the Indent from Left area is ignored.

7. In the Page Setup Word object, specify other formatting in the same way that you would set up any Microsoft™ Word file. You can insert text into the Page Setup Word object. Insert dummy text and format it as required. For example, to identify your formatting choices, you can type **Font - Times Roman 10 point**. The text that you type in the Page Setup Word object does not appear in the generated report.
   a. Specify font type and size, and text alignment in the **Home** tab.
   b. Specify margins, orientation, and columns in the **Page Layout** tab.
   c. To specify how paragraphs should flow in your report, select a paragraph in the Page Setup Word object, right-click, click **Paragraph**, and select **Keep lines together**.
   d. To prevent a long table from splitting into the next page, the **Keep with Next** option must be enabled in paragraph settings, where the dummy text is inserted. At that point, the long table will be pushed to the next page, keeping the table together. If this option is disabled, then the table will break into the following page.
8. Click the **Default View Mode** icon in the status bar.

When the report is generated, all report objects following this Page Setup Word object contain the formatting that you specified in the Page Setup Word object.

Exclude a Report Object from the Common Format in a Report

You can add a Page Setup Word object to specify page setup formatting such as fonts, orientation, and margins for a report. By default, your page setup formatting applies to all report objects that follow it in the report, but you can specify that a single report object or a range of report objects should not have the same settings, meaning, you can exclude some report objects from common formatting.

To exclude a report object from the common format in a report:

1. Open the report that you want to work with.
2. In the report tree on the left, select the report object for which you want to specify different formatting, and check it out. When the report is generated, the report object that you select will be formatted according to the settings that you change in the **Enforcement settings** area of the selected report object. For any settings that you do not change, the report object will be formatted according to the settings in the Page Setup Word object that precedes it in the report.
3. Click **Show Properties**.
4. In the report object that you just opened, change the settings in the **Enforcement settings area** as required (do not select these options in the Page Setup Word object itself). Some settings are applicable to certain types of report objects only.

Setting	Report Object Type	Description
Margins	Excel, Word	To specify different margins for this report object when the report is generated, clear this setting and specify different margins.
Columns	Excel, Word	To specify different column settings for this report object when the report is generated, clear this setting and specify different column settings. This is useful for pages with two or three columns.
Page Orientation	Excel, Word	To specify different orientation for this report object when the report is generated, clear this setting and specify different orientation.
Text Alignment	Excel, Word	To specify different alignment for text in this report object when the report is generated, clear this setting and specify a different alignment.
Font Size	Excel, Word, PowerPoint	To specify different font size for this report object when the report is generated, clear this setting and specify a different font size.
Font Type	Excel, Word, PowerPoint	To specify different font type for this report object when the report is generated, clear this setting and specify a different font type.
Paragraph: Keep with Next	Word	Sometimes paragraphs start on one page and then continue on the next page when the report is generated. You can specify whether paragraphs should start on the original page and then split

Setting	Report Object Type	Description
		where necessary, or if they should move to the next page so that the entire paragraph can appear together. To move paragraphs to the next page if they might be split, select this setting.
Table Alignment	Excel, Word	To specify different alignment for tables in this report object when the report is generated, clear this setting and specify a different alignment.
Table Indent from Left	Word	To force all tables in a Word object to be indented from the left side for this report object when the report is generated, select this setting and specify the indentation.
Keep with Next Paragraph/Table	Excel, Word	Sometimes tables start on one page and then continue on the next page when the report is generated. You can specify whether tables should start on the original page and then split where necessary, or if they should move to the next page so that the entire table can appear together. To move tables to the next page if they might be split, select this setting.

When the report is generated, the report object is formatted according to the settings that you changed in the Enforcement settings area of the selected report object. If you do not use the enforcement settings from the Page Setup Word object, the settings from the report object are used.

Note:

- If no Page Setup Word object exists, no common formatting is applied even if enforcement settings are selected.
- You can apply enforcement settings to all Word objects except the Page Setup Word object itself. You cannot apply enforcement settings to PDF objects and Web Page objects.

Start and Reset Page Numbering in a Report

You can start page numbering at the beginning of a report, and you can reset the numbering to restart in other locations if necessary.

1. Open the report that you want to work with.
2. To insert a Word object that will contain your page numbering information, complete these steps:
   a. Determine the location where you want page numbering to start.
   b. Right-click the report object that immediately precedes that location, and click **Add Sibling** > **Word Object**.

Tip: If you insert the Word object in the wrong location, you can drag and drop it in the correct location.

3. Select the new Word object in the report tree, and check it out.
4. Click **Show Properties**.
5. Select these property settings:
    - **Name** - Specify a name such as Page Numbering.
    - **Document type** - Set the property to **Footer**.
    - **Header Footer Placement** - You can select **Standard**, **Odd**, or **Even**. Typically, select Standard.
    - **Footer Reset Style** - Use this field if the report contains a previous numbering scheme, and you want to change the numbering style later in the report. For example, you might want to change the numbering from roman numerals in an introductory section of the report to regular numbers in the main section of the report. Select a numbering style that is different from the original numbering style.
    - **Page Reset Number** - Use this field if the report contains a previous numbering scheme, and you want to reset the numbering to page 1 later in the report. You can define the number of pages that you need to reset the overall page number. This is useful if you need the page numbers to reset after creating a certain number of report objects. For example, if you have a five-page report, and you specify 3 in this field, when the report is generated, the first page number would be 2.
6. Click **OK** twice.
7. Click the **Section View Mode** icon in the status bar.
8. In the Word object, click **Insert** > **Page Number** > **Current Position**. Then select a page number style.
9. Select the page number and apply the formatting that you want to use:
    - Set justification for the page number, for example, left, right, or center.
    - Apply other styles as required, for example, bold, underline, or italics.
10. Click the **Default View Mode** icon in the status bar.
11. Save your changes to the report, and check in the Word object if you want.

When you generate the report, page numbering starts at the specified location in the report.

Start and Reset Headers and Footers in a Report

Headers and footers appear in the upper or lower areas of a page, and they can contain content across multiple pages in a report. You can use Word objects to insert and reset headers and footers in a report.

1. Open the report that you want to work with.
2. To insert a Word object that will contain your header or footer information, complete these steps:
   a. Determine the location where you want the headers or footers to start.
   b. Right-click the report object that immediately precedes that location, and click **Add Sibling** > **Word Object**.

   > **Tip:** If you insert the Word object in the wrong location, you can drag and drop it in the correct location.

3. Select the new Word object in the report tree, and check it out.
4. Click **Show Properties**.
5. Specify a name such as Header.
6. If you want to insert a header, select these property settings:
   - **Document type** - Set the property to **Header**.
   - **Header Footer Placement** - You can select **Standard**, **Odd**, or **Even**. Typically, select Standard.
7. If you want to insert a footer, select these property settings:
   - **Document type** - Set the property to **Footer**.
   - **Header Footer Placement** - You can select **Standard**, **Odd**, or **Even**. Typically, select Standard.
8. Click **OK** twice.
9. Click the **Section View Mode** icon in the status bar.
10. In the body of the Word object, add the content and formatting for the header or footer.
11. Click the **Default View Mode** icon in the status bar.
12. Save your changes to the report, and check in the Word object if you want.

When you generate the report, the header or footer starts at the specified location in the report.

Insert Row and Page Breaks Between Report Objects in a Report

When you generate a report, all report objects are compiled together to create one report. You can control the transition between report objects by inserting blank pages or blank rows between report objects in a report.

1. Open the report that you want to work with.
2. To insert a Word object that will contain your page break information, complete these steps:
   a. Determine the location where you want a page break to occur.
   b. Right-click the report object that immediately precedes that location, and click **Add Sibling** > **Word Object**.

      Tip: If you insert the Word object in the wrong location, you can drag and drop it in the correct location.
3. Select the new Word object in the report tree, and check it out.
4. Click **Show Properties**.
5. Specify a name such as Page Breaks.
6. Set the property to **Normal**.
7. For **Break Type**, select one of these options:

   - **Blank Row** - The break type has the same font type, font size, and paragraph settings as the Normal style of the report object. For Excel objects, the break type has the same format as the first Word object's Normal style (except for the font type which is always Times New Roman). If no other Word objects exist before the Excel object, the break type has 12 point Times New Roman font with 0 spacing before and after, and single line spacing as paragraph properties. In the next field, specify the number of blank rows you want to add between report objects.

   - **New Page** - If you set the number of the New Page break to 0, the next report object is pushed to the next page, instead of appearing on the same page as the previous report object. If you set the number to 1 or more, CDM inserts one or more blank pages before the next report object.

   - **Blank Row with Page Setup Properties**
     - **Font Size** and **Font Type** are copied from the Page Setup dummy paragraph.
     - **Spacing Before**, **Spacing After**, and **Line Spacing** are copied from the Page Setup dummy paragraph.
     - For **Paragraph Pagination**, all options will be set to **false** except **Widow/Orphan control**. If the number of breaks is higher than 1, then the lines will be included in the same paragraph instead of adding separate paragraphs. If there is no Page Setup object, Paragraph Pagination will default to Blank Row functionality.
8. Click **OK** twice.
9. Save your changes to the report, and check in the Word object if you want.

When you generate the report, the new blank rows or blank pages are inserted between report objects.

Report Snapshots

A snapshot is the content of a report or report object captured at a specific moment in time.

You can use a snapshot to determine the changes made to a report or a report object over time. If the snapshot output option is selected when a report is generated, CDM saves a snapshot of the report.

PDF and Web objects are not included in a report snapshot and cannot be generated as report object snapshots.

When you generate a filing report, CDM automatically generates a snapshot at the same time. The snapshot contains the XBRL file and an Excel document with the validation result as a separate worksheet.

Add a Snapshot

You can use a snapshot to represent the content of a report, report objects grouped in a section, or report object captured at a specific moment in time.

Important: When you generate a filing report, CDM generates the snapshot automatically, and you do not need to perform the following procedure.

To add a snapshot in a report:

1. Open the report that you want to work with.
2. In the report tree on the left, select the report, a section containing report objects, or one or more report objects.
3. Right-click the selection and select **Generate Selection**.
4. In the generation window, select a format, for example **Microsoft Word**.
5. Under **Additional Preferences**, select the **Save as Snapshot** option and enter a description.
6. Select other options as required.
7. Click **OK**.

Add a Snapshot from the Section Tab

1. Open the report that you want to work with.
2. In the report tree, double-click the report or a section containing report objects. The report or section opens in the work area and the **Section Tools** area containing the Section tab displays on the ribbon.
3. In the **Section** tab, click **Save as Snapshot**.
4. In the **Save as Snapshot Description** dialog, enter a description for the snapshot you are saving.
5. Click **OK**. The snapshot is saved.

View a Snapshot

You can view a snapshot of a report, a single report object, or multiple report objects, if the **Save as Snapshot** option was selected when a report was generated.

Ensure that the report contains the snapshot that you want to view. The report or report objects must be generated with the Save as Snapshot option.

To view a snapshot of a report:

1. Open the report that you want to work with.
2. Click **Home** > **View Snapshots**.
3. Select a snapshot, and then click **View**. The snapshot opens in a specific viewer based on the format that was selected for the snapshot when it was generated. For example, if you selected Microsoft Word as the format, the snapshot will open in Microsoft Word for viewing. The **View Snapshots** window contains the following information about each snapshot:
    - **Report Name** - The name of the report used to generate the snapshot.
    - **Generation Type** - The format of the snapshot.
    - **Description** - Any text entered in the Description field when the snapshot was generated.
    - **Date Created** - The date that the snapshot was created.
    - **User** - The user who created the snapshot.
4. You can sort any column in the View Snapshots window by clicking a column header. Or, for any column, click the column filter icons to edit your view of the table.
5. When you are finished with the View Snapshots window, click **Close**.

Use Snapshots to Compare Versions of a Report or Report Object

You can use snapshots to compare two versions of a report or report object. When you compare snapshots, you can see any changes made over time. For example, you can see what was deleted from an earlier version or what was added to a later version.

To compare versions of a report or report object using snapshots:

1. Ensure that the report contains the snapshots that you want to view. The report or report object must be generated with the **Save as Snapshot** option.
2. Open the report that you want to work with.
3. Click **Home** > **View Snapshots**.
4. Select any two snapshots by pressing CTRL and clicking each snapshot. You can sort any column in the **View Snapshots** window by clicking a column header. Or, for any column, click the column filter icons to edit your view of the table.
5. Click **Compare**.

6. The snapshots open in Microsoft™ Word or your PDF viewer, based on the format of the snapshot when generated.
    - If you compare two Microsoft Word snapshots, the first selected snapshot is compared to the second selected snapshot. The second selected snapshot displays with any differences identified.
    - If you compare two PDF snapshots, each snapshot displays in the PDF viewer. You can visually inspect the two snapshots for differences.
    - If you compare a Microsoft Word snapshot and a PDF snapshot, the snapshots open in Microsoft Word or your PDF viewer. You can visually inspect the snapshots for differences.

Delete a Snapshot

If you do not need a snapshot of a report or report object, you can delete the snapshot.

> **Important:** If you delete a snapshot, you cannot undo your action. The deleted snapshot is no longer present in the View Snapshots window, and it is removed from CDM. Proceed with caution.

To delete a snapshot:

1. Ensure that the report contains the snapshot that you want to view.
2. Open the report that you want to work with.
3. Click **Home** > **View Snapshots**.
4. Select the snapshot you want to delete, and click **Delete**.
5. In the confirmation message, click **Yes**.

Report Output

You can generate your report in CDM in several formats such as Excel, Word, PDF, and HTML. Before you generate output from an Excel object, you can also preview the output to ensure all content is correct.

Report Output Formats

You can generate your report in the following formats:

- **Microsoft Excel**
  You can generate the report as a Microsoft™ Excel document.
- **Microsoft Word**
  Microsoft Word is the default output format. When you generate the report as a Microsoft Word document, all report presentation details are applied. PowerPoint objects, Web Page objects, and PDF objects are not included in Microsoft Word output.
- **Microsoft PowerPoint**
  Unlike Microsoft Word or PDF output, when you select Microsoft PowerPoint as the output

format, only PowerPoint objects are included in the output. This behavior applies to both the Generate Entire Report and Generate Selected Objects options. Word objects and Excel objects are not included in the Microsoft PowerPoint output. If a PowerPoint object includes references to external data, such as a graph in an Excel object, the referenced object is included in the Microsoft PowerPoint output.

- **Adobe PDF**
  Like output to a Microsoft Word document, output to a PDF document includes all report presentation details. The PDF format provides a high-resolution output for printing. PowerPoint objects, Web Page objects, and PDF objects are not included in PDF output.

- **Email with PDF Attached**
  You can generate a PDF document and send it to one or more recipients. The PDF document is the same as a document created by using the Adobe PDF output option.

- **High Definition HTML**
  You can generate a high definition .htm version of your Word reports.

- **EDGAR HTML**
  If you use the EDGAR feature in CDM, you can generate a document in HTML format suitable for use with the EDGAR feature.

- **Desktop Publishing**
  If you use the desktop publishing feature in CDM, you can generate a document in XML format suitable for use with a desktop publishing application such as Adobe™ InDesign.

Preview an Excel Object

Before you generate output from an Excel object, you can preview the output. You might find this useful to ensure that all content appears correctly, especially if the Excel object contains ## variables.

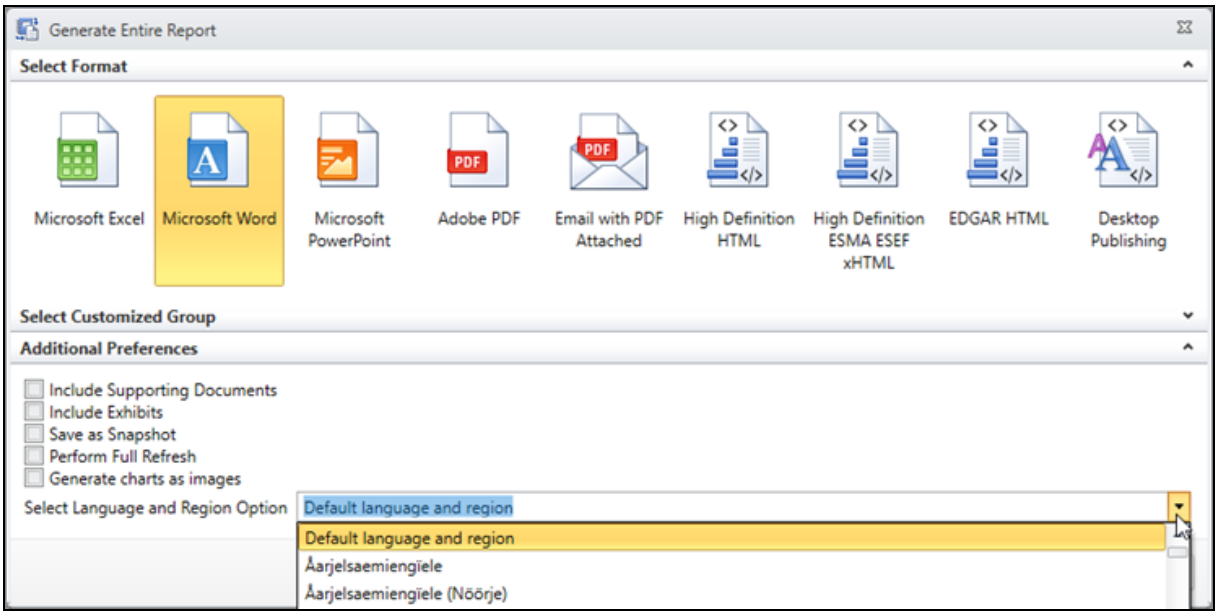
To preview an Excel object:

1. Open the report that you want to work with.
2. Open the Excel object.
3. In the **Report Object** tab on the ribbon, click **Generate & Preview** > **Preview**.
4. In the **Preview** window, confirm that the content appears correctly.
5. If necessary, check out the Excel object and make changes.
6. When the content appears correctly in the preview, you can generate the Excel object.

Specify Regional Settings for Report Output

Users granted the **Modify Report** permission can set the preferred **Language and Region Options** in the report properties that will be used to generate Excel print areas and variables to Microsoft Word, Microsoft PowerPoint, Adobe PDF and Edgar HTML.

When generate a report, users are still able to select a different language and region option than the preferred option.



When no Language and Region Options is set in the report properties, or selected on generation, the default language and region that is set on the CDM application server is used, making the default behavior identical with the one from previous versions.

Validate Report Output

As you are working with a report in CDM, you can validate the report periodically to find errors that can cause report generation to fail.

While you are compiling the report, a full validation can cost time and is rarely needed. Therefore two types of validation are available: Quick Report Validation and Full Report Validation. The quick validation is made against the cache without doing a cache refresh. The latest changes in the report are validated. A full validation refreshes the cache before validation. In either case, before generation of a report, the report is automatically validated.

To validate a report:

1. Open the report that you want to work with.
2. Click the parent report and click **Home** > **Validate** and select one of the following actions: **Quick Report Validation** and **Full Report Validation**.
3. Click **OK** to start the validation.

> **Tip:** You can view the progress in the **All processes completed** window in the status bar. While processes are running, the title bar shows the number of running processes. When the processes are finished, the title is All processes completed.

4. To open the validation file, open the All processes completed window in the status bar, and click the **Open** icon. A check mark indicates that a process generated properly. An exclamation point indicates an error that stopped the process.

Generate Report Output

You can generate output from CDM to test the report building progress or to create a document for internal or external reporting. You can also generate output containing macros and for the EDGAR feature or desktop publishing applications such as Adobe™ InDesign, if you use those features.

> **Note:** When you generate an inline document or submission package, you can choose to save temporary files on the server (associated to the long running process). These files are saved in a **Support Files** folder (the XPS file will not be included). To do this, enable **Include Certent Support files during generation** in the Options window (to access the Options window, click **Options** on the **File** tab).

Before you generate report output, you should verify that the print setting is correct for Word, Excel, and PowerPoint objects. Only report objects that are set to **Printable** are included in the report output. As additions to the main report, you can generate separate documents for report objects that are set to **Supporting Document** or **Exhibit**. The administrator must configure and enable email notifications to support the Email with PDF Attached report output option.

When you generate a report, all report presentation details are applied, such as page setup properties, note variables, and table of contents settings. You can customize report generation to provide the following results:

- Generate the report by selecting one or more custom groups.
- Include supporting documents and exhibits. Supporting documents can be generated as separate documents or included in the main report. Exhibits are grouped in an Exhibit section and are combined into a single document at generation. You cannot include supporting documents and exhibits with Microsoft™ PowerPoint output.
- Create a report snapshot. Report snapshots are useful for tracking changes to reports.
- Refresh data to include the most recent information from data sources, variables, and reference report objects in the generated report. The use of cached data is useful to reduce generation time because the server does not have to contact data sources and update all their values.
- Generate the report for all Excel objects or selected Excel objects.

  If you select all Excel objects, you generate all content from the printable range (`##RS-##RE`) in all Excel objects in the report to an external Excel file at the highest version of the Microsoft Office version available in the report. If you make a selection of Excel objects, you generate the selected content from the printable range in the Excel objects in the report to an external Excel file at the highest version of the Microsoft Office version available in the report.

  You can also specify to have multiple workbooks for the output. If you select **Use Separate Workbooks**, then you must specify the number of worksheets in each book. For example, if you make a selection of 100 printable ranges and 25 worksheets per workbook, you generate four workbooks, each with 25 worksheets. The naming convention of each worksheet for the workbook follows the convention *objectName_rangeNumber* and is limited to 31 characters.
- If you generate a report or report object in Microsoft Word or PowerPoint format in Microsoft Office Version 2007 or later, and if you choose Microsoft Word or PowerPoint as your output format, you can choose to generate charts as either images or objects.

- You can specify the culture to be considered for date formats, number formats, and currency formats. The culture is in the form of language and regional settings that are applied to Excel report objects in the generated report. The setting is available for the report output types: Microsoft Word, Microsoft PowerPoint, Adobe PDF, and EDGAR HTML.
- When you generate a section of a report, the header from a previous section is sometimes generated even if the header is not associated with the generated section.
- The list of macros that can be selected for a particular generation are filtered based on the macros' target (Excel or PowerPoint) when the macro was created. The generated report contains the selected macros in separate modules for each macro. The modules have the macros' names from CDM. When generating a report, the all processes window differentiates a macro generation from a regular generation. If at generation time, an empty macro (in effect, the user added a name and target and optionally a description but no VBA code) is selected for insertion, a warning is displayed when opening the generation in CDM.

To generate report output:

1. Open the report that you want to work with.
2. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
3. Double-click **Reports**. The Reports tab opens in the work area.
4. To generate the entire report, complete one of the following actions:
   - Right-click the report name and click **Report Generation** > **Entire Report**.
   - Click **Home** > **Generate** > **Generate Entire Report**.
5. To generate one or more Word objects or PowerPoint objects without generating the entire report, complete one of the following actions:
   - Right-click the Word or PowerPoint object or objects and click **Report Generation** > **Selected Report Objects**.
   - Open the Word or PowerPoint object. Then, in the **Report Object** tab on ribbon, click **Generate**.
6. To generate one or more Excel objects without generating the entire report, complete one of the following actions:
   - Right-click the Excel object or objects and click **Report Generation** > **Selected Report Objects**.
   - Open the Excel object. Then, in the **Report Object** tab on ribbon, click **Generate & Preview** > **Generate**.

     Tip: If you use this method, you can choose to preview the Excel object first, to see if it appears correctly before you generate. To do so, click **Generate & Preview** > **Preview**.

7. Select the format, custom group, additional preferences, and macros that are to be included. Alternatively, you can double-click a format icon to generate the report in the selected format with the current options.

   Tip: The generation of a report always starts with a validation. You can check **Perform Full Refresh** to refresh the cache before validation.

8. Specify how you want to generate charts:

   - If you generate charts as images, you can view the information in your generated report, but you cannot change it afterward. This option might result in better rendering of advanced chart types such as 3D charts and rounded edges. To generate charts as images, make sure that the **Generate charts as images** checkbox is selected. This is the default selection for Microsoft Office version 2007 or later.

   - If you generate charts as objects, the appearance of the chart is clearer, and you can click the content afterwards and edit it, if necessary. However, it might take longer to process your report if you generate charts as objects. To generate charts as objects, make sure that the **Generate charts as images** checkbox is cleared.

   Tip: In Windows™ Server 2003, generated charts appear wider than the original ones. If you use Windows Server 2003, you might prefer to generate charts as images.

9. To save a snapshot of the report, select **Save as Snapshot**.
10. Use the **Select Language and Region Option** drop-down list to select the culture option for your generated report.
11. If you want to see the appearance of variables before you proceed, click **Preview**.

    Note: No matter which versions of Office are used in your system, when you preview a report or report object by clicking the Preview button, you can see charts only as images. However, when you actually generate the report or report object, if you use Office 2007 or later, you can generate charts as either images or objects.

12. Click **OK**.

Excel objects in the report might contain more than one data worksheet. (The first data worksheet is originally named Sheet1, but it might have been renamed.) If there are multiple `##RS` and `##RE` range variables applied in the same worksheet, or across different worksheets, the content is read from left to right and then top to bottom when it is generated in the final document. At that point, all the printable ranges inside the Excel object are separated by one blank row.

Note: A `##RS-##RE` range cannot overlap with other `##RS-##RE` directives when you are defining a worksheet with multiple ranges.

CDM creates the output file on your computer. For example, on Microsoft Windows 7, the report is added to the `C:\Users\username\AppData\Local\Temp` directory. The output file is not added to the CDM database.

If you selected macros to be included in the generated report, the resulting workbook or presentation is macro-enabled (for example, XLSM, PPTM) and contains those macros.

When you open a report, you can choose to save it. If you do so, and then you open it again, the report opens from the location that you specified; otherwise, it opens from a temporary location.

Report Export and Import

You can use CDM to export a report that has already been created and tagged against a taxonomy. The exported report can then be imported into a different location.

Data Included in Report Export and Import

When you export or import a report, the following types of data can be included from a single report:

- Report structure (hierarchy of report objects, object content, and object properties)
- Shared status of each report object (shared or not shared)
- Report properties
- Reference variables
- Hyperion Financial Management (HFM) formulas
- Data sources, data queries, and query variables used in the report
- Query variable overrides
- Associations between report objects and data queries
- Associations between report objects and data sources, include HFM data source associations
- Associations between reports and data queries
- XBRL projects associated with the reports, project aspects such as title, units, time periods, entity schemes and identifiers, and XBRL variables and their values
- Entry point URIs of taxonomies that are associated with the projects in the report

Data Excluded in Report Export and Import

The following types of data are not included in an exported or imported report:

- Reference objects that reference a report object outside the report
- Comments
- Checklists
- Workflow
- Snapshots

- Users, user groups, and permissions
- Audit history (when you import an exported report, the auditable entities such as reports and report objects will receive an audit entry on behalf of the user at the target site)
- Checked-out state (when you import an exported report, all report objects will be checked in)
- Locked state for reports and report objects (when you import an exported report, the reports and report objects will not be locked, regardless of the locked state of the source report or report objects)
- Expiration policies of data sources

Export a Report Created and Tagged Against a Taxonomy

A taxonomy is a description of a multidimensional data store expressed in XML. You can use CDM to export a report that was created and tagged against a taxonomy.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Reports**. The Reports tab opens in the work area.
3. From the report list, select the report and click **Home** > **Export**.
4. Complete the steps in the **Export Reports** wizard.

When the export process is complete, a summary provides the following information:

- Number of report objects exported
- Number of queries exported
- Number of projects exported
- Number of taxonomies exported
- Name of any reference objects that were skipped
- Name of data sources
- Name of data queries exported

Import an Exported Report

You can use CDM to import a report that was previously exported.

Before You Begin

Before you import an exported report or set of reports, prepare the following information:

- You must know the master encryption password.
- You must know which report group will contain the imported report.

- You might need to specify how to associate user taxonomies with projects.
  - If there is one user taxonomy with the required entry point URI, the import process automatically associates the taxonomy with the appropriate project.
  - If there is more than one user taxonomy with the required entry point URI, you must specify which project to use.
  - If there is no user taxonomy with the required entry point URI, you must manually import the taxonomy first. For more information, see the topics on adding taxonomies in the *CDM XBRL Administration Guide*.
- You must be prepared to resolve conflicts with XBRL aspects. Some aspects might have names that conflict with existing aspects. For each conflicting aspect name, you must select one of the following options:
  - Replace the aspect being imported with the existing aspect. Any items that reference the aspect that is being imported will now reference the existing aspect.
  - Rename the aspect that you are importing.
- Ensure that the appropriate data source runtime prerequisites are installed on the destination application server. For example, if you are importing Oracle Essbase queries, make sure that you have Essbase runtime installed on the destination application server.

Procedure

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Reports**. The Reports tab opens in the work area.
3. From the report list, select where to import the report, then click **Home** > **Import**.
4. Complete the steps in the **Import Reports** wizard.
5. After the import is complete, make sure that your data connection details, such as server names and credentials, are updated. If your paths are incorrect, your data will not refresh.

When the import process is complete, a summary provides the following information:

- Number of reports imported
- Number of report objects imported
- Number of queries imported
- Number of projects imported
- Number of taxonomies imported
- A list of the imported data sources that you might need to fix later
- Name of data sources
- Name of data queries imported

Workflow and Auditing

A workflow is a process that is used to track the progress of a report object towards completion. For users to track work with a report, section, or report object, a workflow must be associated with each. A report, section, or report object can be advanced through all the workflow states configured for it. With assigned permissions, you can advance the current state to the next state in the approval chain, or reject and revert a report object to its previous state.

Workflows

Workflows are used by:

1. A user with administration permissions creating workflow states and transitions. The workflow states define what needs to be done at each point in the approval process (for example, review or approve). The workflow transitions define the flow from state to state. With assigned permissions, you can design a workflow process that uses any number of states and transitions in the approval process and for many users.

2. Creating a workflow template that can be automatically assigned to new reports, sections, or report objects so you can save time by not having to add several states to a blank workflow. Workflow templates are created at the application level and are available to all reports, report sections, and report objects. You can use a template to quickly create reports, ready for use. There is no need to manually create workflow states each time you create a new report object or section. The workflow template can be also used as a starting point to create a customized workflow for a report object or section. A report itself can use only one template but you can change which template is used. You can use a workflow template and then customize the template for specific report objects or sections as required. You can lock or edit the report object or section, assign users and user groups to the report object or section, change the default status of the report object or section, and set the due date.

3. Assigning the workflow template to the report or manually assign the workflow states to each report object or section.

4. Assigning users and user groups to the template or to the report objects or sections. The users and user groups must be defined first.

No Workflow Application Default

You can specify that no workflow template be used for new reports in CDM. If you have the **Manage Workflow Template** permission, go to **Administration** > **Workflow** and double-click **Workflow Templates**. In the Workflow Templates tab, the default workflow template is highlighted by a check mark. Select the default workflow template and click **Home** > **Default Template**. There is now no assigned default template for new reports.

Auditing

An audit trail is a detailed analysis of all changes that are made to reports or report objects. The audit trail feature records every submission to the CDM database, along with the user name and the date of submission. You can log in, view, and recover the audit trail.

Workflow State

In CDM, you can design workflow states that can be used in a workflow to define what needs to be done at each point in the approval process.

Add a Workflow State

Some workflow states are provided in CDM. If the workflow state that you need does not exist, you can add it.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Workflow**, double-click **Workflow States**. The Workflow States tab opens in the work area.
3. Click **Home** > **Add** > **Workflow State**. The **Add Workflow State Template** window is displayed.
4. Enter a name for the workflow state.
5. You can specify a description for the workflow state. The description can contain a maximum of 50 characters.
6. Select an image for the state. If you need an image that does not appear in the **State Image** area, click **Add Another Image** > **Browse**, and browse for an image on your computer. You can save the image you uploaded to the image gallery.

   Note: Ideally, the size of the image should be 42 x 42 pixels. If the image that you select is larger than 42 x 42 pixels, the size is reduced automatically when it appears in a workflow process.

7. In the **Report Summary Options** area, select the color for text and background.
8. Click **OK**.

Edit a Workflow State

You can change the details of a workflow state.

1. In the Workflow States tab in the work area, right-click the workflow state you want to edit and select **Edit**.
2. Change the name, description, and image for the workflow state.
3. Change the color for text and background.
4. Click **OK**.

Delete a Workflow State

If you no longer need a workflow state, you can delete it. You cannot delete a workflow state if it is currently in use.

Important: If you delete a workflow state, you cannot undo your action. Proceed with caution.

To delete a workflow state:

1. In the Workflow States tab in the work area, right-click the workflow state you want to delete and select **Delete**.
2. In the confirmation window, click **Yes**.

Workflow State Transitions

In CDM, you can create one or more transitions for each workflow state. A transition moves the current workflow state to the next state in the workflow process.

For each workflow state in the workflow process, you can link multiple transitions to any number of other states. You then have the option to move the current state to any number of different states based on which transition you choose. You can assign one transition as a default to automatically move the current state to the next or you can choose which transition to use from the many you have created.

Add a Workflow State Transition

You can add a workflow state transition in CDM. A workflow state transition is used to move the current state to the next state in the workflow process.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Workflow**, double-click **Workflow Templates**. The Workflow Templates tab opens in the work area.
3. Select the workflow template to which you want to add a transition and click **Edit**.
4. For any workflow state, draw a line from the gray **Out** pipe to the white **In** pipe of the workflow state that you want as the next step in the workflow process. A transition line appears between the two states.
5. You can create many transitions from one state to several others and designate one transition as the default (to set a transition as the default, right-click it and select **Default**). The default represents the most likely transition to be used automatically when the state moves to another state. However, a user can choose the other transitions not designated as the default as an option when the state is moved.
6. Click **OK**.

Set Attributes for a Workflow State Transition

Workflow state transition attributes determine what actions take place when a current state is moved to the next state in a workflow. You can set different attributes for a workflow state transition in a workflow template.

For each workflow state transition, you can set the following attributes:

- **Email Body**
  Used to enter a message if a pre-configured email message does not exist for the workflow state. See Email Notification for Workflow Processes.

- **Default**
  Determines that the transition is to be used when moving a current state to the next state using the **Move to Next State** > **Automatic** option.

- **Transition Rules**
  Used to define workflow rules to control the workflow process based on user-defined conditions. Rules apply to either referenced or copied object-level workflows.

To set attributes for a workflow state transition in a workflow template:

1. In the Workflow Templates tab in the work area, select the workflow template and click **Edit**.
2. To enter a message if a pre-configured email message does not exist for the workflow state, right-click a transition and select **Email Body**. Enter the text of the message to be sent and click **OK**.
3. To set a transition as the default transition, right-click it and select **Default**.
4. To apply transition rules, right-click a transition and select **Transition Rules** and apply the condition.
5. Click **OK**.

Edit a Workflow State Transition

You can change the details of a workflow state transition in a workflow template.

1. In the Workflow Templates tab in the work area, select the workflow template and click **Edit**.
2. To enter a message if a preconfigured email message does not exist for the workflow state, right-click a transition and select **Email Body**. Enter the text of the message to be sent and click **OK**.
3. To reposition a transition, click and hold the transition at either the gray **Out** pipe or white **In** pipe of the workflow state and drag it to the corresponding pipe on another transition. The transition line is repositioned.
4. To edit the message that is to be sent by email when the workflow state is moved, right-click the transition and select **Email Body**. Edit the text of the message and click **OK**.
5. To edit a transition as the default when the workflow state is moved, right-click the transition and select or clear **Default**.
6. To edit transition rules, right-click a transition and select **Transition Rules** and apply or remove a condition.
7. Click **OK**.

Delete a Workflow State Transition

If you no longer need a workflow state transition in a workflow template, you can delete it.

1. In the Workflow Templates tab in the work area, select the workflow template and click **Edit**.
2. Click a transition to select it and click **Delete**.
3. Click **OK**

Workflow Templates

Workflow templates are created at the application level in CDM and are available to be applied to all reports, sections, and report objects as a copy or as a reference.

A workflow template can be used as a starting point to create a customized workflow for a report, a section, or a report object.

After opening workflow templates, the name and description of each template is loaded. You can optionally export the contents into a CSV file by right-clicking in the work area and clicking **Export as .csv**.

Add a Workflow Template

If the workflow template that you need does not exist, you can add one.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Workflow**, double-click **Workflow Templates**. The Workflow Templates tab opens in the work area.
3. Click **Home** > **Add** > **Workflow Template**. The **Add Workflow Process** window is displayed.
4. Specify a name for the workflow process.
5. You can specify a description for the workflow template.
6. To change your view of the workflow process, click **Zoom In**, **Zoom Out**, or **Zoom to Fit**.
7. Edit the workflow process:
   a. From the **Toolbox** box, select icons that represent workflow states you want in this workflow process and drag them to the **Workflow** box. Arrange the icons in the appropriate order for your workflow process.
   b. Assign users or groups that can use each workflow state.
   c. Set the attributes for each workflow state.
   d. Create transitions for each workflow state.
8. When you are finished, click **OK**.
9. If there are multiple templates, specify which template is the default template by selecting the template and clicking **Default**.

Assign Users or User Groups to a Workflow Template

When you design a workflow process, you must assign users or user groups to each workflow state. If a user is not assigned to a workflow state, they cannot work with or make changes to the report, section, or report object using that workflow. Users are restricted to advancing the workflow state only for reports, sections, or report objects that they are assigned to.

To assign users or user groups to a workflow state in a workflow template:

1. In the Workflow Templates tab in the work area, right-click the workflow template and select **Edit**.
2. Select a workflow state in the diagram.
3. Click **Assign Users/Groups**.

4. Select a user or user group and click **Add**.
5. Click **OK** twice.

Set Attributes for a Workflow State in a Workflow Template

Workflow state attributes determine how users work within a workflow. You can set different attributes for a workflow state in a workflow template.

For each workflow state, you can set the following attributes:

- **Set Due Date**
  Determines when the workflow state is due. The due date is set in relation to the due date of the assigned report object.

  For example, the current date is June 1; the report object's due date is June 30. You have three states in a workflow that will be completed simultaneously. You need 5 days to complete the tasks in the first state, 10 days for the second state, and 15 days for the third state. To complete all workflow states by June 30, the first state is due June 25 (June 30 minus the offset of 5 days), the second state is due June 20 (June 30 minus the offset of 10 days), and the third state is due June 15 (June 30 minus the offset of 15 days).

- **Default**
  Determines the default state for report objects. The first state added to the diagram is automatically the default state. You can specify a different state as the default.

- **Editable**
  Determines whether users can edit the report, section, or report object when it is in this workflow state. When report objects are in a workflow state that is not editable, the content in the report objects cannot be changed and the report objects cannot be checked out. Report objects can still be moved through the different workflow states that are editable.

- **Locked**
  Determines whether the report, section, or report object can be refreshed when in this state.

To set attributes for a workflow state in a workflow template:

1. In the Workflow Templates tab in the work area, right-click the workflow template and select **Edit**.
2. To change the due date of a state, select the state and click **Set Due Date**. Select an appropriate due date offset and click **OK**.
3. To change the default state, select the new state and click **Default**.
4. To allow users to edit the report, section, or report object in a state, select the state and click **Editable**.
5. To lock a report, section, or report object in a state, select the state and click **Locked**.
6. To show or hide the legend, click **Show Legend**.
7. Click **OK**.

Delete a Workflow Template

If you no longer need a workflow template, you can delete the template. You cannot delete a workflow template if the template is referenced by any report object.

Important: If you delete a workflow template, you cannot undo your action. Proceed with caution.

To delete a workflow template:

1. In the Workflow Templates tab in the work area, right-click the workflow template you want to delete and select **Delete**.
2. In the confirmation window, click **Yes**.

Email Notification for Workflow Processes

You can use email notification in CDM to inform the next users in a workflow that the workflow state has changed. The email can automatically include required information and a user can customize the default content of the email message before it is sent.

Configure the Email Notification Template for a Workflow

If you want users to send an email notification when they move a section or report object to the next step in the approval process in CDM, you can create an email template to include a default message and update the notifications configuration file.

The configuration file is **Notifications.config**. You can configure the location of the template files for each notification event in the notifications section of the configuration file.

Important: Make sure that the recipient of the email registers the CDM protocol in the Options window, as described in the *CDM User Guide*. Also, if the recipient of the email uses web mail, links might not appear or function correctly.

Use the following example to configure the email notification configuration file:

```
<Notifications>
<MessageTemplates>
<MessageTemplate event="ReportObjectWorkflowStateChanged" format="Html"
filePath="EmailTemplates\ChangeReportObjectWorkflowState.html" />
<MessageTemplate event="ReportGenerated" format="Html"
filePath="EmailTemplates\ReportGenerated.html" />
</MessageTemplates>
</Notifications>
```

The following list provides the detail for this configuration:

- The notifications system can be enabled or disabled using the `Notifications enabled` attribute.

- Set the format for the event to either `Plaintext` or `Html`.
- The file path to the template is relative to the application path.

Create an email template file that includes an email subject line, body, and tags.

Email Template Parameters

If you want users to send an email notification when they move a section or report object to the next step in the approval process in CDM, you can complete the email template with parameters for two types of email events. The custom format allowed depends on the type of event.

Create an email template file that includes an email subject line, body, and tags. The first line of the template file contains the template for the subject line of the notification and the rest of the file contains the template for the body of the notification. Include tags that are dynamically replaced with values when the notification is sent. The format of a tag is `$(TagName[:customFormat])`, where `TagName` is the name of the value which you want to place at the tag location and `customFormat` is a custom string formatting parameter. If a tag is null, then an empty string is used in the notification.

The ReportObjectWorkflowStateChanged Event

For the ReportObjectWorkflowStateChanged event, use the following supported tags:

- **ReportName**
  The tag format is "string". The name of the report that contains the section or report object with the workflow state changes.
- **ReportObjectName**
  The tag format is "string". The name of the section or report object with the workflow state changes.
- **SenderFirstName**
  The tag format is "string". The first name of the user who changed the workflow state.
- **SenderLastName**
  The tag format is "string". The last name of the user who changed the workflow state.
- **SenderEmail**
  The tag format is "string". The email address of the user who changed the workflow state.
- **InitialStateName**
  The tag format is "string". The name of the initial workflow state.
- **FinalStateName**
  The tag format is "string". The name of the final workflow state.
- **ReportObjectLink**
  The tag format is "string". The link from CDM to the section or report object.
- **ReportObjectDueDate**
  The tag format is "datetime". The due date and time (UTC) of the section or report object.
- **WorkflowStateDueDate**
  The tag format is "datetime". The due date and time (UTC) of the final workflow state.

> **Tip:** If you are not located in the UTC time zone, conversion is required to determine the due date and time as it corresponds to your time zone.

- **ToRecipients**
  The tag format is "string". The list of recipients associated with the final workflow state. These are the users in the To field of the notification.

- **CcRecipients**
  The tag format is "string". The list of recipients associated with the initial workflow state. These are the users in the Cc field of the notification.

- **NotificationMessage**
  This is the custom notification message. If the user does not supply a custom message, the message from the transition is used. If the workflow state transition email body field is empty, an empty string is used.

The ReportGenerated Event

For the ReportGenerated event, use the following supported tags:

- **ReportName**
  The tag format is "string". The name of the generated report.

- **ReportLink**
  The tag format is "string". The link to the report that was generated.

- **NotificationMessage**
  The tag format is "string". The custom notification message.

Enable and Configure Email Notification for a Workflow

You can set up the email notification feature to send an automated email to the assigned user of a workflow process.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Notifications**, double-click **Email Settings**. The Email Settings tab opens in the work area.
3. Select the **Enable Email Notifications** checkbox.
4. In the **SMTP Server Settings** area, complete these settings:
   - A valid sender email address.
   - A valid mail server name.
   - A valid port number for the mail server.
5. In the **Security and Authentication** area, you can perform one of these steps to set the user credentials:
   - Select the **Use Default Credentials** checkbox to use the default credentials. This will use the credentials on the application server to authenticate to the SMTP server. The

credentials on the application server are defined in the **Credentials.config** file, under `EmailNotifications`.

- Clear the **Use Default Credentials** checkbox to override the default credentials. Type a user name and password.

6. To enable Secure Sockets Layer (SSL), select the **Enable SSL** checkbox.
7. Click **Save**.

Enable Custom Email Messages in a Workflow

You can enable and disable the feature that allows users to add custom messages to email notifications in the workflow.

1. Click **File** > **Options**.
2. In the **Options** window, select the **Allow custom email notification message** checkbox.
3. Click **OK**.

Progress Reports, Audit Trails, and Workflow Assignment Reports

You can monitor information about a report in CDM with progress reports, audit trails, and workflow assignment reports.

A progress report provides a detailed view of the status of sections and report objects. The audit trail provides detailed analysis of all changes that are made to reports, sections, or report objects. The workflow assignment report provides a detailed view of the workflow for each report. For example, you can see the due date for each workflow state.

These reports can be run at any time by the administrator or by any user who has administrative access to the feature.

Create a Progress Report

You can create a progress report for a report that provides a detailed view of the status of sections and report objects.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Reports**. The Reports tab opens in the work area.
3. From the report list, select the report and click **Home** > **Progress Report**.
4. In the progress report, perform one or more tasks:
   - To copy the data into Microsoft™ Excel for further analysis, click **Export to Excel**. Alternatively, right-click the report, and click **Export To Excel**.
   - To change the appearance of the report, right-click any column header, and click one of the

available options. For example, you can sort, group, and filter.

- To refresh the data in the report, click **Refresh**, or right-click the report and click **Refresh**.

5. Click **Close**.

View an Audit Trail

You can view an audit trail for a report, all the sections or report objects in the report, or login activity.

1. Open the report that you want to work with.
2. Click **Home** > **Report Audit Trail**. The **Report Audit** window opens.
3. Select the type of audit report:
   - Click on **Report** to view an audit trail for a report. You can view information such as the report name, description, date, and operation type, for a list of the versions of the report.
   - Click on **Report Object** to view a detailed audit trail of all the sections (group objects) and report objects in the report. To view a section or report object version in the application that it was created in, select a version of the section or report object from the audit trail list, and click View. You can also click **View** to view section or report object content from previous versions.
   - Click on **Login** to view an audit trail of all login activity for all users that have logged into CDM.
4. The audit trail is presented as a grid. You can sort and group some of the columns. To group the table by a column, drag and drop the column into the **Drag a column header here to group by that column** area above the column header.
5. You can also click the following buttons to perform additional tasks:
   - **Refresh** - To refresh the audit trail.
   - **Export to Microsoft Excel** - To export the list of audit records to a Microsoft Excel file. You can also filter the number of audited records based on date.
6. Click **Close** to close the Report Audit window.

Restore Version from Audit for Word, Excel, and PowerPoint Objects

You can restore an earlier version of a Word, Excel, or PowerPoint report object in CDM. When you restore an earlier version it becomes your working copy. All versions still exist in the CDM database and can also be restored as required.

To use an audit trail to restore an earlier version of all changes for a report object in a report:

1. Open the report that you want to work with.
2. Open the Excel, Word, or PowerPoint object of which you want to restore an earlier version.

3. In the **Report Object** tab on the ribbon, click **Object Audit Trail**. The **Report Object Audit** window opens.
4. Select an audit version and click **View** to identify it as the version you want to restore.
5. With the identified audit version selected, click **Restore**.
6. A prompt is displayed to confirm the restore is completed.
7. Click **OK** to close the prompt.
8. The Report Object Audit window displays the restored version with an updated time stamp and **Restore Object from Audit** displayed in the **Operation Type** column.
9. Close the Report Object Audit window. The report object displays content from the version you restored.

Note: Desktop publishing and XBRL tags that have been created on the report object after the creation date of the restored audit entry are orphaned and need to be recreated.

Create a Workflow Assignment Report

The workflow assignment report provides a detailed view of your assigned areas of the workflow. For example, you can see the due date for your assignments.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Reports**. The Reports tab opens in the work area.
3. From the report list, select the report and click **Home** > **User Workflow Assignment**.
4. In the progress report, perform one or more tasks:
   - To change the appearance of the report, right-click any column header, and select one of the available options. For example, you can sort, group, and filter.
   - To refresh the data in the report, click **Refresh**, or right-click the report and click **Refresh**.
5. Click **Close**.

Data Sources

A data source defines the physical connection to a data repository such as a relational database, an OLAP cube, or a Microsoft Excel file.

A data source connection specifies the parameters needed to connect to the database, such as the location of the database and the timeout duration. A data source connection can include credential information and sign-on. You can also add new connections to a data source and modify or delete existing connections.

You must create a data source connection before users can create queries. After you add a data source, an icon with the name of the data source appears in the Data Source Connectivity work area. You should then inform users that the data source is available for them to perform queries and run reports. You can optionally export the list of data sources into a CSV file by right-clicking in the work area and clicking **Export as .csv**.

In CDM, you can add data source connections to the following data types:

- OLAP
- Relational
- Microsoft Excel
- Hyperion Financial Management (HFM)
- Business Intelligence

Configure the Whitelist Element for Data Sources

You must configure the whitelist element in the CDM.config file so that CDM can connect successfully to data sources. Each new data source must be whitelisted.

1. Open **CDM.config** on the computer where the CDM server has been installed. The default location is `C:\inetpub\wwwroot\CertentCDM-Server\Config`.
2. Locate the `add` key inside the `DataSources\Whiteliste` element:

   ```
   <add name ="Any data source" serverName="*" />
   ```

3. Modify the key by making these changes:
   - Enter a unique value for the `name` parameter.
   - Enter the name or the IP address of the database server as a value for the `serverName` parameter.

   > **Tip:** You can use these wildcards: ***** which represents any sequence of zero or more characters, and **?** which represents any single character.

4. For each data source you want to connect to, add a new `add` key, and specify new values for the `name` and `serverName` parameters.
5. Save the changes to the CDM.config file.

You can now use CDM to add a data source and then connect successfully to the database server.

Configure Windows Authentication for Data Sources

If you plan to use Windows™ authentication to connect to your data source, you must enable a data sources account by editing the Credentials.config file.

1. Open **Credentials.config** on the computer where the CDM server has been installed. The default location is `C:\inetpub\wwwroot\CertentCDM-Server\Config`.
2. Locate the `DataSourcesCredentials` key element:

   ```
   <DataSourcesCredentials enabled="true" userName="" password="" />
   ```

3. Modify the key by making these changes:
   - Ensure that the `name` parameter is set to **true**.
   - Set the value of the `userName` parameter to the name of a Windows account that has access to the database server.
   - Set the value of the `password` parameter to the password of the Windows account.
4. Save the changes to the Credentials.config file.

You can now use CDM to connect to a data source using Windows authentication.

Add an OLAP Data Source

You must add an external OLAP data source so that CDM users can query OLAP data.

1. Install the 64-bit version of the client runtime on the CDM application server, as necessary for the type of database that you plan to use.
   - For an Oracle Essbase data source, follow these steps:
     - Download and install Essbase Client install from the Oracle website.
     - Edit the PATH Environment Variable to include the bin folder of Essbase Client. For example, the Oracle home path on a 64-bit computer is `C:\Oracle\Middleware`. Therefore, the Essbase Client bin path is `C:\Oracle\Middleware\EPMSystem11R1\common\EssbaseRTC-64\11.1.2.0\bin`.
   - For an IBM® Cognos® TM1® data source, download and install the IBM Cognos TM1 client, version 9.5 or later. To connect to TM1 10.1 data, you must install the same version of TM1 client library on the CDM application server.
2. In CDM, do either of the following to open the Data Source Connectivity tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Source Connectivity**.

- Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Source Connectivity** under **External Data**.

3. Click **Home** > **Add** > **OLAP Data Source**, or right-click any existing data source in the work area and click **Add** > **OLAP Data Source**.
4. Specify the connection parameters for the desired type of data source.
   - Oracle Essbase
   - Microsoft Analysis Services
   - IBM Cognos TM1

     Tip: You can connect to IBM Cognos Controller data by first publishing the data to a TM1 cube and then using CDM to connect to the TM1 data source.

   - IBM Cognos TM1 Using NATed IP
5. Click **Test Connection**.
   - If the connection succeeds, the **Connection successful** icon is displayed.
   - If the connection fails, the **Connection test failed** icon is displayed. Check with the database administrator to ensure that the database server is running and that you have the correct parameters.
6. Click **OK**.

Users can now create and edit queries based on the newly defined OLAP data source. They can also associate queries with reports, allowing query results to be used by the reports.

Important: You must ensure that each new data source is added to the whitelist element so that the CDM application server can authenticate the data source.

Connection Parameters for Oracle Essbase

To connect to Oracle Essbase as an OLAP data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Provider	Select **Oracle Essbase**.
Server	Enter the name of the Essbase server, for example, **essbaseserver**.

Parameter	Description
Authentication Type	Select **Basic Authentication** to authenticate against the server account. Select **Active Directory SSO** to authenticate using an existing Active Directory user account. The credentials will be passed to the Essbase server and only data that the Active Directory user is authorized to view will be returned. Using this option, you no longer need to create additional accounts to use Essbase data sourcing. **Note:** If you define queries with Essbase SSO, these are run against Essbase SSO with your credentials as the current user of CDM. Your credentials need to be imported into CDM from an Active Directory source. The same Active Directory needs to be defined at the Oracle Essbase Server level under Shared Services.
User ID	Enter the user name of the Essbase server account if you are using basic authentication. Enter the user name of the account that has access to the Essbase data source if you are using Windows™ authentication.
Password	Enter the password of the account that you are using for authentication.
Login Attribute	When using Essbase Single Sign-On authentication Active Directory SSO, use the default value **sAMAccountName**. **Note:** This is the attribute in the Lightweight Directory Access Protocol (LDAP) to identify users in Active Directory. You should use this default value.
Locking User	When using Essbase Single Sign-On authentication Active Directory SSO, enter the user name of the user to use when refreshing report contents after locking the report.
Locking Password	When using Essbase Single Sign-On authentication Active Directory SSO, enter the password of the user to use when refreshing report contents after locking the report.
Application	Enter the name of the application on the server that is hosting the Essbase cube.
Cube	Enter the name of the cube that is defined in Oracle Essbase.

Connection Parameters for Microsoft Analysis Services

To connect to Microsoft™ Analysis Services (MSAS) as an OLAP data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the

Parameter	Description
	cached data must be refreshed from the underlying external data sources.
Provider	Select **Microsoft Analysis Services**.
Server	Enter the name of the MSAS server, for example, **msasserver**.
Authentication Type	Select **Windows Authentication** to authenticate against a data sources Microsoft Windows™ account that users create on their computers. Users must assign rights for the data sources account to access the data sources. A separate data sources account gives you more flexibility when you are assigning access rights on external data. **Important:** The Credentials.config file needs to be updated for the `DataSourcesCredentials` configuration settings.
Application	Enter the name of the application on the server that is hosting the MSAS cube or in-memory tabular model.
Cube	Enter the name of the cube or tabular model that is defined in MSAS.

Connection Parameters for IBM Cognos TM1

To connect to IBM® Cognos® TM1® as an OLAP data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Provider	Select **TM1**.
Connection Type	Choose depending on how your TM1 server is deployed: **TM1 on Prem** or **TM1 on Cloud**.
Admin Host	Enter the TM1 Admin host.
Server IP	Populated automatically based on the Server Name selected.
Authentication Type	Select **Basic Authentication** to authenticate against the server account using standard Cognos® TM1 credentials. Select **CAM authentication** to authenticate using an existing CAM user account. The credentials will be passed to Cognos TM1 and only data that the user is authorized to view will be returned. Using this option, you no longer need to create additional accounts to use Cognos TM1 data sourcing.
User ID	Enter the username of the TM1 server account if you are using basic authentication.
Password	Enter the password of the account that you are using for basic authentication.
Locking User	When using CAM authentication, specify the username of the user to use when refreshing report contents after locking the report.

Parameter	Description
Locking Password	When using CAM authentication, specify the password of the user to use when refreshing report contents after locking the report.
Namespace ID	When using CAM authentication, specify the namespace ID of the user to use when refreshing report contents after locking the report.
Server Name	Select the name of the TM1 Server on the server that is hosting the TM1 cube.
Cube	Select the name of the cube that is defined in TM1.

Connection Parameters for IBM Cognos TM1 Using NATed IP

To connect to IBM® Cognos® TM1® using NATed IP as an OLAP data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Provider	Select **TM1**.
Connection Type	Choose depending on how your TM1 server is deployed: **TM1 on Prem** or **TM1 on Cloud**.
Using NATed VPN	Select if using a NATed IP.
Admin Host	Enter the TM1host REST URL.
NATed Server IP	Enter the NATed IP of the TM1 server.
Authentication Type	Select **Basic Authentication** to authenticate against the server account using standard Cognos® TM1 credentials. Select **CAM authentication** to authenticate using an existing CAM user account. The credentials will be passed to Cognos TM1 and only data that the user is authorized to view will be returned. Using this option, you no longer need to create additional accounts to use Cognos TM1 data sourcing.
User ID	Enter the username of the TM1 server account if you are using basic authentication.
Password	Enter the password of the account that you are using for basic authentication.
Locking User	When using CAM authentication, specify the username of the user to use when refreshing report contents after locking the report.
Locking Password	When using CAM authentication, specify the password of the user to use when refreshing report contents after locking the report.
Namespace ID	When using CAM authentication, specify the namespace ID of the user to use when refreshing report contents after locking the report.
Server Name	Select the name of the TM1 Server on the server that is hosting the TM1 cube.

Parameter	Description
Cube	Select the name of the cube that is defined in TM1.

Add a Relational Data Source

You must add an external relational data source so that CDM users can query relational data.

1. Install the 64-bit version of the client runtime on the CDM application server, as necessary for the type of database that you plan to use.
   - For a Microsoft™ SQL Server data source, no further installation is required. The client runtime is included in the .NET Framework.
   - For an Oracle data source, download and install the Oracle Instant Client and the Oracle Data Provider for .NET from the Oracle website.
   - For an IBM® DB2® data source, download and install the IBM Data Server Driver Package. This package contains the IBM DB2 ADO.NET provider and the client runtime.
2. In CDM, do either of the following to open the Data Source Connectivity tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Source Connectivity**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Source Connectivity** under **External Data**.
3. Click **Home** > **Add** > **Relational Data Source**, or right-click any existing data source in the work area and click **Add** > **Relational Data Source**.
4. Specify the connection parameters for the desired type of data source.
   - Microsoft SQL Server
   - Oracle
   - IBM DB2 for Linux, UNIX, and Windows
   - IBM DB2 for i
   - ODBC

     Note: CDM does not support DSN ODBC data sources.
   - OLE DB

5. Click **Test Connection**.
   - If the connection succeeds, the **Connection successful** icon  is displayed.
   - If the connection fails, the **Connection test failed** icon  is displayed. Check with the database administrator to ensure that the database server is running and that you have the correct parameters.
6. Click **OK**.

Users can now create and edit queries based on the newly defined relational data source. They can also associate queries with reports, allowing query results to be used by the reports.

Important: You must ensure that each new data source is added to the whitelist element, so that the CDM application server can authenticate the data source.

Connection Parameters for Microsoft SQL Server

To connect to Microsoft™ SQL Server as a relational data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Connection Type	Select **Microsoft SQL Server**.
Server Name	Enter the name of the SQL server that holds the database.
Authentication	Select **SQL Server Authentication** to authenticate against the server account. Select **Windows Authentication** to authenticate against a data sources Microsoft Windows™ account that users create on their computers. Users must assign rights for the data sources account to access the data sources. A separate data sources account gives you more flexibility when you are assigning access rights on external data.
User Name	Enter the username of the SQL server account if you are using SQL server authentication. Enter the username of the account that has access to the SQL data source if you are using Windows authentication.
Password	Enter the password of the account that you are using for authentication.
Database	Select the database name from the drop-down menu.

Connection Parameters for Oracle

To connect to Oracle as a relational data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Connection Type	Select **Oracle**.
Server Name	Enter the name of the Oracle server that holds the database.
Port	Enter the port number that is used by the server to establish the connection to the service.
Service Name	Enter the name of the service or database that hosts the information.
User Name	Enter the username of the account with access to the service.
Password	Enter the password of the account.

Connection Parameters for IBM DB2

To connect to IBM® DB2® for Linux™, UNIX™ and Windows™ as a relational data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Connection Type	Select **IBM DB2 for Linux, UNIX, and Windows**.
Server Name	Enter the name of the server that holds the DB2 database. The format should be `ADDRESS:PORT`. The default port number is 446.
Database	Enter the name of the database.
User Name	Enter the user name of the account with access to the database.
Password	Enter the password of the account.

Connection Parameters for IBM DB2 for i

To connect to IBM® DB2® for i as a relational data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Connection Type	Select **IBM DB2 for i**.
Server Name	Enter the name of the server that holds the DB2 database. The format should be `ADDRESS:PORT`. The default port number is 446.

Parameter	Description
User Name	Enter the user name of the account with access to the database.
Password	Enter the password of the account.
Database	Enter the name of the database.

Connection Parameters for ODBC

To connect to Open Database Connectivity (ODBC) as a relational data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Connection Type	Select **ODBC**.
Connection String	Enter the name of the connection string.

Connection Parameters for OLE DB

To connect to Object Linking and Embedding Database (OLE DB) as a relational data source in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Connection Type	Select **OLE DB**.
Connection String	Enter the name of the connection string.

Add a Microsoft Excel Data Source

You can add a Microsoft™ Excel data source so that CDM users can query data in an external Microsoft Excel spreadsheet.

1. Verify that the Excel spreadsheet is on a network that is accessible by the CDM server. The server cannot link to a file that is on your local computer.
2. In CDM, do either of the following to open the Data Source Connectivity tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Source Connectivity**.

- Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Source Connectivity** under **External Data**.

3. Click **Home** > **Add** > **External Microsoft Excel File Data Source**, or right-click any existing data source in the work area and click **Add** > **External Microsoft Excel File Data Source**.
4. Specify the connection parameters.
5. Click **Test Connection**.
   - If the connection succeeds, the **Connection successful** icon  is displayed.
   - If the connection fails, the **Connection test failed** icon  is displayed. Check with the database administrator to ensure that the database server is running and that you have the correct parameters.
6. Click **OK**.

Users can now create and edit queries to the newly created Microsoft Excel data source. They can also associate queries with reports, allowing query results to be used by the reports.

Note: You must ensure that each new data source is added to the whitelist element so that the application server can authenticate the data source.

Connection Parameters for Excel Data Source

To connect to Excel as one of your data sources in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
File Path	Click **Select File**, browse to the location of the Excel file, and double-click the file name. The file location must be accessible by the application server. **Note:** You cannot edit the file path manually. To change the path, click Select File again and browse to a new location.
Allow Query Variables in File Path	Select this checkbox to enable a user to use query variables in the file path of the Excel data source. This option is useful if a user wants to centrally manage a data source location and update it whenever the source location of the Excel file changes.

Add an HFM Data Source

You must add a Hyperion Financial Management (HFM) data source so that CDM users can use to create and refresh HFM formulas at the report object level.

Users do not create queries using an HFM data source. After an HFM server is defined, users can create and refresh HFM formulas. These formulas are resolved when a report is generated.

Supported HFM Formulas

These HFM formulas are supported:

- **HsGetValue**
  Retrieves data from a data source for the dimension members that you specify.
- **HsGetText**
  Retrieves the cell's text description from a data source for the dimension members that you specify.
- **HsLabel**
  Displays the default member label for a specified dimension member.
- **HsCurrency**
  Retrieves the currency value of the specified dimension member.
- **HsDescription**
  Displays the description of the specified dimension member.

Setup

A batch file (provided at CDM installation) on the HFM server must be run to allow CDM Data Source Connector (DSC) web applications to connect to it. If adding an HFM data source fails, check that this batch file has been run.

To connect to HFM 11.1.2.4 from CDM requires deploying the CDM Data Source Connector 3.0 on the HFM Server machine (not the foundation server). The DSC files are provided by Certent Support upon request.

Prerequisites

- JDK 8 or higher, deployed on the HFM server
- Java certificate converter (recommended: openSSL)

Unsecured Connection Configuration

CDM Server Side

No configuration is required.

HFM Server Side

1. Run the **config.bat** file from CDM Data Source Connector 3.0 and enter this required data:
   - javaw.exe location (default location for JDK8: `C:\Program Files\Java\jdk1.8.0_191\jre\bin\javaw.exe`).
   - EPM Home directory (default: `C:\Oracle\Middleware\EPMSystem11R1`).
   - EPM Instance directory (default: `C:\Oracle\Middleware\user_projects\epmsystem1`).
   - Port the connector should listen on (default: **7911**).
   - Type **false** when prompted for a secure connection.
2. After the configuration process is completed, run the **start.bat** file to start the Connector.

Secured Connection Configuration

CDM Server Side

1. Import the certificate you want to use for the connection in IIS in the Server Certificates area. Alternately, the certificate can be created in IIS directly using the IIS manager and exported to file.
2. In the **CDM.config** file from the connector web application (default location: `C:\inetpub\wwwroot\CognosDM-Server\Connector\Config`), modify the `DataSourceConnector` key as follows:

   ```
   <DataSourceConnector useSecureConnection="true"
   serverCertificateName="%certificateNamefromIIS%"/>
   ```

3. Call an IISReset.

HFM Server Side

The certificate file obtained from the CDM server-side configuration must be converted to a keystore file with a .jks extension. This can be done with any utility that supports the conversion. Certent recommends the openSSL freeware that has been used during internal testing.

To convert the certificate using Certent recommended method:

1. Copy the certificate from the CDM server to the HFM server.
2. Run the **certconvert.bat** file from the CDM Data Source Connector 3.0 and enter the required data:
   - Certificate file path (for example: `C:\Certificate.pfx`).
   - Certificate password (the one it was exported with).
   - Path to the openSSL executable (default: `C:\OpenSSL-Win64\bin\openssl.exe`).

- Path to the keytool executable from the deployed jre7 (default: `C:\Program Files\Java\jdk1.8.0_191\jre\bin\keytool.exe`).
- Password for the resulting keystore.

After this operation is completed, an **hfmconnect.jks** keystore file is created in the CDM Data Source Connector 3.0 directory which is used to configure the Connector.

To configure and start up the connector:

1. Run the **config.bat** from the CDM Data Source Connector 3.0 directory and enter the required data:
   - Input javaw.exe location (default location for JDK 8: `C:\Program Files\Java\jdk1.8.0_191\jre\bin\javaw.exe`).
   - Input the EPM Home directory (default: `C:\Oracle\Middleware\EPMSystem11R1`).
   - Input the EPM Instance directory (default: `C:\Oracle\Middleware\user_projects\epmsystem1`).
   - Input the port the connector should listen on (default: **7911**).
   - Type **true** when prompted for a secure connection.
   - Path to the jks keystore (default: `<HFMConnectorPath>\hfmconnect.jks`).
   - Password for the keystore.
2. After the configuration process is completed, run the **start.bat** file to start the Connector.

Add a HFM Data Source

1. In CDM, do either of the following to open the Data Source Connectivity tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Source Connectivity**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Source Connectivity** under **External Data**.
2. Click **Home** > **Add** > **HFM Data Source**, or right-click any existing data source in the work area and click **Add** > **HFM Data Source**.
3. Specify the connection parameters.

4. Click **Test Connection**.
   - If the connection succeeds, the **Connection successful** icon  is displayed.
   - If the connection fails, the **Connection test failed** icon  is displayed. Check with the database administrator to ensure that the database server is running and that you have the correct parameters. You can also expand the error message to see further details to help you troubleshoot the connection.
5. Click **OK**.

Users can now refresh HFM formulas that use the data source. These formulas are resolved when a report is generated.

Connection Parameters for HFM Data Source

To connect to HFM as one of your data sources in CDM, use the following parameters:

Parameter	Description
Name	Enter the name of the data source connection. This will have to be referenced in all HFM formulas.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
HFM Connection Type	Select which HFM version to connect to: • For HFM 11.1.2.3 and earlier, select **Autodetect HFM version**. • For HFM 11.1.2.4 and later, select **Use Data Source Connector**.
EPM Server name	Enter the name of the machine where HFM is installed, without the domain.
HFM Connection Port	Enter the port that was defined during HFM Connector configuration (default: 7911) .
Server Name (see EPM)	Enter the server name that was defined in EPM, without the domain.
Cluster Name	Enter the cluster name that has been defined in EPM (visible in the EPM System Configurator), without the domain.
Use current Active Directory user	Select this option if you want to use the user that is logged into the CDM client for data retrieval.
Domain	Enter the domain where the user is located.
Username	Enter the username of a user that has access to the HFM DB.
Password	Enter the password for the user.
URL	Optional: SmartView URL.

Parameter	Description
Application	Select the name of the application where the data is located.

Add a Business Intelligence Data Source

You can define an IBM® Cognos® Business Intelligence as one of your data source, allowing you to refresh IBM Cognos for Microsoft™ Office data, such as cross-tabs, charts, lists, and images, in your Excel report objects.

You must have a valid URL that connects to the Cognos Business Intelligence server where your Cognos® for Microsoft Office data is stored.

The Cognos for Microsoft Office add-in is used for placing Cognos Business Intelligence data into Excel report objects. Excel report objects can be created in CDM, or they can be Excel files that already have Cognos Business Intelligence data in them and are imported into CDM.

Global Refresh of Data from Cognos for Microsoft Office

A global refresh of all Cognos for Microsoft Office data in your Excel report objects occurs when:

- The expiration policy you choose for the data source has expired.
- You perform a global refresh of the data at any time using **Full Refresh Report** (not **Quick Refresh Report**) when working with a report.
- You lock or unlock a report object.
- You generate a report, if the **Perform Full Refresh** option is selected.

When a global refresh occurs, the Cognos Business Intelligence data is refreshed similar to when you use the Cognos for Microsoft Office **Refresh Data and Format** option. Floating Cognos Business Intelligence content (for example, images such as charts displayed as images) is refreshed similar to the Cognos for Microsoft Office **Refresh Data** option.

Note: If one Excel report object has data from two different Cognos Business Intelligence servers and one of the expiration policies triggers a refresh, the data from the second server (where the expiration policy is yet to expire) is also refreshed.

Use Business Intelligence Without Using Excel Add-in

An extra option, IBM Cognos Business Intelligence, is available when adding a BI data source and does not require the use of an Excel add-in. This option supports regular CAM authentication only. When creating a BI data source with a specific target (IBM Cognos Business Intelligence or IBM Cognos for Go! Office), the target cannot be modified when editing the data source later. Data queries, containing unformatted (raw) data, are created to pull BI content, after which they are inserted into Excel objects. BI reports are supported only (no workspace). When creating a BI data query, you can use query variables in the report path. This allows for pulling different data using the same query. When pulling chart reports, only the data is brought into CDM.

Users can refresh the Cognos for Microsoft Office content in their Excel report objects or, if the IBM Cognos Business Intelligence option is used, create Business Intelligence data queries to insert and refresh BI data in Excel report objects.

Add a BI Data Source

1. In CDM, do either of the following to open the Data Source Connectivity tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Source Connectivity**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Source Connectivity** under **External Data**.
2. Click **Home** > **Add** > **Business Intelligence Data Source**, or right-click any existing data source in the work area and click **Add** > **Business Intelligence Data Source**.
3. Specify the connection parameters.
4. Click **Test Connection**.
   - If the connection succeeds, the **Connection successful** icon  is displayed.
   - If the connection fails, the **Connection test failed** icon  is displayed. Check with the Cognos Business Intelligence server administrator to ensure that the server is running and that you have the correct parameters. You can also expand the error message to see further details to help you troubleshoot the connection.
5. Click **OK**.

Connection Parameters for BI Data Source

To connect to BI as one of your data sources in CDM, use the following parameters:

Parameter	Description
Name	Enter a unique name for the data source.
Description	Specify a description for the data source. This is optional.
Expiration Policy	Select the expiration policy. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.
Target	Select **IBM Cognos Business Intelligence** or accept the default for the URL method. **Note:** This target cannot be changed by editing the data source after it is created
Authentication Type	Applicable only when IBM Cognos Business Intelligence is selected. Only CAM authentication is available.
URL	Enter the URL that connects to the server where the Cognos Business Intelligence data is stored.

Parameter	Description
Namespace ID	Enter the ID of the namespace defined on the CAM server that has been configured for the Cognos Business Intelligence server you need to access.
Username	Enter the username for the Namespace ID you have entered.
Password	Enter the password for the Username you are using.

Edit a Data Source Connection

You can edit an existing data source connection in CDM to change its connection parameters, file path, or expiration policy. For example, if a database is moved to a different server, and you still want to access the same data, you must update the data source connection with the name or IP address of the new server.

To edit a data source connection:

1. Verify that no reports will be adversely affected if you edit the data source connection.
2. In CDM, do either of the following to open the Data Source Connectivity tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Source Connectivity**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Source Connectivity** under **External Data**.
3. Right-click the data source connection you want to edit and click **Edit**, or double-click the data source connection.
4. Edit the connection parameters. If a password is used as part of a connection string parameter, it is masked and cannot be viewed. For more information, see the *Connection Parameters* section for the database type that you are editing.

   Note: You can modify only the connection information. To change to a different database type, you must create a new data source and specify the new database type.
5. Click **Test Connection**.
   - If the connection succeeds, the **Connection successful** icon is displayed.
   - If the connection fails, the **Connection test failed** icon is displayed. Check with the database administrator to ensure that the database server is running and that you have the correct parameters.
6. Click **OK**.

Delete a Data Source Connection

If you no longer need a data source connection for CDM, you can delete it.

Important: If you delete a data source, you cannot undo your action. Proceed with caution.

To permanently delete a data source connection, take these steps:

1. Verify that no reports will be adversely affected if you delete the data source connection. You cannot delete a data source if any queries are set up to use it.
2. In CDM, do either of the following to open the Data Source Connectivity tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Source Connectivity**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Source Connectivity** under **External Data**.
3. Right-click on the data source connection you want to delete and select **Delete**.
4. In the confirmation window, click **Yes**.

Expiration Policies for Data Sources

CDM uses a data cache to manage the data from data sources and expiration policies to determine when the cached data is obsolete.

When you performs an action on a report, such as opening a report object or generating the entire report, CDM refreshes the external data and updates the data cache. Any future refresh operations will access the data cache, without retrieving data from external data sources. If you require the latest data and not the cached data, you can run a **Full Refresh** on a report or report object, or generate a report with **Perform full refresh** enabled.

However, frequent manual refreshes of the data source can negatively impact performance. As an alternative, you can define when the cached data is considered obsolete by using expiration policies. Expiration policies determine when the cached data must be refreshed from the underlying external data sources.

Note: You must have the Manage Expiration Policies permission to add, edit, or delete expiration policies.

Expiration Policy Types

CDM supports the following types of expiration policies:

- **Absolute Time** sets a policy that is based on a fixed date and time, which must be in the future. The data associated with this policy is obsolete in the data cache when the configured date and time are reached. The specified time is based on Universal Time (Coordinated Universal Time) on the CDM server. When users access expiration policies from the CDM client, the displayed time is relative to the user's local time zone and format instead.
- **Sliding Time** sets a policy based on an interval of time. Data that is associated with this policy is obsolete in the data cache after a specified time interval, calculated from the moment when the data was cached.

- **Extended Format Time** sets a fully customizable policy. You can define the minute, hour, day, month and frequency of the expiration. Data associated with this policy is obsolete in the data cache when all the defined conditions are met.
- **File Dependency** sets a policy that expires when the specified file is modified. Data that is associated to this policy is obsolete in the data cache when the configured file has been modified, calculated from the moment when the data was cached.
- **Never Expires** sets a policy that never expires.

Predefined Expiration Policies

CDM includes several predefined expiration policies, such as daily at certain times. The **Whenever the external Microsoft Excel file is modified** expiration policy applies to External Microsoft Excel File data sources. This policy cannot be edited or deleted. Data that is associated to this policy is obsolete in the data cache when the external data source has been modified, calculated from the moment when the data was cached.

Add an Expiration Policy

1. In CDM, do either of the following to open the Expiration Policies tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Expiration Policies**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Expiration Policies** under **External Data**.
2. Click **Home** > **Add** > **Expiration Policy**.
3. Enter a name and description for the policy.
4. Select the appropriate policy type from the drop-down list.
   - When you select **Absolute Time**, you must specify a future date and time.
   - When you select **Sliding Time**, you can modify the interval by selecting the number of days, hours, or minutes and then clicking the up or down arrows to adjust the value.
   - When you select **Extended Format Time**, you can define the minute, hour, day, month, and frequency of the expiration.
   - When you select **File Dependency**, enter the file path information or click **Browse** to select a file to specify the data source. You can optionally click **Test Connection** to test your data source connection.
5. Click **OK**.

Edit an Expiration Policy

1. In the Expiration Policies tab in the work area, right-click on an expiration policy and click **Edit**.
2. Update the policy information.

3. Click **OK**.

Delete an Expiration Policy

Important: If you delete an expiration policy, you cannot undo your action. Proceed with caution.

1. In the Expiration Policies tab in the work area, right-click on an expiration policy and click **Delete**.
2. In the confirmation window that opens, click **Yes**.
3. The policy is deleted if the policy is not associated to an external data source. If the expiration policy is used, an error message is displayed instead.

Data Queries

A query is a request for information from a database that is based on specific conditions. You can use a data query to create custom data queries on data from the data sources available in CDM and retrieve the results into a report. The query can then be inserted into an Excel object.

Users can copy a report-level query variable to the object-level variables table and apply properties to it. For more information, see the *CDM User Guide*.

OLAP Queries

You can add an OLAP data query in CDM against an Oracle Essbase, IBM® Cognos® TM1®, or Microsoft™ Analysis Services data sources.

You can use the **Add OLAP Data Query** wizard to add data queries using predefined dimension/member view, by selecting specific dimensions and members, or by using a multidimensional expression script. If you manually select dimensions and members, you can specify which dimensions represent the columns and rows of the data query.

You must have already created a data source that points to the OLAP database and specifies the database type. See Add an OLAP Data Source.

Add an OLAP Data Query Using Custom Data

You can add an OLAP data query that contains selected dimensions and members.

1. In CDM, do either of the following to open the Data Queries tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Queries**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Queries** under **External Data**.
2. Click **Home** > **Add** > **OLAP Query**, or right-click any existing query in the query list and click **Add** > **OLAP Query**. The **Add OLAP Data Query** wizard displays.
3. Enter a query name in the **Name** field.
4. Select an OLAP data source from the **OLAP Data Source** drop-down list.
5. For a TM1® OLAP database, select **None** in the **View** drop-down list. The dimensions available display in the **Page Options** box. Dimensions with an associated member display in the `<dimension>.<member>` format. Dimensions that do not have an associated member are highlighted.
6. You can add or modify a member for a dimension before adding that dimension as a column or row. You can add only one member using this method.
   a. Double-click a dimension in the Page Options box.
   b. In the **Select a Dimension Member** window, expand the member hierarchy to locate the appropriate member. Select **Show Aliases** to display the alias names of the dimensions instead of the actual names.

c. To search for a member, type the word to search in the **Type and wait to search** field.

The search text can be:

- **Oracle Essbase** - member name or the `MEMBER_ALIAS` property.
- **Cognos® TM1** - member name, or the `MEMBER_CAPTION` or `MEMBER_ALIAS` property.
- **Microsoft™ Analysis Service** - member name or the `MEMBER_CAPTION` property.

A list of members containing the search text opens. The search results are ordered hierarchically, as are found in the dimension tree. You are able to select a member node from the list. If selecting row or column members and you want to include children, you can right-click the node and choose the appropriate option: **Children**, **IChildren**, **Descendants**, **IDescendants**, and **Bottom Level Descendants**.

d. Select a member and click **OK**.

7. In the Page Options box of the Add OLAP Data Query wizard, use the arrow keys or drag dimensions to assign rows and columns in the query. You must select a default member in the Page Options box. Ensure that a leaf-level member is selected if the query is write-back enabled. A leaf-level member is a member of a hierarchy that has no children.

8. If needed, add or modify the members that are associated with a dimension you selected for the query.
   a. Double-click a dimension in the **Columns** or **Rows** box.
   b. In the **Edit Dimension Specifications** window, expand the member hierarchy to locate the appropriate members. You can also search for a member using the method described earlier.
   c. Click **Add MDX Script** to add a multidimensional expression (MDX) script to the query, as needed.
   d. Use the tools in the **Current member specifications** box:
      - Change the dimension/member relationship to child or descendant by clicking **Change Relationship**.
      - Change the order of the members with the **Move Up** and **Move Down** controls.

      > **Important:** In CDM, the default parent-child order returned is parents before their children. In Financial Statement Reporting (FSR), the parent-child order returned is children before their parents. If you migrate your data from Financial Statement Reporting (FSR), version 6.6.1 to CDM, a special flag is set to retain the same order result as Financial Statement Reporting. If you would like to edit your query to change the order after migration, delete and replace the query and then relink your formulas.

   e. Specify the following dimension options:
      - **Show Aliases** - Display the alias names of the dimensions instead of the actual names. For IBM® Cognos® TM1 queries, this option might not update the user

interface to display the alternative alias.

- **Join Asymmetrically With Next Dimension** - Specify whether to group the results that are based on the parent members.

f. Click **OK** to return to the Add OLAP Data Query wizard.

9. In the **Additional Properties** section, specify the query properties.
   a. In the **Description** field, enter an optional description for the OLAP data query.
   b. To allow a user to edit the data in the query and write the data back to the OLAP cube, select **Write-Back Enabled**.

> **Note:** To write data back to an OLAP data source, all dimension members in the data query must be leaf-level members. A leaf-level member is a member of a hierarchy that has no children.

   c. To specify how missing or zero values are displayed, select **Display Missing Data As**, then type the string or value to indicate how you want to display zero or missing data, for example, **Zero**, **Nil**, and **0**.

> **Important:** If you select Display Missing Data As, you cannot write back to the OLAP database. The Display Missing Data As option is mutually exclusive with the Write-Back Enabled option.

   d. To suppress rows containing only null values, select **Suppress Rows With Null Values**.
   e. To suppress rows containing only 0 (zero) values, select **Suppress Rows With Zero Values**.
   f. To display row headers in the results table of an OLAP query, select **Display Dimension Row Headers**. The headers enable you use a pivot table in an Excel worksheet to analyze data that is inserted into the object. You do not have to do a manual update if the query result changes.

10. Click **Next** to preview the OLAP query results.
11. Click **Next** to associate reports with this query. You can select **Make This Query Global** to make the query available to all reports.
12. Click **Finish**.

Add an OLAP Data Query Using Predefined Views

You can add an OLAP data query with predefined views in CDM against an IBM® Cognos® TM1® data source. The specific database views must have already been created in a third-party tool, such as IBM Cognos® TM1 Architect.

1. With the Data Queries tab open in the work area in CDM, click **Home** > **Add** > **OLAP Query**, or right-click any existing query in the query list and click **Add** > **OLAP Query**.
2. In the **Add OLAP Data Query** wizard, enter a query name in the **Name** field.
3. Select an OLAP data source from the **OLAP Data Source** drop-down list.

4. Select a predefined view from the **View** drop-down list. The data query will filter based on the Cognos TM1 view. If the view is modified outside on the Cognos TM1 cube level, the data query in CDM will be updated appropriately.
5. In the **Additional Properties** section, specify properties of the query. You can select **Show Attribute** if you want to display dimension members according to the value the member has in the attribute instead of the member name.
6. Click **Next** to preview the OLAP query results.
7. Click **Next** to associate reports with this query. You can select **Make This Query Global** to make the query available to all reports.
8. Click **Finish**.

Add an OLAP Data Query Using Multidimensional Expression Scripts

You can add an OLAP data query by using an multidimensional expression (MDX) script in CDM.

1. With the Data Queries tab open in the work area in CDM, click **Home** > **Add** > **OLAP Query**, or right-click any existing query in the query list and click **Add** > **OLAP Query**.
2. In the **Add OLAP Data Query** wizard, enter a query name in the **Name** field.
3. Select an OLAP data source from the **OLAP Data Source** drop-down list.
4. Select **Use Script**.
5. Add a multidimensional expression (MDX) script to the query. You can use query variables in the script by typing them using the appropriate syntax.

   For example, `{CurYear}` can be created to represent the year of the reporting period. Data from this query applies a filter based on the year to ensure that data is updated based on different periods of the reporting cycle.

   You can use only `Select` type scripts, for example:

   ```
   Select {[Time].[Quarter 1]} on Rows,
   {[Year].[Planning Years]} on Columns from [ABCDemo]
   where ([Scenario].[Actual], [All Products].[No Product], [Accounts].
   [Balance Sheet], [Office Products Inc].[No Company] )
   ```

   Dimension member selection can be done on rows and columns. Dimension member selections after the `where` keyword are the page options.
6. In the **Additional Properties** section, specify properties of the query. You can select **Show Attribute** if you want to display dimension members according to the value the member has in the attribute instead of the member name.
7. Click **Next** to preview the OLAP query results.
8. Click **Next** to associate reports with this query. You can select **Make This Query Global** to make the query available to all reports.
9. Click **Finish**.

Relational Queries

After you have set up the relational data sources, you can add queries to the data.

Add a Relational Data Query

To add a new relational data query, you must have already created a data source that points to the relational database and specifies the database type.

1. In CDM, do either of the following to open the Data Queries tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Queries**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Queries** under **External Data**.
2. Click **Home** > **Add** > **Relational Query**, or right-click any existing query in the query list and click **Add** > **Relational Query**. The **Add Relational Query Wizard** displays.
3. Enter a query name in the **Query Name** field.
4. Select a relational data source from the **Connection Name** drop-down list.
5. Optionally, specify a description for the query.
6. Click **Next**.
7. Select the checkboxes in front of the reports that you want to associate with this query or select **Make This Query Global** to make the query available to all reports.
8. Click **Finish**. The Query Builder displays for you to build the SQl query for retrieving data from the specified relational data source.

Build a Relational Data Query

CDM provides a database querying module that is integrated with Active Query Builder to cope with SQL query building.

When you query relational data sources in CDM, you must retrieve data through SELECT statements. If you use SQL statements other than SELECT, such as UPDATE or DELETE, they are reported as errors.

See SQL Queries for information such as the SQL keywords and operators you can use in CDM.

To build a relation data query:

1. In the Data Queries tab in the work area, double-click a relational database query in the query list.
2. The Query Builder gives you a choice of methods for creating SQL queries. You can type SQL commands directly in the **SQL Query with Variables** pane of the window, or you can drag tables into the **Main** pane and create queries using a graphical interface. The following steps show how to use the graphical interface.
3. Drag a table from the pane on the right that displays database tables into the **Main** pane and select columns from the table. The column is displayed in the **Expression** drop-down list.

4. Specify the query parameters to customize the query:
    - **Aggregate** - Select an aggregate from the drop-down list.
    - **Alias**- Type an alias if needed.
    - **Sort Type** - Select a sort type from the drop-down list.
    - **Sort Order** - Select a sort order from the drop-down list.
    - **Grouping** - Select which items to group.
    - **Criteria** - Select criteria that the query must meet.
5. Use the following commands on the ribbon of the **Query Builder** tab to work with the query:
    - **Refresh Metadata**- Refreshes the current query metadata.
    - **Insert Query Variable** - Adds a variable to the query.
    - **Validate** - Validates the query syntax.
    - **Run** - Executes the query.
    - **Stop** - Stops query execution.
    - **Show Structure** - Toggles the **Query Structure** pane.

For detailed instructions about how to build SQL query using the Query Builder, refer to the Active Query Builder User's Guide.

SQL Queries

Structured Query Language (SQL) is a standard language for accessing and manipulating databases. You use SQL when you work with relational queries in CDM.

You can use SQL statements to perform the following types of database-related tasks:

- Execute queries against the database
- Retrieve data from the database

SQL statements have a specific syntax and require certain information, which can be difficult to understand. When you select what you want to include in a SQL statement in CDM, you can ensure that your statement is structured correctly.

> **Important:** The advanced functionality for Microsoft™ products is beyond the scope of this guide. However, some topics are included for your convenience. For more information, see Microsoft documentation or Microsoft online help.

Keywords, Clauses, and Statements

You can use SQL statements in relational queries in CDM to perform most of the activities that you need to perform in a database.

When you query relational data sources in CDM, you must retrieve data through `SELECT` statements. If you use SQL statements other than `SELECT`, such as `UPDATE` or `DELETE`, they are reported as errors. Use of a semicolon is not supported.

Note: SQL itself is not case-sensitive. Names can be case-sensitive, and they can contain spaces and other delimiters if they are surrounded by double quotation marks.

The following statement shows the structure of a basic SQL statement:

```
SELECT VendorName FROM Table_Vendor
```

Keyword	Description

SELECT	The `SELECT` clause is mandatory, and specifies a list of columns to be retrieved. The result is stored in a result table, called the result set.
	`SELECT column_names`
	Tip: The asterisk (*) is a quick way of selecting all columns in a table. For example:
	`SELECT * FROM table_name`

FROM	The `FROM` clause is mandatory and always follows the `SELECT` clause, and lists the tables to be accessed by the query.
	`SELECT column_names`
	`FROM table_name`

WHERE	Optional. When used, the `WHERE` clause always follows the `FROM` clause. `WHERE` filters rows in the tables specified in the `FROM` clause. If the `WHERE` clause is not included, all rows are used.
	`SELECT column_names`
	`FROM table_name`
	`WHERE conditional_expression`

Comparison Operators

The `WHERE` clause can use comparison operators as part of the expression in a relational query in CDM. The result of a `WHERE` expression is always evaluated to true, false, or unknown.

Operator	Description
=	Equal to
>	Greater than
<	Less than
>=	Greater than or equal to

Operator	Description
<=	Less than or equal to
<>	Not equal to

Logical Operators

The `WHERE` clause in a SQL statement can use logical operators as part of an expression in a relational query in CDM. Like comparison operators, logical operators evaluate to true, false, or unknown.

Logical Operator	Description

AND	This operator combines two logical conditions. AND requires that each must be met for the record to be included in the result set. When you use the AND and OR operators together, AND has a greater precedence than OR.
	`SELECT columns`
	`FROM tables`
	`WHERE column1 = value1 AND column2 = value2`
	In this case, `column1` must equal `value1` and `column2` must equal `value2`, or no record is returned in the result set.

OR	This operator combines two logical conditions. OR requires that any of the conditions must be met for the record to be included in the result set. When you use the AND and OR operators together in an expression, OR has a lesser precedence than AND.
	`SELECT columns`
	`FROM tables`
	`WHERE column1 = value1 OR column2 = value2`
	In this case, either `column1` or `column2` must equal the stated value, or no record is returned in the result set.

NOT	This operator inverts the result of a comparison expression or a logical expression. To be able to return a record in the result set, NOT requires that none of the conditions are met.
	`SELECT columns`
	`FROM tables`
	`WHERE NOT column1 = value1`
	In this case, `column1` cannot equal `value1`, or no record is returned in the result set.

Joins and Unions

You can use a SQL statement to create joins and unions between tables in a relational query in CDM.

Query Type	Description
JOIN	You can use a join statement to combine rows from multiple tables. An inner join is the most common, and returns all rows from multiple tables where the join condition is met. An outer join is used to include rows that exist in one table (but not the other). A left outer join preserves rows from the table specified before the join statement. A right outer join preserves rows from the

Query Type	Description

	table specified after the join statement. For example, an inner join might look like this:
	`SELECT * FROM tableA`
	`JOIN tableB on column_nameA = column_nameB`

UNION	You can use a union statement to combine the result sets of two or more `SELECT` queries. By default, it removes duplicate rows between the various `SELECT` statements. Using the `ALL` qualifier forces duplicate rows to persist in the query result. For example, a union of 2 tables with duplicate rows preserved might look like this:
	`SELECT column_nameA`
	`FROM tableA`
	`UNION ALL`
	`SELECT column_nameB`
	`FROM tableB`

Excel Queries

After you have added Microsoft Excel data sources in CDM, you can query data from the Excel spreadsheets.

To add a query to an existing external Microsoft Excel data source:

1. In CDM, do either of the following to open the Data Queries tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Queries**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Queries** under **External Data**.
2. Click **Home** > **Add** > **External Microsoft Excel File Query**, or right-click any existing query in the query list and click **Add** > **External Microsoft Excel File Query**. The **Add External Excel File Data Query Wizard** displays.
3. Enter a query name in the **Name** field.
4. Select an Excel data source from the **External Microsoft Excel Data Source** drop-down list.
5. Select a sheet from the **Default Worksheet** drop-down list. If your worksheet contains a query variable, select **Allow query variables in worksheet name**. A list of named ranges in the sheet is displayed.
6. Double-click one or more range names, or type a range in the **The ranges to be copied** field.
7. Specify a description for the query in the **Description** field if you want.
8. Click **Next**.
9. Select the checkboxes in front of the reports that you want to associate with this query or select **Make This Query Global** to make the query available to all reports.
10. Click **Finish**.

Business Intelligence Queries

After you have set up a Business Intelligence data source in CDM, you can add BI queries.

To add a Business Intelligence query:

1. In CDM, do either of the following to open the Data Queries tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Queries**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Queries** under **External Data**.
2. Click **Home** > **Add** > **Business Intelligence data query**, or right-click any existing query in the query list and click **Add** > **Business Intelligence data query**. The **Add Business Intelligence data query** wizard displays.
3. Enter a query name in the **Name** field.
4. Specify a description for the query in the **Description** field if you want.
5. Select a Business Intelligence data source from the **Business Intelligence Data Source** drop-down list.
6. Click **Browse** and select a Business Intelligence report or report view from the **Report** drop-down list. This BI report or report view is located on the Business Intelligence server and contains the queries you want to use to bring BI data in to CDM.
7. To have the BI data query point to different reports or report views on the BI server, you can select **Allow query variables in report location**. The selected report field becomes editable, allowing you to enter the query variable names to use.
8. Click **Next**. If the selected BI report contains parameters, they are detected and displayed. Different types of parameters are displayed differently. For example, simple parameters do not have a drop-down menu from which you can select values for that parameter, but instead display the type of the parameter in a tool tip when you hover your mouse over it. Parameters that allow multiple values have checkboxes, whereas parameters that can have a single value are displayed with a radio button in their respective drop-down menus. The Business Intelligence simple parameters **MultiLine**, **Range**, **Calendar Type**, and **MultiSelect** are not supported. Query variables are not supported for parameters.
9. You can optionally enter a query variable into any of the field in the **BI Query Parameters** section. This only applies for queries that are string, number, or date (simple queries) and not for trees or lists. Also, for simple queries, a default value, applied in Business Intelligence, is shown. If no default value exists, the field is blank.
10. Click **Next**. A preview of the Business Intelligence data query results taken from the BI report you selected is displayed. If you selected **Allow query variables in report location**, the location of the report with the query variables resolved is shown.
11. Click **Next**.
12. Select the checkboxes in front of the reports that you want to associate with this query or select **Make This Query Global** to make the query available to all reports.
13. Click **Finish**.

You can use the BI queries you have created to insert data into CDM report objects. Refer to the *CDM User Guide* for instructions.

Create a Data Query Based on an Existing One

You can create a new query based on an existing query for all types of data sources in CDM. You must already have a data query that points to a relational database and specifies the database type.

1. In CDM, do either of the following to open the Data Queries tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Queries**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Queries** under **External Data**.
2. In the data query list, right-click the query you want to use and click **Copy into New**.
3. Edit the query name, server type, connection, or comments as required.
   - An OLAP data query and an external Microsoft™ Excel data query can both be edited in the query wizard.
   - A relational database query can be edited in the Query Builder window.
4. Ensure the correct reports are associated with the data query
5. Click **Finish**.

Edit a Data Query

You can change the details of a query.

1. In CDM, do either of the following to open the Data Queries tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Queries**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Queries** under **External Data**.
2. In the data query list, right-click the query you want to edit and click **Edit**, or double-click the query row.
3. In the query wizard, change the query name, server type, or properties, as required.
4. Click **Finish**.

Delete a Data Query

If you no longer need a query, you can delete it.

Important: If you delete a query, you cannot undo your action. Proceed with caution.

1. In CDM, do either of the following to open the Data Queries tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Data Queries**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Data Queries** under **External Data**.
2. In the data query list, right-click the query that you want to delete and click **Delete**.
3. In the confirmation window, click **Yes**.

Associate Data Queries with Reports

You can associate a data query with a report in CDM. When you associate data queries with reports, the queried data can be used by the specified reports.

To associate data queries with a report:

1. In CDM, do either of the following to open the Associate Queries with Reports tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Associate Queries with Reports**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Associate Queries with Reports** under **External Data**.
2. In the **Reports** pane, navigate the report hierarchy and select a report. You can use the search field to find a report.
3. In the **Associated Queries** pane, use the checkboxes to select the queries you want to associate with the report.
4. Repeat the preceding two steps to associate queries with other reports.
5. Click **Home** > **Save** to save your association.

In addition to the preceding procedure, you can also associate a query with reports when you add or edit the query.

Query Variables

You can use a query variable in CDM to maintain unique internal references for each report.

Add a Query Variable

If you need a query variable that does not currently exist in CDM, you can create one.

1. In CDM, do either of the following to open the Query Variables tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **External Data** > **Query Variables**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Query Variables** under **External Data**.

2. Click **Home** > **Add** > **Query Variable**. The Add Query Variable window displays.
3. Specify a name and value for the query variable.
4. You can add a comment to provide information about the purpose and use of the query variable.
5. If you want to allow a user to override the value that you specified, select **Allows Override**.
6. Click **OK**.

Edit a Query Variable

You can change details of a query variable.

1. From the query variable list in the work area, right-click the variable you want to edit and select **Edit**, or double-click the query variable row.
2. You can change the value and comment for the query variable.
3. To change the override setting, select or clear **Allows Override**.
4. Click **OK**.

Delete a Query Variable

If you no longer need a query variable, you can delete it.

You cannot delete a query variable if it is currently used by a data query or data source or if it is overridden.

Important: If you delete a query variable, you cannot undo your action. Proceed with caution.

To delete a query variable:

1. From the query variable list in the work area, select the variable you want to delete and click **Delete**.
2. In the confirmation window, click **Yes**.

Checklists

In CDM, a checklist is primarily used to provide task-oriented information and reference within a report. You can create customized checklists as a means of process control, compliance, and verification.

You can add or delete checklists at any time when you are building a new report, or when you are working with an existing report. You can leverage your existing checklists and procedures, or you can configure CDM to provide standard checklist types to use with your reports.

You can add or delete checklists in a report, and you can also append files to a checklist for reference and support in the reporting process. After your checklists are loaded, you can optionally export the data into a CSV file by right-clicking in the working space and clicking **Export as .csv**.

Add a Checklist

You can create a checklist in CDM and associate the checklist with a report. You can add a checklist as a sibling or a child of another checklist.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Resources,**, double-click **Checklists**. The Checklists tab opens in the work area.
3. Click **Home** > **Add** > **Checklist as Child/ Checklist as Sibling**.
4. Type a name for the checklist.
5. Select a checklist type. There are several types of default checklists.
    - **Task** - Represents a task that the user needs to complete.
    - **Checklist** - Includes a reference to a file attached to the checklist.
    - **Information** - Represents informational content.
    - **Misc.** - Represents a checklist of any other type.
6. If you select the Checklist type, click **Browse** to attach a file to the checklist.
7. Specify a description for the checklist if you want
8. Click **Next**.
9. Select the reports that use this checklist, and click **Finish**.

Edit a Checklist

You can edit the contents of a checklist.

1. In the Checklists tab in the work area, select the checklist that you want to edit.
2. Click **Home** > **Edit**. An editing window opens.

3. Change the name of the checklist.

> **Tip:** You can also change the name of the checklist by right-clicking it in the checklist table and then selecting **Rename**.

4. Change the checklist type or edit the checklist description, if necessary.
5. Click Next.
6. To change the reports that will use this checklist, select or clear the checkboxes for each available report.
7. When you are finished, click **Finish**.

Delete a Checklist

If you no longer need a checklist, you can delete it.

Before you can delete a checklist, you must detach it from any report objects to which it is attached. For information about detaching checklists from report objects, see the *CDM User Guide*.

> **Important:** If you delete a checklist, you cannot undo your action. Proceed with caution.

To delete a checklist:

1. In the Checklists tab in the work area, select the checklist that you want to delete
2. Click **Home** > **Delete**.
3. In the confirmation window, click **Yes**.

Tasks and Task Lists

In CDM, administrators define tasks in hierarchical lists that users are required to complete.

Tasks are added to task lists in a hierarchical structure. A task list can be ordered or unordered. Ordered task lists contain tasks which must be completed in the same order as they appear in the task hierarchy. Unordered task lists contain tasks which can be completed in any order.

Task lists and tasks can be edited and deleted at any time. Tasks can be promoted or demoted to a different place in the task list hierarchy.

Administrators assign permissions to users so they can view task lists and tasks and mark them as complete.

Create a Task List

You can create a task list to which one or more tasks can be added.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Tasks**. The Tasks tab opens in the work area.
3. Click **Home** > **Add** > **Task List**. The **New Task List** tab is displayed.
4. Click **Add**.
5. Enter a name for the task list in the **Name** field.
6. In the **Description** field, enter details that describe the task list if you want.
7. Select an icon that you want to represent the task list. You can choose from a set of default icons or you can add your own icons to the icon palette to choose from if required.
8. You can select the **Tasks must be completed in this order** checkbox to designate the list as an ordered task list. Tasks and subtasks in the list must then be completed according to the order of the hierarchy in which they are displayed.
9. Click **Home** > **Save** to save the task list. You can now add tasks to the task list.

Add a Task to a Task List

Task lists are built in a hierarchical structure consisting of tasks which can include subtasks. You can add one or more tasks to a task list.

1. In the Tasks tab in the work area, double-click the task list to which you want to add a task. The task list is displayed in a new tab in the work area.
2. Click **Add**. The **New Task** window opens.
3. Enter a name for the task in the **Name** field.
4. In the **Description** field, enter details that describe the task if you want.
5. Select an icon that you want to represent the task list. You can choose from a set of default icons or you can add your own icons to the icon palette to choose from if required.
6. Click **Add link** to link the task to a report object.

7. Click **OK**.
8. Click **Home** > **Save** to save the task list.

Edit a Task List

1. In the Tasks tab in the work area, double-click the task list you want to edit. The task list is displayed in a new tab in the work area.
2. You can perform one or more of these actions:
   - Change the task list's name and description.
   - Change the icon that is used to represent the task list.
   - Change the task order.
   - Designate the task list as ordered or unordered.
3. Click **Home** > **Save** to save the task list.

Change the Task Order in a Task List

You can change the position of one or more tasks as they are displayed in a task list's hierarchy.

When you move a task, its hierarchy level remains the same. For example, when you move a third-level task up or down in the task list, you are only changing its position among the order of all third-level tasks. To change a task's hierarchy level (for example, from third-level to secondlevel), you must promote or demote the task.

To change the task order in a task list:

1. In the Tasks tab in the work area, double-click a task list. The task list is displayed in a new tab in the work area.
2. You can perform one or more of these actions:
   - Select a task and click **Move Up** or **Move Down** to move the task up or down respectively in its hierarchy level in the task list.
   - Select a task and click **Promote** or **Demote** to change its hierarchy level position higher or lower respectively in the task list.
3. Click **Home** > **Save** to save the task list.

Edit a Task

You can edit the details of a task. Incomplete and completed tasks can be edited at any time.

1. In the Tasks tab in the work area, double-click a task list. The task list is displayed in a new tab in the work area.
2. Select the task you want to edit and click **Edit**.

3. In the **Edit** window, you can perform one or more of the following actions:
   - Change the task name or description.
   - Change the icon that is used to represent the task.
   - Change the report object linked with the task.
4. Click **OK**.
5. Click **Home** > **Save** to save the task list.

Link Tasks to Report Objects

The user can select a report object to be associated with a task. After creating the link, the user can easily navigate and open the report object from the task.

> **Important:** Ensure that you link to report objects based on your permissions. Links do not enforce User Filter or View Report permissions, therefore you can see the full list of report objects when you are creating a link. If you create a link to a report object that you do not have permissions for, you will receive an error message when you try to open the link.

1. In the Tasks tab in the work area, double-click a task list. The task list is displayed in a new tab in the work area.
2. Select the task that you want to associate with a report object and click **Edit**.
3. In the **Edit** window, click **Add link**.
4. In the **Link Task** window, select the report from the list and click **Next**.
5. Select the report object you want to link with the task.
6. Click **Finish**.
7. Click **OK**.
8. Click **Home** > **Save** to save the task list.

Add an Icon to the Icon Palette for Tasks and Task Lists

You can add your own icon to the default icons in the icon palette for tasks and task lists.

An icon is selected and assigned to a task list or task to differentiate it from other task lists or tasks. You can add your own icon to the default icons that are available for selection. Icons that you add must be 32 pixels by 32 pixels in size.

1. In the Tasks tab in the work area, double-click a task list to open it, or open a task in the task list.
2. Click **Add Another Image** and then **Browse**.
3. In the **Select State Image** window, navigate to the icon that you want to add, select it, and click **Open**.

4. To change your selection, click **Browse to select another image**.
5. Click **Save Image to Gallery**.

Delete a Task

You can delete a task at any time, whether it has been marked complete or has not been completed.

1. In the Tasks tab in the work area, double-click a task list. The task list is displayed in a new tab in the work area.
2. Select the task that you want to delete and click **Delete**.
3. In the confirmation message, click **OK**.
4. Click **Home** > **Save** to save the task list.

Delete a Task List

1. In the Tasks tab in the work area, select the task list you want to delete.
2. Right-click the task list and select **Delete**.
3. In the confirmation message, click **OK**.

Dashboards

A dashboard is an interface that integrates data from a variety of sources and provides a unified display of relevant and in-context information.

Users can view a dashboard to understand different types of data. Dashboards can also be used to query any relational database that contains useful information for the user. For example, if there is an Essbase relational source that contains financial/fiscal year end data, that can be queried and a dashboard can be created to use this information. It is not specific to the CDM database.

Widgets can be used to query the underlying information within a report to understand the status and to view the use of variables within a report object.

The tasks that you can perform with dashboards and widgets depend on your role in CDM. A person with administrative rights can create and manage dashboards. Users can view the dashboard to monitor progress of the report.

Find a Dashboard

If your report contains many dashboards, you can easily search for the dashboard that you need.

All dashboards in the report that you are viewing are listed in the Dashboards pane. To find a particular dashboard, you can scroll down the list and then click the dashboard that you want to work with. However, if your report contains many dashboards, you might prefer to use the search functionality in CDM.

To search for a dashboard:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Dashboards**.
2. Click the Search icon in the **Dashboards** pane header.
3. In the search field, type the full name or part of the name of the dashboard that you want to find. You cannot type special characters in the search field. A search result list of all matching dashboards opens under the field.
4. To focus on the appropriate dashboard in the Dashboards pane, click the name in the search result list. The selected dashboard in the Dashboards pane is highlighted.

Fixed Dashboards

A fixed dashboard is a dashboard that is supplied with the application to provide report and data source information in a graphical format. A fixed dashboards is provided automatically with CDM.

CDM comes with these fixed dashboards: Report Summary Dashboard and Excel Analysis Dashboard.

You cannot edit or delete a fixed dashboard, even if you are an administrator.

Report Summary Dashboard

The Report Summary dashboard in CDM is a fixed dashboard that displays generic report information. It contains the Document Summary, Object Status, and Object Summary widgets.

Document Summary Widget

The Document Summary widget is a grid widget that displays the following information on a report.

- **Report Name**
  The name of the report selected from the dropdown menu.

- **Report Group**
  If the report belongs to a group, the name of the report group.

- **Report Owner**
  The name of the user who is owner of the report.

- **Period End Date**
  The end date of the reporting period.

- **Report Due Date**
  The date that the report is due for completion to meet the submission date.

- **Submission Date**
  The date that the report is due for completion to meet the submission date.

- **Number of Working Days Before Submission Due Date**
  The number of working days before the report is due for completion to meet the submission date.

Object Status Widget

The Object Status widget is a pie chart widget that displays the workflow status of the report. The pie chart provides the user with workflow information that indicates the completion status and the percent breakdown of the current workflow state for each section or report object.

Object Summary Widget

The Object Summary widget is a grid widget that displays information related to the completion of each section and report object in the report. You can optionally export the contents of the grid into a CSV file by right-clicking in the grid widget and clicking **Export as .csv**.

- **Name**
  The title of each section or report object in the report.

- **Report Object Due Date**
  The deadline for completing the workflow process for a section or report object. A deadline is displayed only if one was set within the workflow process for that section or report object.

- **Workflow Status**
  The progress of the section or report object (for example, work in progress, under review, approved, and so on).

- **Workflow Due Date**
  The deadline for completing the workflow process for a section or report object. A deadline is displayed only if one was set within the workflow process for that section or report object.

- **Active User**
  The current workflow user.

- **Printable**
  A check mark indicates that the section or report object is printable. Otherwise, it contains an x.

- **Locked**
  A check mark indicates that the section or report object is locked. Otherwise, it is empty.

- **Shared**
  A check mark indicates that the section or report object is shared. Otherwise, it is empty.

- **Reference**
  A check mark indicates that the section or report object is a reference. Otherwise, it is empty.

Excel Analysis Dashboard

The Excel Analysis dashboard in CDM is a fixed dashboard that displays the analysis of Excel objects within a report in terms of data sources. It contains the Document Summary, Data Source Retrievals, Object Status, and Object Summary widgets.

Document Summary Widget

The Document Summary widget is a grid widget that displays the following information of a report.

- **Report Name**
  The name of the report selected from the dropdown menu.

- **Report Owner**
  The name of the user who is owner of the report.

- **Report Due Date**
  The date the report is due for completion to meet submission date.

- **Current Workflow State**
  The current state of the report.

Data Source Retrievals Widget

The Data Source Retrievals widget is a gauge widget that shows the total number of data source retrievals for all report objects within a report. For example, if there are five report objects in a report and

Obj1 has five Data source retrievals and Obj2 has three data source retrievals, the gauge pin points to 8.

Object Status Widget

The Object Status widget is a pie chart widget that displays the workflow status of the report. The pie chart provides the user with workflow information that indicates the completion status and the percent breakdown of the current workflow state for each report object.

Object Summary Widget

The Object Summary widget is a grid widget that displays information related to the completion of each Excel object in the report. You can optionally export the contents of the grid into a CSV file by right-clicking in the grid widget and clicking **Export as .csv**.

- **Name**
  The title of each report object in the report.
- **Workflow Status**
  The progress of the report object (for example, work in progress, under review, approved, and so on.
- **Checkout Status**
  The checkout status of the report object: Checked In, Checked Out.
- **Active User**
  The current workflow user.
- **Printable**
  A check mark indicates that the report object is printable. Otherwise, it contains an x.
- **Shared**
  A check mark indicates that the report object is shared. Otherwise, it is empty.
- **Reference**
  A check mark indicates that the report object is a reference. Otherwise, it is empty.
- **Data Query Name**
  The name of the data query associated with the report.
- **Data Query Type**
  The type of query, OLAP, Relational query, or External Excel File Query.

Custom Dashboards

A custom dashboard is a dashboard that is created by the user from widgets and various data sources to meet specific requirements. It is not supplied with the application. You can create custom dashboards to help users view data that is not provided in a fixed dashboard.

You can create and edit a custom dashboard to meet the specific needs of users by editing the properties of the widgets in the dashboard. You can use the following widgets in a custom dashboard: Chart, Grid, Gauge, Image, and Web browser.

Add a Custom Dashboard

If the two standard dashboards that come with CDM do not meet your needs, you can create a custom dashboard.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Dashboards**. The Dashboards tab opens in the work area.
3. Click **Home** > **Add** > **Dashboard**.
4. Specify a name for the dashboard.
5. Specify a description for the dashboard if you want.
6. Click **OK** to confirm.
7. The dashboard opens in a new tab in the work area and the **Dashboard Manager** tab displays on the ribbon. You can now add widgets to the dashboard.

Configure a Variable for a Custom Dashboard

When you create a custom dashboard, you can configure dashboard variables to specify the data that you want to display.

A query variable is a variable that is used to filter data source queries. A query variable can be used to define columns that change based on the query result. If a variable has multiple values associated with it, the query can return more results.

To configure a variable for a custom dashboard:

1. In the Dashboards tab in the work area, select the dashboard that you want to configure and click **Home** > **Edit**, or double-click the row of the dashboard.
2. You can edit the name and description of the dashboard in the **Dashboard Manager** tab on the ribbon.
3. Click **Configure Variables** in the Dashboard Manager tab. The **Override Query Variables** window is displayed.
4. In the **Application Query Variables** table, select the name of the query and click the arrow to add it to the **Dashboard Query Variables** list.
5. In the **Display Name** field of the **Override** window, type a display name for the variable.
6. To add a new value, click **Add** in the **Values** box, type the value and press **Enter**.
7. In the **Comment** field, you can add a comment.
8. Click **OK**.
9. Click **OK** to confirm.

Delete a Custom Dashboard

If you no longer need a custom dashboard, you can delete it. You can delete a custom dashboard, but not a fixed dashboard.

Important: If you delete a custom dashboard, you cannot undo your action. Proceed with caution. No confirmation window opens before the dashboard is deleted.

To delete a custom dashboard:

1. In the Dashboards tab in the work area, select the dashboard that you want to delete.
2. Click **Home** > **Delete**.
3. In the confirmation window, click **Yes**.

Widgets

A custom dashboard is a dashboard that is created by the user from widgets and various data sources to meet specific requirements. It is not supplied with the application. Widgets help users in CDM to understand your report content and status in an easier way.

Each widget has a title. The user can edit the properties of widgets based on the type of widget selected.

These widgets are available: Chart, Gauge, Grid, Image, and Web Browser.

You can view widgets in both fixed dashboards and custom dashboards, but you can add widgets only to custom dashboards.

> **Important:** After editing a dashboard, if you do not save the dashboard, the changes you make will be lost when you close the dashboard. An asterisk in the dashboard tag indicates that the dashboard needs to be saved.

Add Widgets to a Custom Dashboard

You can add widgets to a custom dashboard and change the details of a dashboard.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Double-click **Dashboards**. The Dashboards tab opens in the work area.
3. Select the dashboard that you want to add widgets to and click **Home** > **Edit**. The dashboard is displayed in a new tab in the work area and the **Dashboard Manager** tab displays on the ribbon.
4. In the Dashboard Manager tab, click the widget you need.
5. Click **Home** > **Save**.

You can format and configure the widget for data.

Format the Header and Borders of a Widget

After you add a widget to a custom dashboard, you can format the appearance of the widget. All widgets have the same formatting controls.

You can change the following formats for each widget header:

- **Title**
  The title of the widget.
- **Height**
  The head height.
- **Line Height**
  The offset from the vertical alignment of the text in the header.
- **Font type, size, weight, and color**
  The details of the font in the header.

- **Background Color**
  The color of the background of the header.

- **Horizontal alignment**
  Left, center, right, and stretch.

- **Vertical alignment**
  Top, center, bottom, and stretch.

You can change the following border and background settings for each widget:

- **Height**
  The total height of the widget.

- **Width**
  The total width of the widget.

- **Top**
  The vertical position of the widget in the dashboard.

- **Left**
  The horizontal position of the widget in the dashboard.

- **Widget background**
  The color of the background of the widget.

- **Border Style**
  The color, line thickness, and corner radius of the widget.

- **Margin**
  The width of margin in the order left, top, right, bottom.

To format the header and borders of a widget:

1. In the Dashboards tab in the work area, open a custom dashboard.
2. Select the widget you want to format. The **Widget Tools** area displays on the ribbon.
3. Click the **Format** tab in the Widget Tools area. You can now format the widget header, and the widget border properties.
4. After you have made all the changes, click **Home** > **Save**.

Display Data in a Grid Widget

You can add a grid widget to a custom dashboard. A grid widget shows textual information in a grid format.

To display data in a grid widget, you must create a query for a relational data source. The columns defined in the widget must be mapped to the query result. For example, if the query result contains headers as shown in the following table, the headers in the widget must be the same as in the original query.

Table 1: Example Query Result for a Grid Widget

ObjectName	ObjectType	WorkflowState
Default Page Setup	Word	Work in progress
Front Cover Page	PDF	Review
Shareholder Page Setup	Word	Review
Item 9A Control and Procedures	PDF	Work in progress
Header	PowerPoint	Submit

To display data in the grid widget:

1. Click the grid widget that you created in a dashboard.
2. Select the data for the grid widget.
   a. Click the **Grid** tab in the **Widget Tools** area on the ribbon.
   b. Click **Select Data**.
   c. From the **Query** drop-down list, select the query.
   d. Click **OK**.
3. Define the columns for the grid widget.
   a. Click the **Grid** tab in the **Widget Tools** area on the ribbon.
   b. Click **Manage Columns**.
   c. In the **Manage Grid Columns** window, click **Add**.
   d. In the **Header Text** field, type the name to be displayed as the column header.
   e. In the **Data Field** field, type the name of the first column from the query result. In the example, this is **ObjectName**.
   f. Repeat these steps for each column in the grid.
   g. Click **OK**.
4. Click **Home** > **Save**.

Display Data in a Chart Widget

You can add a chart widget to a custom dashboard. A chart widget compares numerical values between reports that contain similar series of data.

To display a chart series, you must create a query for a relational data source. The query must have two values, the value for the X axis, and the value for the Y axis. The value for the Y axis must be a decimal value. The query result must contain columns that can be mapped for each series to be displayed. For example, if the query result contains data as shown in the following table, the column names in the query result must be used when defining the X data fields and Y data fields.

Table 2: Example Query Result for a Chart Widget

WorkflowState	Report1ObjectsNo	Report2ObjectsNo
Start	80	55
Pending Review	40	26
Complete	30	47

To display data in the chart widget:

1. Click the chart widget that you created in a dashboard.
2. Select the data for the chart widget.
   a. Click the **Chart** tab in the **Widget Tools** area on the ribbon.
   b. Click **Select Data**.
   c. From the **Query** drop-down list, select the query.
   d. Click **OK**.
3. Define the first data series.
   a. Click the **Chart** tab in the **Widget Tools** area on the ribbon.
   b. Click **Manage Series**.
   c. In the **Manage Series** window, click **Add**.
   d. In the **Name** field, type the name for the first series, for example **10 K**.
   e. In the **X Data Field** field, type the name of the first column from the query result. In the example, this is **WorkflowState**.
   f. In the **Y Data Field** field, type the name of the second column from the query result. In the example, this is **Report1ObjectsNo**.
   g. Click **OK**.
4. Define the second data series.
   a. Click the **Chart** tab in the **Widget Tools** area on the ribbon.
   b. Click **Manage Series**.
   c. In the **Manage Series** window, click **Add**.
   d. In the **Name** field, type the name for the second series, for example **10 K**.
   e. In the **X Data Field** field, type the name of the first column from the query result. In the example, this is **WorkflowState**.
   f. In the **Y Data Field** field, type the name of the second column from the query result. In the example, this is **Report2ObjectsNo**.
   g. Click **OK**.
5. Define the orientation and position of the legend.
   a. Click the **Chart** tab in the **Widget Tools** area on the ribbon.
   b. In the **Legend** section of the Chart tab, you can set the orientation, horizontal position, and vertical position of the legend.
6. Define the X and Y axes.
   a. Click the **Chart** tab in the **Widget Tools** area on the ribbon.
   b. In the **X Axis** and **Y Axis** sections of the Chart tab, type the name of the X axis and Y axis.
   c. If you want to temporarily remove the name for an axis, clear **Show** for that axis.
   d. To reverse the order for an axis, click **Reverse** for that axis.
   e. To stagger the values for an axis in two lines, click **Staggered** for that axis.

f. To set a maximum or minimum value for the Y axis, select the appropriate checkbox in the Y Axis section, and set a value.

7. Click **Home** > **Save**.

   Important: If you do not save the dashboard, the changes you make to the widget will be lost when you close the dashboard. An asterisk in the dashboard tag indicates that the dashboard needs to be saved.

Display Data in a Gauge Widget

You can add a gauge widget to a custom dashboard. A gauge widget shows one numerical value in a gauge format, and it can have either a linear or a dial format.

To display data in a gauge widget, you must create a query for a relational data source. The gauge widget displays one decimal value from the query result. Therefore, only the first row of a column is displayed. The query result must contain the column that can be mapped for the value to be displayed.

Table 3: Example Query Result for a Gauge Widget

ReportName	ExcelReportObjects	WordReportObjects	PDFReportObjects
10 Q	67	65	77
10 K	55	83	55

To display data in the gauge widget:

1. Click the gauge widget that you created in a dashboard.
2. Select the data for the grid widget.
   a. Click the **Gauge** tab in the **Widget Tools** area on the ribbon.
   b. Click **Select Data**.
   c. From the **Query** drop-down list, select the query.
   d. Click **OK**.
3. Define the data column.
   a. Click the **Gauge** tab in the **Widget Tools** area on the ribbon.
   b. In the **Data Field** field, type the name of the column from the query result that contains the value to be displayed, for example **ExcelReportObjects**.
4. Click **Home** > **Save**.

Display a Graphic in an Image Widget

You can add an image widget to a custom dashboard. A graphic can be linked to an image widget.

1. Click the image widget that you created in a dashboard.
2. Click the **Image** tab in the **Widget Tools** area on the ribbon, then click **Select Data**.
3. Browse to where the image is located, and click **Open**.
4. Click **Home** > **Save**.

Display a Website in a Widget

You can add a web browser to a custom dashboard. A web browser is included in the widget tools where you can connect to a particular website or use a web browser.

1. Click the web browser widget that you created in a dashboard.
2. Click the **Web Browser** tab in the **Widget Tools** area on the ribbon, then type or paste the web address in the **Web Address** field.
3. Click **Home** > **Save**.

Desktop Publishing

If you use desktop publishing applications such as Adobe™ InDesign to add special formatting to your reports, you can use CDM to identify the content that you want to format in a certain way in the output for your desktop publishing application.

Important: The functionality for desktop publishing applications such as Adobe™ InDesign is beyond the scope of this guide. For more information, see the appropriate documentation or online help.

Overview

You can adapt the output from Certent CDM for use in a desktop publishing application such as Adobe™ InDesign.

For Excel objects, you must tag specific content for your desktop publishing application. For Word objects, automatic Word generation can be used. You can go to **Administration** > **Resources** > **Desktop Publishing Styles** to import styles from desktop publishing applications such as Adobe InDesign or manually create new styles. This is applicable for all styles: paragraph, character, list, table, and so on.

You must have the **Manage Desktop Publishing Styles** permission to create or import desktop publishing styles in CDM.

Report content can be generated so that it can be used in desktop publishing tools. The content is encapsulated in XML tags that are named according to the content style. The generated XML file can then be imported into a desktop publishing application and the styles can be automatically mapped using their names.

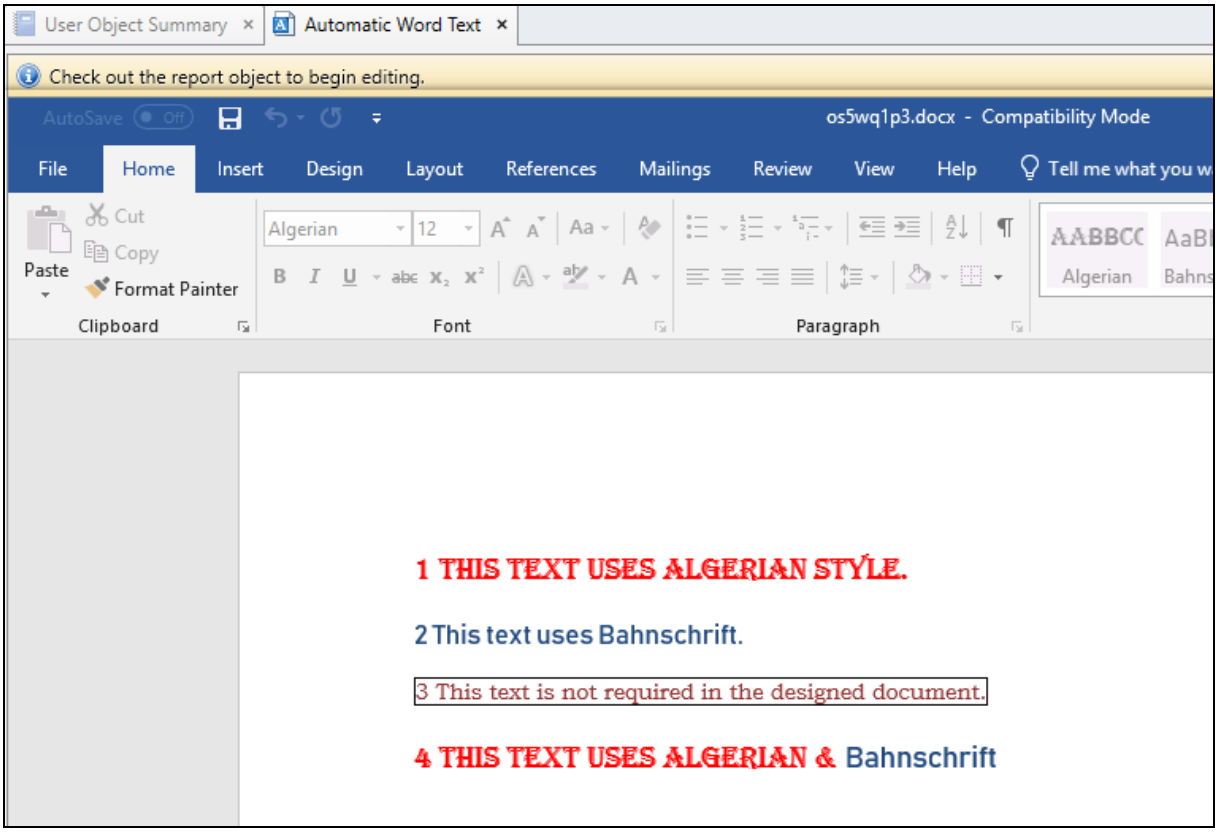
Word Content for Desktop Publishing

Microsoft Word report object content is generated automatically to desktop publishing XML and requires no tagging.

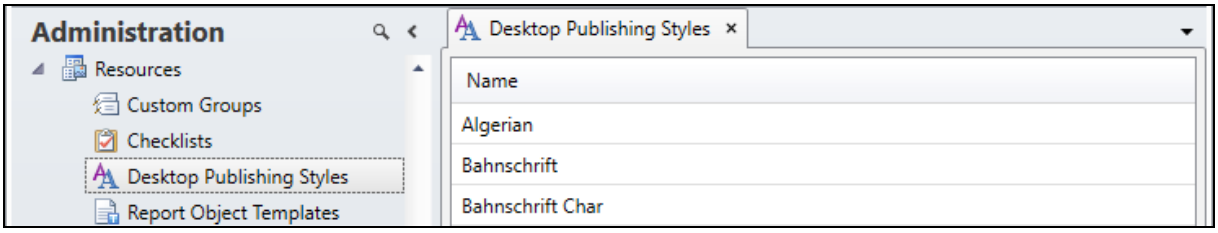
Styles

Content that uses Word styles that are present in the CDM Desktop Publishing Styles list (**Administration** > **Resources** > **Desktop Publishing Styles**) are automatically generated (in effect, tags are not necessary). Contact your administrator to ensure the styles are present. The style names there must be identical to those in the Word objects you want to generate (the names are case sensitive).

For example, consider this Word object:



Only the content with Word styles that are matching the names from the Desktop Publishing Styles list are generated:



Thus Algerian and Bahnschrift styled content is generated in the output, while the third sentence, using a style called Text Not Required, is excluded.

Output Word Styles

Word content is enclosed in the appropriate style paragraph so as to be easily mapped in your desktop publishing application. Here is the sample generated content from the example in the preceding Styles section:

```
<?xml version="1.0"?>
- <Root>
  - <AIDTest>
    - <AutomaticWordText>
        <Algerian>1 This text uses Algerian Style </Algerian>
        <Bahnschrift>2 This Text uses Bahnschrift </Bahnschrift>
      - <Normal>
          <AlgerianChar>4 This text uses Algerian</AlgerianChar>
          <BahnschriftChar>& Bahnschrift</BahnschriftChar>
        </Normal>
      </AutomaticWordText>
    </AIDTest>
</Root>
```

As previously explained, Line 3 does not appear as it uses a style not included in the Desktop Publishing Styles list, and the BahnschriftChar tag shown on line 4 is enclosing the content where the Word character style was applied in an Algerian styled paragraph.

Included or Discarded Content

When CDM report content is not intended to be published and its formatted with a style that is used on other parts of the report that must be published, this approach is recommended: You must create two styles using the same font, character size, and so on, with different names. One of these styles is to be added to the Desktop Publishing Styles list and is then applied to content that is to be included in the desktop publishing output. The second style is applied to content that is to be excluded from the output, and this style is not to be added to the Desktop Publishing Styles list.

Specific Styling Scenarios

- If a character style is applied to part of a paragraph in a Word object, and this style does not exist in the Desktop Publishing Styles list, but the paragraph style is present, then the paragraph's entire content is generated under the same XML node (in effect, tag).
- If a paragraph contains a character style that exists in the Desktop Publishing Styles list, but the paragraph style doesn't exist, then the paragraph's content is not generated in the XML file.
- To generate Word tables, the paragraph and character styles that exist in a table's cells must also exist in the Desktop Publishing Styles list. If they do not, the generated table is empty. The table style must also exist, or the table will not generate.
- Print areas and print area subranges are generated with the **Table Normal** table style and **Normal** paragraph styles in cells. These styles must exist in the Desktop Publishing Styles list to generate the range variables to desktop publishing.
- Objects other than charts and images are not generated (for example, text boxes, shapes, and so on). To generate charts and images, the style of the paragraph they are anchored to must exist in

the Desktop Publishing Styles list. Charts and images that are not inline with text are not generated.

- If you use a linked style in Word, that is, one that may be applied to both paragraphs and characters and it is used on characters, it must be added to the Desktop Publishing Styles list twice. The second entry should be its name suffixed by a space and the word "Char", and this style name must exist in the Desktop Publishing Styles list to generate that nested tag. For example, you have defined a style named "My Style" that can be used both for paragraphs and characters. To generate this style for characters, you need to have a "My Style Char" style added in the Desktop Publishing Styles list.

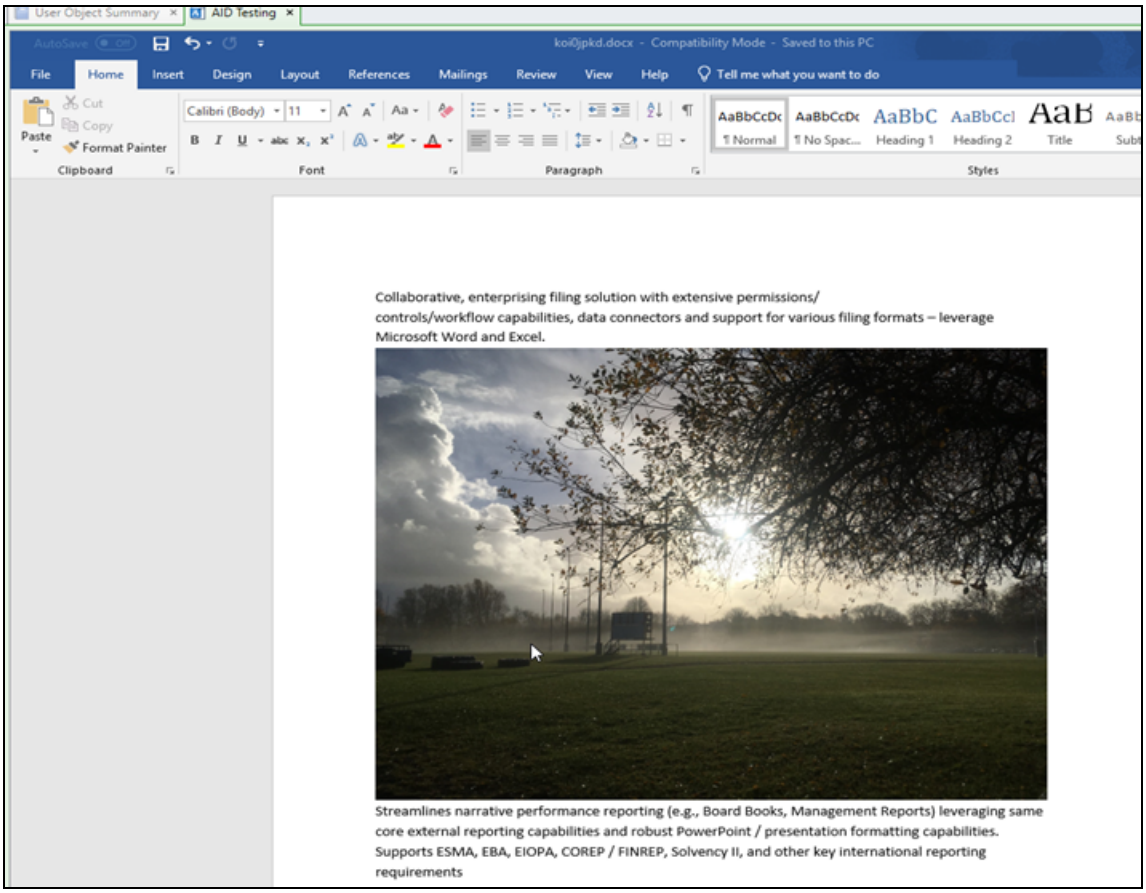
- When generating content to desktop publishing, the style names might be modified to comply with the XML naming rules. For example, for the Word style "1_My Style" to be generated, the same style name, that is "1_My Style", must exist in the Desktop Publishing Styles list and the XML node will have the name "_MyStyle".

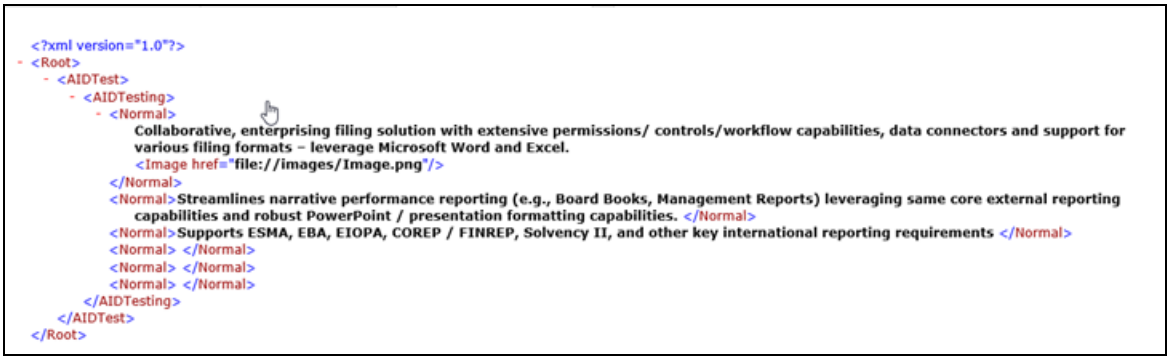
- Charts and images - all XML nodes for charts and images are generated with the name found in the Alt Text description for Word objects and the tag name for Excel objects.

- Special characters - the < and > characters are not escaped. If needed, a placeholder can be used instead that can be replaced with the appropriate content in the generated XML (in effect, < for < and > for >).

Pictures

Pictures are automatically generated if they are inline to a paragraph with a style that has a name matching a style in the Desktop Publishing Styles list.





Excel Content for Desktop Publishing

Add a Desktop Publishing Tag to an Excel Object

In CDM, you can add tags to specific content in an Excel object for desktop publishing applications such as Adobe™ InDesign.

When you tag an Excel object, you can use styles that were created in CDM or styles that were imported into CDM from InDesign. To do so:

1. Open the report that you want to work with.
2. Check out the Excel object where you want to add a desktop publishing tag.

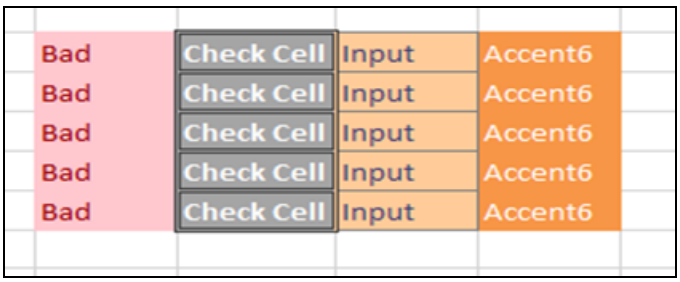
3. Select the content that you want to apply a tag to. You can select one cell or multiple contiguous cells, and you can also tag pictures, graphs, and ranges. You cannot mix different kinds of content in a single tag or tag content that was already tagged.
4. Click **Add Tag** > **New Tag** in the **Report Object** tab on the ribbon. In the window that opens, a name is automatically assigned to the tag that you are creating and the next consecutive number after the previously created tag is used. If you prefer, you can change the name. Select a style from the list. The list includes styles that were created in CDM and styles that were imported into this report from an InDesign import file.
5. Click **OK**.
6. Click **Save**.
7. Check in the Excel object.
8. If a message indicates that some items from the **Tag Explorer** might be out of date, click **Refresh Now**.

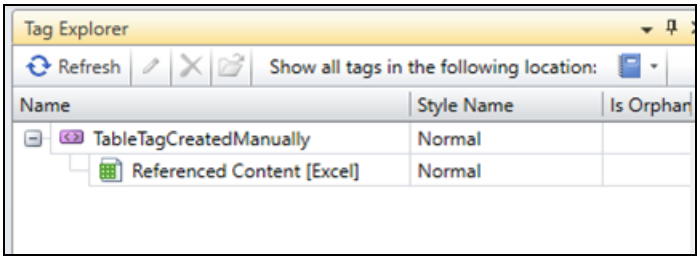
The order of tags in the XML file that you will eventually generate will be the same as the order of the objects within the report. The order of tags in a report object are based on their placement in the report object.

Use of Styles in an Excel Table

Tagging a full table in Excel, instead of individual cells and using proper Excel cell styles, gives the desired result faster and tag maintenance is kept to a minimum. When tagging an Excel range you must assign a name to the tag being created and choose a style from the list defined in the Desktop Publishing Styles list (**Administration** > **Resources** > **Desktop Publishing Styles**). The cell tags automatically use the Excel cell style name.

Consider this sample Excel table (note that the name of the style is placed in the cell as content). When the range below is tagged, a tag name of "TableTagCreatedManually" and the "Normal" is assigned:





The generated desktop publishing content is:

```
<TableTagCreatedManually>
    <Normal xmlns:aid="http://ns.adobe.com/AdobeInDesign/4.0/" aid:table="table" aid:trows="5" aid:tcols="4"
        <Bad aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Bad</Bad>
        <CheckCell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="53.25">Check Cell</CheckCell>
        <Input aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Input</Input>
        <Accent6 aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Accent6</Accent6>
        <Bad aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Bad</Bad>
        <CheckCell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="53.25">Check Cell</CheckCell>
        <Input aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Input</Input>
        <Accent6 aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Accent6</Accent6>
        <Bad aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Bad</Bad>
        <CheckCell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="53.25">Check Cell</CheckCell>
        <Input aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Input</Input>
        <Accent6 aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Accent6</Accent6>
        <Bad aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Bad</Bad>
        <CheckCell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="53.25">Check Cell</CheckCell>
        <Input aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Input</Input>
        <Accent6 aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Accent6</Accent6>
        <Bad aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Bad</Bad>
        <CheckCell aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="53.25">Check Cell</CheckCell>
        <Input aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Input</Input>
        <Accent6 aid:table="cell" aid:crows="1" aid:ccols="1" aid:ccolwidth="48">Accent6</Accent6>
    </Normal>
</TableTagCreatedManually>
```

Note that the cell style is used as the name of the tag for each cell.

Report Generation for Desktop Publishing

You can generate a report or report object for desktop publishing in CDM. The resulting XML file can be used in your desktop publishing application, such as Adobe™ InDesign.

1. Open the report that you want to work with.
2. Complete one of the following actions:
    - To generate the entire report, select the report and click **Home** > **Generate** > **Generate Entire Report**.
    - To generate a selection of objects or a single report object , select the report objects and click **Home** > **Generate** > **Generate Selection**.
3. In the window that opens, select **Desktop Publishing** in the **Select Format** section.
4. Optionally, to save a snapshot of the report or report object at the moment of generation, select **Save as Snapshot**.
5. Select **Automatic Word Generation**.
6. Click **OK** to start the generation.

    > **Tip:** You can view the progress in the **All processes completed** window in the status bar. While processes are running, the title bar shows the number of running processes. When the processes are finished, the title is **All processes completed**. A check mark indicates that a process generated properly. An exclamation point indicates an error that stopped the process.

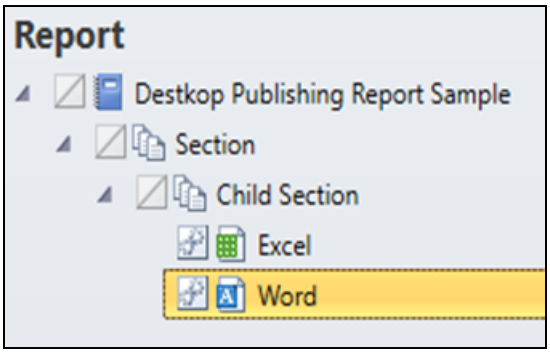
7. If the generation is not successful, an error message opens. Double-click the message to view the **Tag Explorer** and the particular tag that has problems.

8. If the generation is successful, the output contains the XML file. To save the generated XML file, click the **Save** icon in the **All processes completed** window, select a location for the file, and click **Save**. The generated XML file can now be imported into your desktop publishing application.

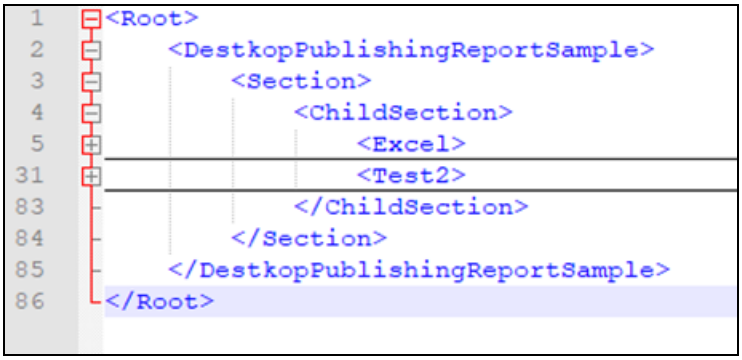
Report Structure

When generating a report or report selection to desktop publishing, the report structure is reflected in the output XML document for easy tagging in the desktop publishing application.

This report:



is generated as:



Desktop Publishing Styles

If you use desktop publishing applications such as Adobe™ InDesign to add special formatting to your reports, you need desktop publishing styles in CDM to represent that formatting. You can create styles in CDM, or you can import styles from your desktop publishing application.

You can work with desktop publishing styles if you have the **Manage Desktop Publishing Styles** permission.

Grant Permissions for Desktop Publishing Styles

You can adapt the formatting of the content in your reports in CDM for use in a desktop publishing application such as Adobe™ InDesign. Before users can work with desktop publishing styles, the administrator must apply permissions to the appropriate reports, users, and user groups.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. To specify permissions for a particular user or user group to work with desktop publishing styles, complete the following steps. You must assign this permission only once per user or user group.
   a. Under **Security**, double-click **Application Permissions**.
   b. Select the user or user group.
   c. In the work area, expand **View**.
   d. Select the **Allow** checkbox next to **Manage Desktop Publishing Styles**.
3. To specify permissions for a particular user or user group to work with desktop publishing tags, complete the following steps. You must assign this permission for each report.
   a. Under **Security**, double-click **Report Permissions**.
   b. Select the report or report group.
   c. Select the user or user group.
   d. In the work area, expand **View**.
   e. Select the **Allow** checkbox next to **Manage Desktop Publishing Tags**.
4. Click **Save**.

Import Desktop Publishing Styles

If your InDesign application already contains many styles, importing styles is a more efficient approach than creating new styles individually.

Export the styles from InDesign and save the XML file in a location that is accessible at the appropriate file path. The file must follow XML format, and it must have an .xml extension. You can obtain this file in InDesign by exporting the document in an .idml file format. You can then extract this archive to find the style file named mapping.xml.

To import desktop publishing styles in CDM:

1. Do either of the following to open the Desktop Publishing Styles tab in the work area:
   - Click the **File** tab, then navigate to **Administration** > **Resources** > **Desktop Publishing Styles**.
   - Click the **Home** tab, then in the **Navigation Pane**, click **Administration** and double-click **Desktop Publishing Styles** under **Resources**.
2. Click **Home** > **Import**.
3. In the window that opens, click **Browse**, select the exported file, and click **Open**. The styles that are available in the XML file are listed in the import window.
4. Select the styles that you want to import, or click **All** to select all styles in the list.
5. Click **OK**. The desktop publishing styles that you imported appear in the style table in the work area, with a check mark in the **Imported** column. If a style with the same name exists in the application, an error message opens. Styles from Microsoft™ Office are also added automatically when a tag is created in a Word object.

Add a Desktop Publishing Style

If you do not want to import styles from InDesign, or if you need one or more additional styles, you can use CDM to create them.

1. In the Desktop Publishing Styles tab in the work area, click **Home** > **Add** > **Desktop Publishing Style**.
2. Type a name for the desktop publishing style. The name must be unique, and blank spaces at the beginning or end of the name are not allowed.
3. You can specify a description for the desktop publishing style. Blank spaces at the beginning or end of the description are not allowed.
4. Click **OK**. The desktop publishing style that you created appears in the style table in the work area.

Edit a Desktop Publishing Style

To edit the name or description of a desktop publishing style:

1. In the Desktop Publishing Styles tab in the work area, double-click the style that you want to edit.
2. Change the name or description of the desktop publishing style. The name must be unique, and blank spaces at the beginning or end of the name or description are not allowed.
3. Click **OK**.

Delete a Desktop Publishing Style

If necessary, you can delete a desktop publishing style in CDM that was originally created for use in a desktop publishing application such as Adobe™ InDesign. A style cannot be deleted if it is used in a tag.

Important: If you delete a desktop publishing style, you cannot undo your action. Proceed with caution.

To delete a style:

1. In the Desktop Publishing Styles tab in the work area, select the style that you want to delete.
2. Click **Home** > **Delete**.
3. In the confirmation message that opens, click **Yes**.

Desktop Publishing Tags

After you create or import your desktop publishing styles, you can use them in CDM to add tags to specific content in Excel objects for desktop publishing applications such as Adobe™ InDesign. In the Excel objects, you can create and edit tags, or references to your tags.

View and Navigate Desktop Publishing Tags

To view desktop publishing tags in the Excel object and move from tag to tag:

1. Open the report that you want to work with.
2. To view the list of tags that are available, open an object and click **Show Tags** in the **Report Object** tab on the ribbon. The **Tag Explorer** opens, containing a list of all desktop publishing tags, along with information on the content that is referenced by each tag.
   - To view all tags in the selected report object, click **Show all tags in** > **Selected report object**.
   - To view all tags in the entire report, click **Show all tags in** > **Report**.
3. To view tags that exist in an Excel object, open the object and check it out, then click **Highlight Tags**.
4. To move from one existing tag to another in an Excel object, check out the object, and then click **Go to Next Tag** or **Go to Previous Tag**.

Edit a Desktop Publishing Tag

You can change the name of a tag and the desktop publishing style that is associated with the tag.

1. Open the report that you want to work with.
2. To view a list of tags that are available, click **Report Object** > **Show Tags** on the ribbon.
3. In the **Tag Explorer**, click the tag that you want to work with and click **Edit**.
4. In the window that opens, you can change the name of the tag. The new name must be unique, and blank spaces at the beginning or end of the name are not allowed.
5. You can also change the desktop publishing style that is applied to this tag. Select the style from the list or type the name of the style until it appears in the list.
6. Click **OK**. The desktop publishing tag appears in the Tag Explorer with the changes that you made.

Edit a Reference to a Desktop Publishing Tag

To edit the reference of a tag and select different content:

1. Open the report that you want to work with.
2. Check out the Excel object where you want to edit a reference to a desktop publishing tag.
3. To view a list of tags that are available, click **Report Object** > **Show Tags** on the ribbon.
4. In the **Tag Explorer**, click the tag that you want to work with, and expand its hierarchy.

   Tip: To access commands for expanding or collapsing a hierarchy, right-click any tag.
5. Ensure that the report object is the active document on your screen. To find the appropriate report object, right-click the referenced content and click **Navigate to Report Object**.
6. In the report object, select the new content. You cannot select content that is already tagged.

7. In the expanded hierarchy, click the referenced content that you want to replace with the newly selected content and click **Edit**.
8. In the window that opens, compare the content in the **Preview of Current Content** section with the content in the **Preview of Selected Content** section. If you are satisfied with the replacement, click **OK**.
9. Check in the report object.
10. If a message indicates that some items from the Tag Explorer might be out of date, click **Refresh Now**. The desktop publishing tag appears in the Tag Explorer with the changes that you made.

Delete a Reference to a Desktop Publishing Tag

If necessary, you can delete the reference to a desktop publishing tag in CDM that was originally added to a report for use in a desktop publishing application such as Adobe™ InDesign.

In particular, you should delete orphan tags. Orphan tags are desktop publishing tags that exist in the database but were deleted from the associated report object. An orphan tag is sometimes created when the content is deleted before the tag is removed. When you create a tag and then check in a report object without saving, the next time the report object is checked out, the reference from that tag is no longer available.

If a tag contains an orphan reference, you can see a check mark in the **Is Orphan** column of the Tag Explorer. If one tag contains both orphan reference content and valid reference content, you can see an exclamation mark in the Is Orphan column of the Tag Explorer.

If a tag contains only one item of referenced content and you delete the referenced content, you automatically delete the tag also.

> **Important:** If you delete the reference to a desktop publishing tag, you cannot undo your action. Proceed with caution.

To delete the reference to the tag:

1. Open the report that you want to work with.
2. Check out the Excel object where you want to delete a reference to a desktop publishing tag.
3. To view a list of tags that are available, click **Report Object** > **Show Tags** on the ribbon.
4. In the **Tag Explorer**, click the tag that contains the reference that you want to delete, and expand its hierarchy.

   > **Tip:** To access commands for expanding or collapsing a hierarchy, right-click any tag.

5. Ensure that the report object is the active document on your screen. To find the appropriate report object, right-click the referenced content and click **Navigate to Report Object**.
6. In the expanded hierarchy, click the referenced content, and click **Delete**.
7. Click **OK**.

Macros

You can configure CDM to generate output to Excel or PowerPoint that contains macros.

Users with appropriate permissions must first create the macros in Administration by defining a name, a description, a target (Excel or PowerPoint and the content). When generating a report to Excel or Powerpoint, a user with appropriate permissions is able to select a number of macros that will be inserted in the final output. The list of macros that can be selected for a particular generation is filtered based on the macros target. The selection is similar to choosing **Custom Groups**. The generated report contains the selected macros in separate modules for each macro. The modules have the macros names from CDM. When generating a report, the all processes window differentiates a macro generation from a regular generation. If, at generation time, an empty macro is selected for insertion, a warning prompt is displayed when opening the generation from CDM (similar to refresh errors).

You can work with macros if you have the **Manage Macros** permission.

Add a Macro

To add a macro that can be included with generated Excel or PowerPoint output, take the following steps:

1. In CDM, navigate to **File** > **Administration** > **Resources** > **Macros**. The Macros tab opens in the work area.
2. Click **Home** > **Add** > **Add Macro**.
3. Enter a name for the macro. The name must be unique and limited to 31 characters. It must begin with a letter and, except for underscores, contain no other non-alphanumerical characters.
4. Select if the target for the macro is Excel or PowerPoint output.
5. Specify a description for the macro if you want. A maximum of 256 characters is allowed.
6. Click **OK**.
7. Enter the macro content.
8. Click **Save**. The macro is added to the **Macros** table in the work area.

Edit a Macro

If necessary, you can edit the name or description of a macro for use in generating a report containing macros.

1. From the macro list in the work area, select the macro you want to edit.
2. Click **Home** > **Edit**.
3. Make your changes to the macro, then click **Save**.

Delete a Macro

1. From the macro list in the work area, select the macro you want to delete.
2. Click **Home** > **Delete**.

3. In the confirmation message that opens, click **Yes**. This permanently deletes the macro and removes it from list.

Security Administration

As an administrator, you define users, user groups, custom groups, and their permissions in CDM.

By default, only the administrator can perform many of the tasks in CDM. However, if you want some users or user groups to be able to perform certain tasks, you can grant permissions to those users or user groups.

Users and User Groups

As the administrator, it is your responsibility to ensure that all qualified users have the correct access to CDM.

A user group is a group consisting of one or more defined individual users, identified by a single group name. Users in a user group in CDM perform similar functions, have a similar status in an organization, or require the same permissions.

Examples of user groups are Reviewers, Auditors, and Approvers. When you grant permissions to a user group, the users within the group inherit these permissions. You can then override the group permissions for an individual user. If required, you can later edit all properties of the user group. Permissions assigned to an individual user override any permissions assigned to the user through the groups that the user is assigned to.

After you open the list of qualified users or user groups, you can optionally export the data into a CSV file by right-clicking in the working space and clicking **Export as .csv**.

> **Note:** By default, only the administrator can manage user group permissions. However, the administrator can grant permission to a user or user group to perform this task.

Add Users

You can add users to CDM. You can then associate the users with user groups and grant permissions to them.

Users cannot be deleted because their actions are tracked in CDM, and deletion might adversely impact audit trails.

To add a user:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Users**. The Users tab opens in the work area.
3. Click **Home** > **Add** > **User**.
4. Specify the following credentials and details about the user.
    - **User Name** - The name used to log in to CDM. User Name appears as Login ID in the Users tab and the Groups tab. You cannot change the user name later.
    - **Given name** - The given name of the user.
    - **Surname** - The surname of the user.

- **Display Name** - A name that is simpler and easier to remember than the user name.
- **Email Address** - The company email address of the user. This address is used when an email notification is generated.
- **Password and Password Confirmation** - Specify and then confirm the password for the user.
- **Active** - If you want the new user to be active immediately, select this checkbox.

5. Click **OK**.

You can now grant permissions to the user. If the user is part of a user group, set the common permissions for the group and then override the permissions for individual users as required.

> **Note:** By default, only the Display Name is displayed as relevant user information throughout CDM. However, you can configure CDM to also display either the User Name or the Source from which the user name was imported if the user was imported, or both.

Add User Groups

You can add user groups to organize categories of users in CDM. When you grant or deny permissions to a user group, the users within the group inherit these permissions. You can then override the group permissions for an individual user. If required, you can later edit the properties of the user group.

User groups cannot be deleted because their actions are tracked in CDM, and deletion might adversely impact audit trails.

To add a user group:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Groups**. The Groups tab opens in the work area.
3. Click **Home** > **Add** > **Group**.
4. Specify a name for the user group. The name must be unique.
5. Specify a display name for the user group. The display name is one that is simpler and easier to remember than the actual name.
6. Select the **Active** checkbox if you want users in this user group to be able to work in CDM immediately.
7. You can specify a description for the user group. The description can contain a maximum of 50 characters.
8. Click **OK**.

Import Users and User Groups from Microsoft Active Directory

You can import users and user groups from Microsoft™ Active Directory into CDM.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. To define the source type, complete the following steps:
   a. Under **Security**, double-click **Import Source**.
   b. Click **Home** > **Add** > **Import Source**.
   c. Specify a name for your import source.
   d. From the **Provider Type** drop-down list, select **Microsoft Active Directory**.
   e. Specify the internal gateway URL and the external gateway URL.
   f. You can specify a description for the source type.
   g. Click **OK**.
3. To import a user, complete the following steps:
   a. Under **Security**, double-click **Users**.
   b. Click **Home** > **Import**.
   c. Select the import source that you defined.
   d. Enter your user name and password, or click **Use Server's User**.
   e. Click **Test Connection**.
      - If the connection succeeds, the Microsoft Active Directory interface opens.
      - If the connection fails, an error message is displayed. Check with the database administrator to ensure that the database server is running and that you have the correct parameters.
   f. In Microsoft Active Directory, select a user that you want to import. When you return to CDM, you can see the imported user in the **Administration** > **Users** tab.
4. To import a user group, complete the following steps:
   a. To select a user group, under **Security**, double-click **Groups**.
   b. Click **Home** > **Import**.
   c. Select the import source that you defined.
   d. Enter your user name and password, or click **Use Server's User**.
   e. Click **Test Connection**.
      - If the connection succeeds, the Microsoft Active Directory interface opens.
      - If the connection fails, an error message is displayed. Check with the database administrator to ensure that the database server is running and that you have the correct parameters.
   f. In Microsoft Active Directory, select a user group that you want to import. When you return to CDM, you can see the imported user group in the **Administration** > **Groups** tab.
5. After you import a user or user group, you can set up the users to be automatically added to the Users or Groups tab. Double-click the imported user or user group and click **OK**.

6. The Auto-Register property is disabled after the import is performed. You can enable it by editing the imported group. To auto-register the members of the group, select **Auto-Register**. If you do not select Auto-Register, you must manually select the users that are in these groups and click **Import** and then associate the imported users with the imported groups.

The **Source** column in the Users or Groups tab in the work area identifies the source for the imported users or user groups.

You can associate the imported users with user groups, grant permissions, and assign to workflows.

Convert a Classic CDM User to a IdP User

You can convert a classic CDM user to a IdP user.

This task can be performed if:

- A modern IdP is defined.
- The user is of type AD/LDAP or native.

To convert a classic CDM user to a IdP user:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Users**.
3. In the user list in the work area, right-click a user and select **Set Source**.
4. The account must be updated.
    - ExternalID must be set to null.
    - ImportSource must be set to the ID of the existing Identity Provider.
    - IsAutoImported must be set to true.
5. A prompt is displayed. Click **OK**.

Associate Users with a User Group

After you add users and user groups to CDM, you associate users with a user group. Users inherit the permissions set for the group, but you can override the group permissions for an individual user.

To associate users with a user group:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Associate Users With Groups**.
3. In the **Users** pane on the top, select a user that you want to add to one or more user groups.
4. In the **User Groups** pane on the bottom, select the **Assign** checkbox for the user groups that you want the user to belong to. If you want the user to belong to all user groups, select the **Assign All** checkbox.
5. Associate another user with one or more user groups.
6. Click **Home** > **Save**.

Temporarily Remove a User's Access

You can temporarily revoke access to CDM for users at any time. For example, you might want to do so if the user is on an extended leave from the company but plans to return. You cannot delete a user permanently because the actions of users and user groups are tracked in CDM, and deletion might adversely impact audit trails.

To temporarily remove a user's access:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Users**.
3. In the user list in the work area, double-click the user whose access you want to remove temporarily.
4. Clear the **Active** checkbox.
5. Click **OK**.

Configure User Display

You can configure the CDM.config file to set what user information is to be displayed in CDM. By default, only the Display Name is displayed as relevant user information throughout CDM. However, you can configure CDM to also display either the User Name that was entered when the user was added or the Source from which the user name was imported if the user was imported, or both.

1. Open the **CDM.config** file on the computer where the CDM server is installed. The default location is `C:\inetpub\wwwroot\CertentCDM-Server\Config`.
2. Locate the `UserDisplayFormat` key:

   `<UserDisplayFormat name="DisplayName" />`.
3. Modify the key by making these changes:
   - Add a **UserName** parameter to the key.
   - Add an **ImportSourceName** parameter to the key.

   `<UserDisplayFormat name="DisplayName/UserName/ImportSourceName" />`

   > **Note:** If no parameters exist in the `UserDisplayFormat` key, DisplayName is used as the default.

Custom Groups

A custom group is a group that is used to organize report objects in a report according to their purpose or content. All other report objects are filtered out if they are not assigned to the custom group. As the administrator, you create the custom groups. You can also associate report objects with custom groups, or grant permission to users and user groups to do this.

After a report is created, users can associate certain report objects with a custom group to filter their view of the report. For example, a full 10K report can contain report objects that are required in Q1, Q2, and Q3 reports. Users can use custom groups created for each quarter to load and generate only those

report objects that are associated with each group. Also, when a report is opened by filtering one or more custom groups, report objects that are added or imported are automatically assigned to the custom group or groups.

Add a Custom Group

You can create custom groups in CDM to allow users to load and generate reports that contain only the report objects associated with each group.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Resources**, double-click **Custom Groups**. The Custom Groups tab opens in the work area.
3. Click **Home** > **Add** > **Custom Group**.
4. Specify a name for the custom group.
5. Specify a description for the custom group if you want. The description can contain a maximum of 50 characters.
6. When you have multiple items, use the **Sort Order** column to determine the sort order. Specify a number to represent the order of this item in relation to others.
7. Click **OK**.

Edit a Custom Group

1. In the Custom Groups tab in the work area, double-click the custom group that you want to edit
2. Change the name and description, if necessary. The description can contain a maximum of 50 characters.
3. When you have multiple items, use the **Sort Order** column to determine the position of each custom group in the Custom Groups tab. Specify a number to represent the order of this item in relation to others.
4. Click **OK**.

Delete a Custom Group

If you no longer need a custom group, you can delete it. You cannot delete a custom group if it has report objects associated with it.

Important: If you delete a custom group, you cannot undo your action. Proceed with caution.

To delete a custom group:

1. In the Custom Groups tab in the work area, select the custom group that you want to delete
2. Click **Home** > **Delete**.
3. In the confirmation window, click **Yes**.

Permissions

Permissions are set at application level or report level or both in CDM. Application permissions determine what you can and cannot do when managing the application as a whole. Report permissions determine what you can and cannot do with specified reports.

Initially, users and user groups do not have any permissions set. They must be explicitly granted. When you grant application permissions and report permissions to a user group, the users inherit the group permissions. You can then override the group permissions for an individual user.

By default, only the administrator can set permissions. However, if you want some users or user groups to be able to perform certain tasks, you can grant permissions to those users or user groups.

For example, to enable other users to create and manage reports, grant them the following permissions:

- In Report Permissions, the permission to view reports.
- In Application Permissions, the permission to manage reports.

Grant Permissions to a User or User Group

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. To change application permissions for a user, complete the following steps:
   a. Under **Security**, double-click **Application Permissions**.
   b. In the work area, select the user or user group whose permissions you want to change.
   c. Change the permissions.
3. To change report permissions for a user, complete the following steps:
   a. Under **Security**, double-click **Report Permissions**.
   b. In the work area, select the report group or report to change.
   c. Select the user or user group whose permissions you want to change.
   d. Change the permissions.
4. Click **Home** > **Save**.

> **Note:** Permissions assigned to an individual user override any permissions assigned to the user through the groups that the user is assigned to.

Remove a User's Access to a Report

You can prevent a user from being able to access a report in CDM. For example, you might want to do so if the user transfers to a different department and different responsibilities.

You can also remove a user's access to CDM temporarily.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Report Permissions**.
3. In the work area, select the report.

4. Select the user.
5. Select the **Deny** checkbox for the permissions in the following areas:
   - Report Generation
   - Report Object Management
   - View
6. Click **Home** > **Save**.

Application Permissions

Permissions are set at the application level or report level or both in CDM. Application permissions determine what you can and cannot do when managing the application as a whole.

Security and Workflow

Permission	Allows the user the ability to
Manage Permissions for Users and Groups	Grant permissions to specific users or user groups to create and modify users and user groups, to manage permissions for the users and user groups that they create, and to change password for other users. If you need to change the password for another user, you must be granted this permission. Then, under **Security**, double-click **Users**, right-click the user, and click **Reset Password**.
Manage Workflow Templates	Create, modify, associate, and delete workflow templates, and get the list of active users and groups for the workflow
Manage Notifications	Manage subscriptions and configure notifications and templates. Notifications are used in CDM to create and send users automated emails that include required information. For example, when users change the workflow status for a section or report object, they can automatically receive an email reminding them to notify the person responsible for the next step in the workflow. See Email Notification for Workflow Processes.
Manage Resources	Manage custom groups, workflow states, or report object templates. A report object template is used in CDM to provide managed layout and style options to a project. You can export, import, and revert report object templates that are applied to a project in CDM.
Import Report	Import or export reports
Site Administration	Access the Site Administration tile in the CDM web client

Data Management

Permission	Allows the user the ability to
Manage Data Sources	Create, edit, and delete data sources
Manage Query Variables	Manage query variables at the application level
Manage Data Queries	Create, edit, and delete data queries

Permission	Allows the user the ability to
Manage Expiration Policies	Work with expiration policies for data sources
Manage Tasks	View, add, edit, manage, and delete task lists and tasks
Manage Macros	Manage macros that are output at generation

Report Object Management

Permission	Allows the user the ability to
Manage Report Object Checkin/ Checkout	Check in a report object that another user has forgotten to check in
Create Standard and Cascade Report	Create reports and modify the properties of reports
Delete Report	Delete a report
Change References	Change references from the reference object or from the report

Dashboard

Permission	Allows the user the ability to
Manage Dashboard	View, add, edit, manage, and delete custom dashboards
View Dashboard	View existing dashboards

View

Permission	Allows the user the ability to
Manage Checklists	Manage all checklists
Manage Reports	Use the Reports section in Administration
View Audit Trail	View an audit trail. An audit trail is a detailed analysis of all changes that are made to reports or report objects. By default, only the administrator can view the audit trail in CDM. However, you can grant permission to a user or user group to perform this task. The audit trail feature records every submission to the CDM database, along with the user name and the date of submission. See also Report Permissions > **Audit Trail** > **View Audit Trail**.
View Tasks	View and mark tasks in a list as complete or incomplete
Manage Desktop Publishing Styles	Work with desktop publishing styles. See also Report Permissions > **View** > **Manage Desktop Publishing Tags**.

Filing

Permission	Allows the user the ability to
Manage Packages	Manage a filing package
Manage Reporting Entities	Manage a reporting entity
Perform XBRL Validation	Test the filing report to ensure that the XBRL is valid

XBRL

Permission	Allows the user the ability to
Manage Taxonomies	Add, edit, and delete taxonomies
Manage Projects	Add, edit, and delete projects. The user can create a project that associates a report and a taxonomy
Manage Namespaces	Add, edit, and delete namespaces
Manage Units and Measures	Add, edit, and delete units and measures
Manage Time Periods	Add, edit, and delete time periods
Manage Transformation Sets	Add, edit, and delete transformation sets
Manage Entity Schemas	Add, edit, and delete entity identifier schemes
Manage Entities	Add, edit, and delete entity identifiers. When you grant permission to manage entities to users, you are not automatically granting them permission to manage entity schemes
Manage Project Associations	Associate time periods, units, and entity identifiers to a specified project
Manage Taxonomy Mappings	Map elements between two taxonomies
Manage Cache Manager Items	Load all the prerequisite files that are needed to load taxonomies. This is useful for users who have restricted access to the internet and might not be able to go online to get taxonomy files
Manage Formula Linkbases	Allow access to add, edit, and delete an ad hoc linkbase
Tag Data	Tag data that is associated with a project. This is useful for users who can review tagged data but cannot modify the tags. The user is granted permission to add, edit, and delete the contents of tags and footnotes. If the Tag Data permission is not given, the user cannot refresh data
Generate Instance Document	Generate an XBRL instance
Manage Extension Taxonomies	Manage the XET capabilities
Edit Extension Taxonomies	Access the XET capabilities

Report Permissions

Permissions are set at the application level or report level or both in CDM. Report permissions determine what you can and cannot do with specified reports.

Report Generation

Permission	Allows the user the ability to
Generate Entire Report	Generate the entire report
Generate Selected Report Objects	Generate selected objects or sections of a report that belong to a custom group
Generate Validation Report	Generate the validation reports
Generate EDGAR HTML	Generate EDGAR HTML
Export Report	Export reports
Generate Report Containing	Generate Excel or PowerPoint output that includes Macros

Permission	Allows the user the ability to
Macros	

Security and Workflow

Permission	Allows the user the ability to
Manage Report Object Workflow	View and modify the workflow for an object or section
Manage Report Workflow	View and modify the workflow for a report
Manage Report Object Checklists	Add, modify, or delete checklists associated with an object
Add Object-Level Comments	Add comments in an object
Add Report-Level Comments	Add comments at the report level
View Comments	View comments
Delete User Comments	Delete comments at the report or object level
Delete All Comments	Delete all comments
Manage Variable Security	Set variable security for users, which controls what is displayed in the Insert Variable window. See Permissions for Managing Variable Security.

Report Object Management

Permission	Allows the user the ability to
Add Object	Add, copy, cut, paste, or move sections or report objects in the report
Add Web Object	Add, copy, cut, paste, or move a web object in the report
Delete Object	Delete sections, report objects, or web objects in the report
View Report	View the report
Push Down Objects	Push sections and report objects down to other reports. In the destination report, grant permission to view the report and to add sections and report objects. In the source report, grant permission to push down section or report object updates and to create sections or report objects.
Break Reference	Break references to a shared object in a report
Unshare Object	Unshare an object that has a reference to a shared object in a report. When the current report object is shared, it makes the report object visible in the window that opens when you add reference objects. When a report object is set as **Shared**, an icon in the report tree beside the report object name indicates that the report object is a shared object.
Reference Shared Objects	Work with shared objects. A shared object can be added as a copy of the shared object or as a reference object that is updated when changes are made to the source object. Shared objects can be unshared and references to the shared objects can be broken without deleting the report object.
Modify Report Properties	Modify the properties of a report

Permission	Allows the user the ability to
Modify Report Object Properties	Modify the properties of a section or report object
Modify Print Settings of a Report Object	Modify the print settings for a section or report object, such as changing an object from **Printable** to **Not Printable**
Modify Break Type of a Report Object	Modify the break type of a report object in order to insert blank pages or blank rows between report objects
Manage Report Object Attachments	Manage attachments for report objects
Tag Report Objects with Custom Group	Associate report objects with custom groups
Protect Report Object Data	Protect data of the report object
Perform Write-Back	Perform the Write-Back operation
Import Report Objects	Import report objects into the report
Export Objects	Export report objects in the report

Data Source

Permission	Allows the user the ability to
Load Data from Query	Load data from data queries that are available for the report

Audit Trail

Permission	Allows the user the ability to
View Audit Trail	View the audit trail for the report. See also Application Permissions > **View** > **View Audit Trail**

Snapshot

Permission	Allows the user the ability to
Create Snapshot	Create snapshots of the report
Delete Snapshot	Delete snapshots of the report that are no longer needed
View Snapshot	View or compare snapshots of the report

Variables

Permission	Allows the user the ability to
Manage Report Query Variables	Override values for existing query variables at the report level
Manage Report Object Query Variables	Override values for existing query variables at the object level

View

Permission	Allows the user the ability to
View Progress Report	Navigate to and export, group, or filter the results in the progress report
View Orphan Variable Report	View the orphan variable report to analyze and detect orphan variable references in the report
View Reference Variables	View the reference variable report and track different variations of variables available in the report
View User by Workflow Report	View the user by workflow report to check the assignment of users to different stages of a workflow
Manage Desktop Publishing Tags	Work with desktop publishing tags. See also Application Permissions > **View** > **Manage Desktop Publishing Styles**.

Workflow Visibility

Permission	Allows the user the ability to
View All Objects	View all objects in the report (no filtering)
View Objects by Workflow	View only the objects if the user is part of at least one workflow state for the object
View Objects by Workflow State	View only the report objects when the current workflow state advances to a state that the user is a part of **Note:** When two different groups are assigned different workflow visibility settings, the permission that takes precedence is the least permissions. For example: Group 1 has View All Objects, Group 2 has View Objects by Workflow. If a user is assigned to both group 1 and group 2, then the user permission will be set to View Objects by Workflow. This controls the level of access based on different user roles.

Certent 365 Project

Permission	Allows the user the ability to
Owner	
Member	

See Report Permissions for the Web Client for more information.

Filing Wizard

Permission	Allows the user the ability to
Create Filing	
Delete Filing	

Permission	Allows the user the ability to
View Filing	
Submit Live Filing	
Amend Filing	

Report Permissions for the Web Client

Permissions are set at the report level for CDM web client users.

Users can be granted roles with the project **Owner** or **Member** permissions.

If an existing CDM permission exists for a user, the web client will acknowledge it and allow that user to use that permission. If it is a net new web client feature, access is only given using the role permissions.

For example, for permissions in the web client to rename a report:

- Works with existing permissions (View Report and Modify Report Properties).
- Works with Owner and Modify Report Properties.
- Works with Owner.
- Doesn't work in any other situation.

In the CDM desktop client, the Owner and Member roles are able to load a report. All other operations are linked to existing permissions.

Task	Project Owner	Project Member	Existing Desktop Client Permission?
Move Folder	Yes	No	Yes - Application Permissions > Manage Reports
Move Project	Yes	No	Yes - Application Permissions > Manage Reports
Rename Project	Yes	No	Yes - Application Permissions > Manage Reports
Rename Folder	Yes	No	Yes - Application Permissions > Manage Reports
Change Project Picture	Yes	No	No
Change Project Description	Yes	No	Yes - Report Permissions > Modify Report Properties
View Project Details Page and all tiles	Yes	Yes	No
View Project Detail Tiles' Details Pages	Yes	Yes	No
Create/Edit/Manage a Project Plan	Yes	No	No
Create/Edit/Manage Project Plan Tasks	Yes	No	No

Task	Project Owner	Project Member	Existing Desktop Client Permission?
Change Project Plan Task Status (Not Started/WIP/Complete)	Yes	Yes	No
Open HD HTML	Yes	No	No

Permissions for Managing Variable Security

You can manage variable security by restricting the use of a one or more report variables.

There are two types of variables:

- Public variables have no restrictions (allow or deny)
- Restricted variables have at least one restriction (allow or deny) set for a user or user group.

By default, all variables are public. So variables contained in imported reports or report objects are public until restrictions are set on them. Before you can restrict the use of a variable, you must have the following report permissions:

- View Report
- View Reference Variables
- Manage Variable Security

When you set variables restrictions for a specific user, the **Insert Variable** window filters out the variables they are not allowed to add in a report. Also, if a user is denied the use of a specific variable and tries to manually insert that variable into a report object or imports an object containing that variable, they will not be able to save the report object until the variable is removed. If the user has access to a report object that already uses the restricted variable, they are still able to generate and resolve the variable for that object only. However, they are still prohibited from inserting the variable into other objects.

Deleting a variable also removes any restrictions set on that variable (it becomes a public variable if added again). Variable security settings are maintained in reports that are rolled forward or cascaded.

> **Note:** A user with the Manage Variable Security permission for a report containing reference objects is also allowed to set restrictions for any variables that are in the source report. Also, global variables can have restrictions set on them from any open report.

The following procedure describes how to grant the appropriate permissions to a user and how a user can manage variable security.

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Report Permissions**.
3. In the work area, select the report or report group.
4. Select the user or user group.

5. Select the permissions for the user or user group:
    - Under **Report Object Management**, select **View Report**.
    - Under **View**, select **View Reference Variables**.
    - Under **Security and Workflow**, select **Manage Variable Security**.
6. Click **Home** > **Save**.

Account Locking

You can configure CDM to set the number of failed log in attempts a user can make and the duration they have to wait before making another attempt. A user account can also be locked immediately after a failed log in attempt.

Configure Account Locking

You can configure the CDM.config file so that the number of failed log in attempts by CDM users is controlled.

1. Open the **CDM.config** file on the computer where CDM server is installed. The default location is `C:\inetpub\wwwroot\CertentCDM-Server\Config`.
2. Locate the `CdmAccountLockoutPolicy` key:

    ```
    <CdmAccountLockoutPolicy accountLockoutThreshold="0"
    accountLockoutDuration="0" />
    ```

3. Modify the key by making these changes:
    - Enter a number for the `accountLockoutThreshold` parameter. A number greater than 0 must be used. The number entered represents the number of initial failed attempts a user can make before the duration parameter takes affect.
    - Enter a number for the `accountLockoutDuration` parameter. The value must be any number greater than 0 or a negative integer. A number greater than 0 represents the number of minutes a user's account is locked after the threshold has been met. When the duration has passed, the user can attempt another log in. If it fails, the duration takes effect again and for each subsequent single log in failure thereafter. Entering a negative integer locks a user's account immediately when the threshold is reached and requires an administrator to unlock it.

Log in attempts are controlled.

Unlock a User Account

You can unlock a user account in CDM that has been locked due to an incorrect login by the user.

If CDM is configured to lock a user's account immediately after a failed log in attempt by the user, the administrator must unlock the account before the user can attempt to log in again. A locked user account is indicated by a lock icon appearing in the **Locked** column in the **Administration** > **Users** tab.

To unlock a user account:

1. Click the **Home** tab, then in the **Navigation Pane**, click **Administration**.
2. Under **Security**, double-click **Users**.
3. In the work area, select the user whose account you want to unlock.
4. Click **Home** > **Unlock User**.
5. Click **OK**.

Security Audit Logging

Specific actions in CDM are audited so you can see which users are granted permissions for the application, reports, and so on, as well as who modifies application settings (for example, data source connections, workflow templates, and so on)

The application actions are logged by default in **core.AuditLog**, a CDM SQL DB table. However, you can configure CDM to log the actions in a log file as well.

Security audit logging is disabled by default when CDM is installed. To enable this feature, see Enable Security Audit Logging.

For logging to a database table, there is a buffer size of 100 set as the default (`<bufferSizevalue="100" />`), meaning, information is not written in the database until the threshold of 100 lines is reached. This setting can be modified.

Log messages contain:

- The time, logging level, User ID and User Login ID of the user performing the operation, operation ID, operation type, action, message (details).
- The Message column contents might be different depending on the operation type.
- One row per action (for example, granting an entire suite of permissions to a user generates as many rows as the number of permissions granted).

These application actions are logged (regardless of what triggers them. In effect, Import Report triggers Report Permissions Assignment, Add Data Source, Add Data Query, Add Query Variable, Associate Data Query to Report):

- **Administration > Reports**
  - Export Report
- **Administration > Security > Users**
  - Add/Import new user
  - Activate/Inactivate User
  - Change Password
- **Administration > Security > Groups**
  - Add/Import new group
  - Activate/Inactivate group
  - Autoregister On/Off

- **Administration > Security > Associate Users with Groups**
  - Save
- **Administration > Security > Application Permissions**
  - Add/Update/Remove User application permission
  - Add/Update/Remove Group application permission
- **Administration > Security > Report Permissions**
  - Add/Update/Remove User report permission
  - Add/Update/Remove Group report permission
- **Administration > External Data**
  - Add/Edit/Remove Data Source
  - Add/Edit/Remove Data Query
  - Preview Data Query
  - Add/Edit/Remove Query Variable
  - Add/Edit/Remove Query Association to Reports
- **Administration > Workflow > Workflow Templates**
  - Add/Remove User Assignment to Workflow State
  - Add/Remove Group Assignment to Workflow State

Enable Security Audit Logging

You can enable security audit logging in CDM.

Security audit logging is disabled in default when CDM is installed. Perform these steps to enable the security audit logging feature.

1. Open the **Logging.config** file on the computer where CDM server is installed. The default location is `C:\inetpub\wwwroot\CertentCDM-Server\Config`.
2. Locate the audit logging key and change the level value from OFF to **INFO**.

```
<logger
name="Ibm.CognosDM.BusinessLogic.Audit.AuditLog"additivity="false">
<level value="OFF" />
<appender-ref ref="AuditLogDatabaseAppender" />
</logger>
```

Configure Security Audit Logging to a File

You can configure security audit logging in CDM to put logging information in a file.

Security audit logging information is logged by default in **core.AuditLog**, a CDM SQL DB table. You can also configure CDM to place the information into a log file.

1. Open the **Logging.config** file on the computer where CDM server is installed. The default location is `C:\inetpub\wwwroot\CertentCDM-Server\Config`.

2. Add the appender to log to file key to the file and give it these values:

```
<appender name="AuditLogAppender"
typee="log4net.Appender.RollingFileAppender">
<!--logfile: .\LogFiles\AuditLog.yyMMdd.log-->
<file value="LogFiles\AuditLog"/>
<datePattern value=".yyMMdd.'log'" />
<rollingStylevalue="Date" />
<encoding value="utf-8" />
<staticLogFileName value="false" />
<appendToFile value="true"/>
<lockingModel typee="log4net.Appender.FileAppender+MinimalLock" />
<maxSizeRollBackups value="2" />
<maximumFileSize value="500KB"/>
<layout type="log4net.Layout.PatternLayout">
<conversionPattern value="%date{MM/dd/yyyy HH:mm:ss} Level:%-
5levelLoginId:%X{currentUserId} CurrentUser:%X{loginId} OperationId:%X
{operationId}Operation:%X{operationType} Action:%X
{operationCrudTypes}Message:%message%newline%newline" />
</layout>
</appender>
```

3. Add the appender to log to file to the logger:

```
<logger name="Ibm.CognosDM.BusinessLogic.Audit.AuditLog"
additivity="false">
<level value="INFO" />
<appender-ref reff="AuditLogDatabaseAppender" />
<appender-ref reff="AuditLogAppender" />
</logger>
```

   The security audit logging information is now sent to a log file and the **core.AuditLog** database table.

4. If you want to send the security audit logging information to only the log file, comment or delete the **AuditLogDatabaseAppender** appender and remove the reference of the database appender from the logger.

Configuration Settings

A set of configuration files is available for CDM to configure some advanced features.

Server Configuration

Database administrators can adjust the configuration settings on the server to set up advanced features in CDM.

The default location for the configuration files is `C:\inetpub\wwwroot\CertentCDM-Server\Config`. Using Windows Explorer, navigate to that folder (or where the CDM server has been installed) and open the appropriate .config file to perform the configuration.

- **AppSettings.config** - Advanced application settings.
- **CDM.config** - Application specific settings.
- **Credentials.config** - Credentials used for impersonation when contacting an external system which may need Windows™ credentials.
- **Connection Strings.config** - Connection strings for the application and cache databases.
- **Logging.config** - Server logging settings.
- **Notifications.config** - Settings for notification templates.

Important:

- Do not edit any server configuration files other than those in this list.
- Make a backup of the configuration files before making a change.
- The names of the .config files must remain the same.

Application Settings

The following tables list the configuration settings available in CDM.config, along with a description and possible values that you may assign. Never edit settings that are not included in the tables.

Table 1: Batch Processing Configuration Settings

Setting	Description	Value
`objectLockingParallelThreadsNo="8"`	Specifies the maximum number of threads to be used at lock report time, when locking multiple report objects at once by using parallel execution.	n
`generationBatchRefreshEnabled="true"`	Enables or disables batch refresh when generating a report.	true/false
`generationBatchRefreshParallelThreadsNo="8"`	Specifies the maximum number of threads to be used at report generation time, when refreshing multiple report objects at once by using parallel execution.	n

Setting	Description	Value
`generationBatchRefreshSize="10"`	Specifies the number of objects to be refreshed at once (in a batch) at Report Generation time.	nn
`generationBatchRefreshWaitTimeout="00:02:00"`	Specifies the maximum timeout to wait for a refresh response already initiated in the batch refresh of objects.	HH:MM:SS

Table 2: Import and Data Cleanup Configuration Settings

Setting	Description	Value
`<AllowRememberCredentials enabled="true" />`	Enables or disables the Remember me checkbox on the client.	true/false
`<CacheZoneReference cacheZone="ImportCache" />`	Specifies the reference to the cache zone. This cache is used when importing users and groups from the active directory.	The name of the cache zone to be used
`<SessionDataCleanupTime timeToKeepData="30.00:00:00"/>`	The data retention time set to keep the user sessions in the database. The default value is 30 days.	DD:HH:MM:SS
`<LrpDataCleanupTime timeToKeepData="3.00:00:00" />`	The data retention time to keep the results of the processes. The default value is 3 days.	D:HH:MM:SS

Table 3. Data Source Configuration Settings

Setting	Description	Value
`<DataSources queryMetadataLoadTimeout>`	Handles the relational query metadata load during query creation or editing.	n
`<DataSources skipLoadMetadata>`	Bypasses the metadata load action leaving the query builder empty, allowing advanced users (that do not use the query builder UI) to improve query creation/editing performance.	
`<DataSources queryPreviewMaxCells="200000">`	The number of cells can be controlled in the query window.	n

`<Whitelist>`
`<add name="unique_name" serverName="server_name or IP_address"/>`
`</Whitelist>`
`</DataSources>`
	For each data source, you must add an `add` line to the `DataSources\Whitelist` element.
	The `name` property identifies the configuration and must be unique in the whitelist element.
	The `serverName` property contains the fully qualified server host name or IP address. You can use the following wildcards:
		Name
		Server name or IP address

Setting	Description	Value

	• ***** which represents any sequence of zero or more characters.
	• **?** which represents any single character.
	Examples:
	`<add name="Fixed IP" serverName="192.168.1.100" />`
	`<add name="Whole subnet" serverName="192.168.1.*" />`
	`<add name="First 10 IPs" serverName="192.168.1.10?" />`
	`<add name="Fixed hostname in domain" serverName="dataSourcesServer.mydomain.com" />`	

`<TM1Configuration RestApiVersion="v1" />`	The version of the TM1 REST API you want to use.	v1, v2, v3, and so on (refer to the TM1 REST API documentation)
`<BIConfiguration RestApiVersion="v1" />`	The version of the Cognos BI REST API you want to use.	v1, v2, v3, and so on (refer to the Cognos BI REST API documentation)
`<DataSourceConnector UseSecureConnection="false" ServerCertificateName="CertName"/>`	Specifies parameters for the Data Source Connector. The `UseSecureConnection` attribute denotes whether the connection between the CDM server and the Data Source Connector should be secured. Set it to **true** for a secure connection (in this case you also have to provide a valid certificate name). The `ServerCertificateName` attribute specifies the name of the certificate used to secure the connection between the CDM server and the Data Source Connector. The certificate should be imported in IIS (the certificate that is	true/false String value certificate name

Setting	Description	Value
	already configured for the CDM Server WebService is normally used).	

Table 4: Session Configuration Settings

Setting	Description	Value
`SessionExpiration="true"`	The expiration of a session. If set to **false**, the session never expires.	true/false
`timeoutAfterLogOn="24:00:00"`	The `timeAfterLogOn` attribute specifies the amount of time after the creation of a session that the session will expire.	HH:MM:SS
`acceptedIdleTime="02:00:00"`	This option dictates when CDM will time out the session, based on inactivity.	HH:MM:SS
`<CdmAccountLockoutPolice accountLockoutThreshold="0" accountLockoutDuration="0" />`	The `accountLockoutThreshold` property identifies the allowed number of initial failed attempts to log in by the user before the duration property takes effect. The value must be any number greater than 0. The `accountLockoutDuration` property identifies the time in minutes the user's account is locked after the threshold has been met. When the duration has passed, the user can attempt another log in. If it fails, the duration takes effect again and for each subsequent single log in failure thereafter. The value must be any number greater than 0. A negative integer locks the user's account immediately when the threshold is reached and requires an administrator to unlock it.	n
`<UserDisplayFormat name="DisplayName" />`	This option is used to set how user information is displayed. The default is **DisplayName** which is the display name entered when the user was created. You can add either **UserName** to display the user's login name, or **ImportSourceName** to display the source that the user was imported from if their user information was imported, or both. If no parameters exist in the `UserDisplayFormat` key, DisplayName is used as the default.	DisplayName/ UserName/ ImportSourceName

Table 5: Cache Storage and Refresh Configuration Settings

Setting	Description	Value
`<CacheZoneReference cacheZone="RefreshCache"/>`	Specifies the cache zone to be used by the refresh cache.	Name of the cache zone listed in the CDM.config file
`<DataSourceMonitor recoverWaitInterval="00:05:00"/>`	The `recoverWaitInterval` attribute specifies the time interval to wait for a data source (identified as currently unavailable) to recover from its failure.	HH:MM:SS
`<PendingRefresh enabled="true" pendingRefreshVerifyInterval="00:00:01" maxWaitTime="00:01:00"/>`	The `enabled` attribute specifies if Pending Refresh is used. This option is used when a refresh is performed on an object that is currently being refreshed; the Pending Refresh feature waits until the first refresh is completed, then will get the refreshed value from the cache without doing a new refresh. This feature only works in the same process space. The `pendingRefreshVerifyInterval` attribute specifies the time to wait for a pending refresh item to be checked regarding its refresh completion. This is used when multiple refresh requests on the same resources, objects, and queries are executed at the same time. In this case only one refresh is made and the other requests are waiting for the refresh to be completed. The `maxWaitTime` attribute specifies the maximum time to wait for the first refresh to finish.	true/false HH:MM:SS HH:MM:SS
`<ExcelRefresh queryResultMaxRows="1000" truncateOnQueryResultMaxRowsExceeded="True"/>`	The `queryResultMaxRows` attribute specifies the maximum number of rows to return after executing a query when the `truncateOnQueryResultMaxRowsExceeded` attribute is set to **True**. **Note:** This setting applies to all these data query types	n true/false

Setting	Description	Value
	when inserted into an Excel object: OLAP and relational databases, and external Microsoft™ Excel files.	
<ExpirationPolicies minimumAcceptedSlidingTime="00:10:00" />	Specifies the minimum accepted sliding time for time expiration policies.	HH:MM:SS

Table 6: Backing Stores Configuration Settings

Setting	Description	Value
add name="RefreshMemoryStore"	The name attribute specifies the name of the backing store, and is a reference in the Cache Zone settings.	String
storageProvider="Ibm.CognosDM.Cache.Storage.Providers.InMemoryNoZonesCacheStorage, Ibm.CognosDM.Cache"	The storageProvider attribute defines the actual implementation of the ICacheStorage.	String
monitorPerfomanceCounters="false" memoryLimitMegabytes="500" persistentCacheSyncInterval="00:10:00"	The monitorPerformanceCounters attribute specifies the storage that should update the Generic Cache Layer counters. As a dual implementation is used, only one storage should make these updates and usually the persistent storage is used.	true/false n HH:MM:SS
priorityScavengingInterval="00:10:00" priorityScavengingMegabytes="50"	The priorityScavengingInterval and priorityScavengingMegabytes attributes specify the interval to test if the memory limit exceeded and the size that the in-memory storage will be reduced.	HH:MM:SS n
add name="ImportMemoryStore"	The name attribute specifies the name of the backing store, and is a reference in the Cache Zone settings.	String
storageProvider="Ibm.CognosDM.Cache.Storage.Providers.InMemoryNoZonesCacheStorage, Ibm.CognosDM.Cache"	The storageProvider attribute defines the actual implementation of the ICacheStorage.	String
monitorPerfomanceCounters="false"	The	true/false

Setting	Description	Value
`memoryLimitMegabytes="200" persistentCacheSyncInterval="00:10:00"`	`monitorPerformanceCounters` attribute specifies the storage that should update the Generic Cache Layer counters. As a dual implementation is used, only one storage should make these updates and usually the persistent storage is used.	n HH:MM:SS
`priorityScavengingInterval="00:30:00" priorityScavengingMegabytes="20"`	The `priorityScavengingInterval` and `priorityScavengingMegabytes` attributes specify the interval to test if the memory limit exceeded and the size that the in-memory storage will be reduced.	HH:MM:SS n
`<persistent> <add name="PersistentStore" storageProvider="Ibm.CognosDM. Cache.Storage.Providers. PersistentCacheStorage, Ibm.CognosDM.Cache" connectionStringName="CDMCache" pageSize="100" /> </persistent>`	The `persistent` storage uses a `connectionStringName` attribute and `pageSize` attribute to define the location and the page size used for the proactive-loading at application startup.	String true/false n

Table 7: Report Generation and Report Export and Import Configuration Settings

Setting	Description	Value
`<ReportGeneration imageDpi="200" reduceStyles="false" htmlOutputFixedWidthInches="8.5"> </ReportGeneration>`	The `imageDpi` attribute is used to specify the DPI ratio used to render the `##IRS-##IRE` ranges as images in a Word object. The `reduceStyles` attribute describes how a table or list style is applied when defined and used in multiple Word objects included in a report generation. When set to **true**, the first occurrence of the style is the one used for all styles of the same name. When set to **false**, all styles are copied each time in the generated output. False is the default setting. The `htmlOutputFixedWidthInches` attribute is used to set a fixed width for HTML output content in a browser for EDGAR and Inline XBRL outputs. If this	n true/false n

Setting	Description	Value
	attribute is not present the default width is 8.5 inches.	
`<Export path="Filepath"/>`	The `path` attribute sets the path where the temporary export files are stored. The value of this attribute is mandatory but there is no default value. The administrator needs to provide a path to an existing folder where the Application Pool Identity has write access.	Path and file name
`<Import path="Filepath"/>`	The `path` attribute sets the path where the temporary import files are stored. The value of this attribute is optional. The administrator can provide a path to an existing folder where the Application Pool Identity has write access. If the Import element is not supplied the temporary folder of Application Pool Identity is used to store the temporary import files.	Path and file name

Table 8: High Definition HTML Generation Configuration Settings

Setting	Description	Value
`<Fonts> ... </Fonts>`	Specifies the font names to include in HD generation. You can add a font using the `<add name=""/>` tag, for example `<add name="Arial"/>`. All the fonts inside this list are considered supported by CDM. This means that if any of these fonts is used inside CDM objects, in the resulting HD generation the fonts are referenced by name (when the HTML is viewed in a browser, the browser will use that reference in combination with the font present on the machine to render the output). If a CDM object contains a font that is not mentioned in the list, the generation will: • Embed the font inside the HTML when the **Embed font** checkbox is selected for the following generation types: High Definition HTML, High Definition ESMA ESEF xHTML, and Inline XBRL High Definition (ESMA and ISA jurisdictions). An embedded font is included (as a base64 string) inside the HTML file, allowing browsers to correctly render it on machines that do not have that font installed.	String

Setting	Description	Value
	• Not embed the font when the **Embed font** checkbox is not selected for High Definition HTML generations, and return a warning (UnsupportedFontDetectedWarning). • Fail and return an error message (UnsupportedFontDetectedError), informing the user regarding the unsupported font, for the following generation types: ◦ EDGAR HTML and Inline XBRL High Definition (SEC jurisdiction) ◦ High Definition ESMA ESEF xHTML and Inline XBRL High Definition (ESMA and ISA jurisdictions), when the **Embed font** checkbox is not selected.	
`<CreateHtmlTables value="false"/>`	Enables or disables rendering HD tables using HTML table tags. This setting applies only to Inline XBRL High Definition generations, for ESMA and ISA jurisdictions.	true/false
`<FixStyleForSecInlineViewer value="false"/>`	Enables or disables fix styles for rendering in Edgar Renderer. Should be **true** for Arelle versions earlier than 2023.	true/false
`<InlineCSS value="false"/>`	Enables or disables generating CSS styles inline so auditors can review text blocks in external tools for ESEF. When set to **true**, it increases the inline instance file size.	true/false
`<PixelsThreshold value="1"/>`	Controls the tolerance when deciding to create inline blocks to fill up space between words.	n
`<Precision value="2"/>`	The number of decimals to place on coordinates and widths. This setting has a direct impact on file size and number of unique styles.	n

Table 9: Desktop Publishing Generation Utility Configuration Settings

Setting	Description	Value
`<EnableDesktopPublishing AutomaticWordGeneration value="true">`	The `EnableDesktopPublishing` attribute is used to grant access to the Desktop Publishing Utility.	true/false

Table 10: Enforcement of Microsoft Office Version Configuration Settings

Setting	Description	Value
<ForceToOfficeVersion enabled="true" Value="" />	Enter a specific Office version then all objects saved by client systems are saved in this level of Microsoft Office. If the field remains empty, there is no enforcement of an Office version. The report is generated based on the version of Office in which each object was last saved. For more information, see Multiple Versions of Microsoft Office.	A supported version of Microsoft Office, for example, 2013 or 2016

Table 11: Enable or Disable Simultaneous Query Requests

Setting	Description	Value
<ParallelRefresh enabled="true"> </ParallelRefresh>	Used to enable and disable the running of simultaneous query requests to a data source when there are multiple data queries in an object. If an object only has one data query within it then this feature is not used.	true/false

Table 12: Enable or Disable Using Advanced Refresh

Setting	Description	Value
<BackgroundTaskServi enabled="true"> </BackgroundTaskService>	Used to enable the use of Advanced Refresh in the report properties.	true/false

Table 13: Feature Flags

Setting	Description	Value
<add name="InlineHiddenBookmarks" enabled="true" />	Used to include or exclude hidden bookmarks when generating inline XBRL. When set to **false**, the hidden bookmarks will be ignored at reordering.	true/false
<add name="ESMAParagraphTagging" value="false" />	Used to display the Paragraph Tagging command in the Home tab ribbon of CDM XBRL Project. When set to **true**, you can toggle on paragraph tagging to apply a text block concept to one or more paragraphs when you select a portion of the paragraphs.	true/false

Advanced Application Settings

The following table lists the configuration settings available in AppSettings.config, along with a description and possible values that you may assign. Never edit settings that are not included in this table.

Setting	Description	Value
`<add key="PerformanceMonitor" value="True"/>`	Enables the performance monitoring and logging of the server.	true/false
`<add key="EncryptionKeyFile" value="Filepath"/>`	Specifies the file that contains the master encryption key.	Path and file name

Credential Settings

The following table lists the configuration settings available in Credentials.config, along with a description and possible values that you may assign. Never edit settings that are not included in this table.

Setting	Description	Value
`<DataSourcesCredentials enabled="true" userName="accountUserName" password="theUsePassword" />`	When connecting to a data source using Windows authentication, a special Data Sources User is impersonated. The user name and password for this user are configurable.	true/false The user name of the Windows account The password for the account
`<ActiveDirectoryImportCredentials enabled="true" userName="accountUserName" password="theUsePassword" />`	The credentials to be used for accessing Active Directory import sources.	true/false The user name of the Windows account The password for the account
`<EmailCredentials enabled="true" userName="accountUserName" password= "theUsePassword" />`	The credentials to be used for accessing a SMTP server, when email settings are configured with Use Default Credentials set to **true**.	true/false The user name of the Windows account The password for the account

Client Configuration

Configuration settings on the CDM client machine can be adjusted by a database administrator to set up advanced features in CDM. Never edit other configuration files or other settings in these files.

- **IBM.CognosDM.exe.config** - Main configuration settings.
- **AppSettings.config** - Advanced application settings (for server settings, see Advanced Application Settings).
- **Logging.config** - Server logging settings.

Important:

- Do not edit any server configuration files other than those in this list.
- Make a backup of the configuration file before making a change.
- The names of the .config files must remain the same.

Main Configuration Settings

The following table lists the configuration settings available in Ibm.CognosDM.exe.config, along with a description and possible values that you may assign. Never edit settings that are not included in this table.

Setting	Description	Value
`<OfficeAddins enabled="true">`	Specifies the Microsoft™ Office add-ins that are loaded in the client by default. The entire setting can be enabled or disabled.	true/false
`<OfficeCommandbars enabled="true">`	Used to ensure that a certain CommandBar provided by an add-in is successfully loaded in the Microsoft Office editor provided by the client. The entire setting can be enabled or disabled.	true/false

Advanced Application Settings

The following table lists the configuration settings available in AppSettings.config, along with a description and possible values that you may assign. Never edit settings that are not included in this table.

Setting	Description	Value
`<add key="PerformanceMonitor" value="True"/>`	Enables the performance monitoring and logging of the client.	true/false
`<add key="CDMClientRebranding" value="False"/>`	Enables the color schema and design that align with the insightsoftware branding for the File menu of the client.	true/false

Logging Configuration

The Logging.config file contains settings related to logging and tracing, on both the CDM client and server.

To open the location for the client application:

1. Start CDM.
2. Open Windows Task Manager.
3. In the Processes tab, right-click the **Ibm.CognosDM.exe *32** process and click **Open File Location**.

Make sure you read the following important notes:

- Make a backup of the configuration file before making a change.
- The XML-based settings must not contain xml validation errors, otherwise the logging will stop.
- Changes to the logging levels in the Logging.config file can have an effect on performance.
- The name Logging.config must not change.
- For the server, the log files generated by CDM are Application.log, Performance.log, and Refresh.log.
- For the client, the log files are AllErrors.log, Application.log, and Trace.log.

File Structure

The Logging.config file that controls the output to the generated log files has the following structure (the logging module is based on the log4net logging framework):

```
<root>
<level value="INFO" />
<appender-ref ref="AllErrorsLog" />
</root>
<logger name="Ibm.CognosDM">
<level value="ALL" />
<appender-ref ref="ApplicationLog" />
</logger>
<!--appender-->
<appender name="AllErrorsLog" type="log4net.Appender.RollingFileAppender">
<appender name="ApplicationLog" type="log4net.Appender.RollingFileAppender">
```

An appender is an output destination for a log file. In the example structure two appenders are shown: one that logs only the errors in the application, another that logs everything. Appenders should only be defined, created or changed when necessary.

The root node defines a reference to one appender. The logger node contains a reference to the second appender. You can group multiple appenders together, and specify a logging level for the group. The logging level filters the logging output. The logging module is based on the log4net logging framework.

Available Settings

The following table lists the configuration settings available in Logging.config, along with a description and possible values that you may assign. Never edit settings that are not included in this table.

Key	Description	Value for the Client	Value for the Server
`<level value="INFO" />`	The logging level for the appenders group.	ALL, OFF, INFO, WARNING, ERROR, DEBUG	INFO, WARNING, ERROR, DEBUG
`<file`	The location of the log	Path and file	Path and file

Key	Description	Value for the Client	Value for the Server
`value="LogFiles\AllErrors"/>`	file.	name	name
`<datePattern value=".yyMMdd.'log'"/>`	The date format.	yyMMdd, ddMMyy, MMddyy	yyMMdd, ddMMyy, MMddyy
`<appendToFile value="true" />`	Enables and disables the output of the appender.	true/false	true/false
`<levelMin value="INFO" />`	The minimum logging level for the appender.	ALL, OFF, INFO, WARNING, ERROR, DEBUG	INFO, WARNING, ERROR, DEBUG
`<levelMax value="OFF" />`	The maximum logging level for the appender.	ALL, OFF, INFO, WARNING, ERROR, DEBUG	INFO, WARNING, ERROR, >DEBUG

Note: If both `levelMin` and `levelMax` are set to **OFF**, the appender is disabled and no output will be present in the log file.

XBRL Whitelist Configuration

The web.config file contains settings to configure the XBRL whitelist. For how to access the file, see Server Configuration.

The `<CDMXBRL>` section of the web.config file contains elements that specify which Internet domains can be accessed when you add taxonomies from a URL. The `<CDMXBRL>` section is prepopulated with standard Internet domains that are required. You can add Internet domains to this list.

By default this whitelist contains these Internet domains:

- `fasb.org` and its subdomains
- `xbrl.us`
- `xbrl.org`
- `sec.gov`
- `ifrs.org`
- `eurofiling.info`
- `eiopa.europa.eu`

To add a domain, in the `<WhiteList>` section, add an element of the form `<Entry Name="domain_name" Domain="domain_url"/>`, where `domain_name` is a unique descriptor for the domain and `domain_url` is the web address of the domain.

If you want to include subdomains, add a prefix of `*.` to the domain URL. For example, a domain URL of `xbrl.org` allows URLs such as `xbrl.org/children.xml`, while a domain URL of `*.xbrl.org` allows URLs such as `children.xbrl.org`. Note that you must have entries with both `xbrl.org` and `*.xbrl.org` to allow both a domain and its subdomains.

Accessibility Features

CDM has accessibility features that help users who have a physical disability to use the product.

Keyboard Shortcuts

CDM includes keyboard shortcuts to help you navigate the product and perform tasks.

The following keyboard shortcuts are based on US standard keyboards.

Applies To	Action	Shortcut Keys
General	Perform the command for an active command button.	ENTER
General	Move forward to the next item in the tab index order. Cycle to the first tab index when at the end.	TAB
General	Move backward to the previous item in the tab index order. Cycle to the last tab index when at the beginning.	SHIFT+TAB
Checkboxes	Select or clear the checkbox.	SPACEBAR
Menus	Navigate down a menu and select a menu item.	Down arrow and then Enter
Menus	Navigate up a menu and select a menu item.	Up arrow and then Enter
Scrolling	Scroll down.	Down arrow
Scrolling	Scroll up.	Up arrow
Zooming	Zooming in.	CTRL and +; CTRL+MOUSE wheel up
Zooming	Zooming out.	CTRL and -; CTRL+MOUSE wheel down
Zooming	Return to default zoom level.	CTRL+0
Navigation	Reload the current page.	F5
Navigation	Move backward to the previously opened page.	ALT+Left Arrow; BACKSPACE
Navigation	Move forward to the previously opened page.	ALT+Right Arrow; SHIFT+BACKSPACE
Navigation	Stop a page from loading.	ESCAPE
Search	Open a search box to perform a search on the current page.	CTRL+F; F3
Search	Find the next match of the searched text on the current page.	CTRL+G; F3
Search	Find the previous match of the searched text on the page.	CTRL+SHIFT+G; SHIFT+F3

Multiple Versions of Microsoft Office

Your reports in CDM can contain Excel, Word, and PowerPoint objects. Some aspects of your reports and report objects depend on the version of Microsoft™ Office that was used to create the report object, and the version of Microsoft Office that you use to open the report.

Important: Macros applied to report objects are not preserved when you save the report object.

If all report objects in your report are created with the same version of Microsoft Office, and all users of your report use the same version of Microsoft Office, you do not need to read the rest of the topics in this section.

However, if any report objects in your report are created with different versions of Microsoft Office, or some users use a different version of Microsoft Office, read the following sections for useful tips on how to work with your report and report objects.

Effects of Using Multiple Versions of Microsoft Office

When you use multiple versions of Microsoft™ Office, some aspects of your reports in CDM depend on the version that was used to create various report objects. The version of Microsoft Office that you use can affect actions such as opening reports and report objects, pasting and exporting report objects, and generating reports.

Open Reports and Report Objects

Consult the following table to learn about how different Microsoft Office versions affect opening reports and report objects.

Situation	Effect
If the report contains report objects that were created in an earlier version of Microsoft Office	You can open and save reports and report objects. When you save report objects, you automatically save them in the format of the version of Microsoft Office that you use.
If the report contains report objects that were created only in the version of Microsoft Office that you use	You can open and save reports and report objects normally.
If the report contains report objects that were created in a later version of Microsoft Office.	You view the later report object in the format of the version of Microsoft Office that you use, and you might not see features or formatting specific to the later version. However, no changes are made in the database. If a report object is saved in Microsoft Office 2007 and then you open it in a later version of Microsoft Office and then save, the report object is saved in Microsoft Office 2007 format, even though you are working in a later version. To view a report object in its original format, you must upgrade to the

Situation	Effect
	version of Microsoft Office that was used to create the report object.

Copy and Paste Report Objects

Consult the following table to learn about how different Microsoft Office versions affect copying and pasting report objects.

Situation	Effect
If the report contains report objects that were created in an earlier version of Microsoft Office	You can copy and paste a report object by right-clicking the report object and then using the Copy and Paste options. When you save a pasted report object, you automatically save it in the format of the version of Microsoft Office that you use.
If the report contains report objects that were created only in the version of Microsoft Office that you use	You can copy and paste a report object normally by right-clicking the report object and then using the Copy and Paste options.
If the report contains report objects that were created in a later version of Microsoft Office	You can copy and paste a report object by right-clicking the report object and then using the Copy and Paste options. All later report objects are saved in the format of the version of Microsoft Office that you use, and you might lose features or formatting specific to the later version. The original report object remains in its original format. To view and save a pasted report object in its original format, you must upgrade to the version of Microsoft Office that was used to create the report object.

Work with Shared Objects

Consult the following table to learn about how different Microsoft Office versions affect shared objects.

Situation	Effect
If the report contains report objects that were created in an earlier version of Microsoft Office	You can work with shared objects. All copied report objects are saved in the format of the version of Microsoft Office that you use.
If the report contains report objects that were created only in the version of Microsoft Office that you use	You can work with shared objects normally.
If the report contains report objects that were created in a later version of Microsoft Office	Report objects are opened in the format of the version of Microsoft Office that you use. When you save the report object, you receive a message in which you must specify whether you want to save in the format of the version of Microsoft Office that you use. • **Reference** - The content cannot be modified. A linked object actually has no content, so when an object is opened, the content is retrieved from the original source object. This content

Situation	Effect
	opens in the version of Microsoft Office that is on your computer, and you might lose features or formatting specific to the later version. • **Copy** - The content can be modified because a copy is treated like any other report object that has content. All later shared report objects are saved in the version of Microsoft Office that you use, and you might lose features or formatting specific to the later version. To view a shared object in its original format, you must upgrade to the version of Microsoft Office that was used to create the report object.

Export Report Objects

Consult the following table to learn about how different Microsoft Office versions affect report object exports.

Situation	Effect
If the report contains report objects that were created in an earlier version of Microsoft Office	You can export report objects. All earlier report objects are saved in the format of the version of Microsoft Office that you use.
If the report contains report objects that were created only in the version of Microsoft Office that you use	You can export report objects normally.
If the report contains report objects that were created in a later version of Microsoft Office	You can export report objects. All later report objects are saved in the format of the version of Microsoft Office that you use, and you might lose features or formatting specific to the later version. To export a report object in its original format, you must upgrade to the version of Microsoft Office that was used to create the report object.

View and Compare Audit Trails or Snapshots

Consult the following table to learn about how different Microsoft Office versions affect audit trails and snapshots.

Note: If you work in Microsoft Office 2007, you can work with only one instance of a PowerPoint object at a time. When you view audit trails for PowerPoint objects, the audit trail content does not load because of this limitation. You will receive a message in which you can save the logs separately. If you work in a later version of Microsoft Office, this restriction does not apply.

Situation	Effect
If the report contains report objects that were created in an earlier version of Microsoft Office, or if the snapshots were created in an earlier version of Microsoft Office	You can view and compare audit trails or snapshots. When you select an audit trail entry or snapshot, you view it in the format of the version of Microsoft Office that you use. The changes are not saved to the database.
If the report contains report objects that were created only in the version of Microsoft Office that you use, or if the snapshots were created only in the version of Microsoft Office that you use	You can view and compare audit trails or snapshots normally.
If the report contains report objects that were created in a later version of Microsoft Office, or if at least one of the snapshots was created in a later version of Microsoft Office	You can view and compare audit trails or snapshots. When you select an audit trail entry or a snapshot, you view it in the format of the version of Microsoft Office that you use, and you might not see features or formatting specific to the later version. The changes are not saved to the database. To view an audit trail entry or snapshot in its original format, you must upgrade to the version of Microsoft Office that was used to create the report objects in the audit trail or the snapshot.

Generate Reports

Consult the following table to learn about how different Microsoft Office versions affect report generation.

Situation	Effect
If the report contains report objects that were created in an earlier version of Microsoft Office	You can generate the report. All earlier report objects are saved in the format of the version of Microsoft Office that you use. The report is generated as a .docx file.
If the report contains report objects that were created only in the version of Microsoft Office that you use	You can generate the report normally. The report is generated as a .docx file.
If the report contains report objects that were created in a later version of Microsoft Office	You can generate the report. All later report objects are saved in the format of the version of Microsoft Office that you use, and you might lose features or formatting specific to the later version. The report is generated as a .docx file. To generate the report in its original format, you must upgrade to the version of Microsoft Office that was used to create the report object.

Perform Report Rollovers

Consult the following table to learn about how different Microsoft Office versions affect report rollovers.

Situation	Effect
If the report contains report objects that were created in an earlier version of Microsoft Office	You can perform a report rollover. All later report objects are saved in the format of the version of Microsoft Office that you use, and you might lose features or formatting specific to the later version.
If the report contains report objects that were created only in the version of Microsoft Office that you use	You can perform a report rollover normally.
If the report contains report objects that were created in a later version of Microsoft Office	You can perform a report rollover. All later report objects are saved in the format of the version of Microsoft Office that you use, and you might lose features or formatting specific to the later version. To roll over the report in its original format, you must upgrade to the version of Microsoft Office that was used to create the report object.

Enforcement of a Microsoft Office Version

The administrator can set a configuration file to force Word, Excel, and PowerPoint objects to be saved at a particular version level of Microsoft™ Office. This enforcement of the Microsoft Office version is a setting for all client systems of CDM.

More than one version of Microsoft Office can be in use by client systems. An object can be saved as a specific Microsoft Office version and subsequently saved in compatibility mode under a different Microsoft Office version by a different user. The save under compatibility mode removes all specific features and formats of Office 2010. This cycle of upgrade and downgrade between different version levels can cause usability problems.

To stop this cycle of downgrade and upgrade, the administrator can configure the `<ForceToOfficeVersion enabled="true" Value="" />` application setting in the CDM.config file on the server to enforce a particular version Microsoft Office. Setting the version to a specific version of Microsoft Office ensures that when a new object is saved, it is saved in the version level that is configured.