Configuring a Cognos Resource in Metadata Manager 9.0
Abstract
This article shows how to create and configure a Cognos resource in Metadata Manager 9.0 to extract metadata from Cognos 8.2, 8.3, and 8.4.

Supported Versions
- Metadata Manager 9.0

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Cognos
Cognos is a business intelligence tool that includes applications for reporting, dashboards, scorecarding, and analysis. Cognos version 8 combines the features of several Cognos products such as ReportNet, PowerPlay, Metrics Manager, Noticecast, and Data Manager formerly known as DecisionStream.

You can create and configure a Cognos resource to extract schema and reports metadata from Cognos.

Configuring Cognos
Before you create a Cognos resource, you must configure the metadata source. If you do not correctly configure the metadata source, the metadata load can fail or the metadata can be incorrectly loaded in the Metadata Manager warehouse.

To configure Cognos, complete the following tasks:
- Install the Metadata Manager Agent.
- Get the external dispatcher URI.
- Test the connection.
- Verify authentication.
- Configure permissions.
Install the Metadata Manager Agent

The Metadata Manager Agent is a program that Metadata Manager uses to access metadata sources and extract source metadata. By default, the Metadata Manager Agent runs on the nodes where the Metadata Manager Service runs.

If the Metadata Manager Service runs on UNIX, you must install the Metadata Manager Agent separately on a Windows machine. The Metadata Manager Agent does not run on UNIX.

Get the External Dispatcher URI

To extract metadata from Cognos Content Manager version 8.x, get the external dispatcher URI. The URI is required to configure the Cognos Content Manager resource in Metadata Manager. The value corresponds to one of the dispatchers in the Cognos Content Manager installation. Verify the URI in the Cognos Content Manager configuration/cogstartup.xml file.

The URI is similar to the following URL:

http://localhost:9300/p2pd/servlet/dispatch

The following example shows an excerpt from cogstartup.xml:

```xml
<crn:parameter name="sdk">
</crn:parameter>
```

Use the following rules and guidelines for the external dispatcher URI:

- You can also find the dispatcher URL under Environment in the Cognos client.
- Use the actual machine name or an IP address for the server name, not localhost.
- The https:// prefix for the URI indicates SSL is required.
- The Cognos server must support chunking and attachments for large volumes of data. To verify this requirement, contact the Cognos administrator.
- If Metadata Manager and Cognos Content Manager are separated by an intermediary server like a load balancer or proxy, use the host and port number of the intermediary in the external dispatcher URI.

Test the Connection

You can test the connection by accessing the URI in a web browser. If the URI is correct, Cognos displays a status message with the current state of the server. Before you load a Cognos resource, the current status of the server must be “running.”

Verify Authentication

If the Cognos server is set up for LDAP authentication, use the web-based Cognos client tool to verify the connection and authentication properties. Use the following URL to test the authentication:

http://localhost:8080/c8/cm_tester.htm

Use the login namespace, user name, and password you configured in Cognos under Security > Authentication.

Configure Permissions

Before you configure a Cognos resource, configure the permissions for the user account that you use to connect to Cognos.

The Cognos user account requires Read, Execute, and Traverse permissions on all objects that Metadata Manager extracts, including folders, reports, queries, analysis, packages, and connections.

You can secure Cognos data sources against multiple namespaces. The namespace used to secure the data source may not be the primary namespace used to log in to Cognos. When Metadata Manager extracts a Cognos object that is associated with a data source secured against multiple namespaces, the Cognos user account must have the required permissions for the primary namespace.
Creating a Cognos Resource

Before you create a Cognos resource, configure the Cognos source.

To create a Cognos resource:

1. On the Load tab, click **Actions > New Resource**.
   The **Resource Selection** window appears.
2. Click **Business Intelligence > Cognos ReportNet**.
3. Click **Next**.
   The **Properties** page appears.
4. Enter the following information:

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| Name         | Name for the resource. The resource appears in the Resources panel with this name. The name must be unique and have from 1 through 256 characters. It cannot include the following characters: / : * ? " < > |[
| Description  | Description for the resource. Description cannot exceed 4,000 characters.    |

5. Click **Next**.
   The **Configuration** page appears.
6. Configure the following resource properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent URL</td>
<td>Host name and port number of the Metadata Manager Agent. You can use the Metadata Manager Agent installed on any machine.</td>
</tr>
<tr>
<td>Source system version</td>
<td>Name of the resource.</td>
</tr>
<tr>
<td>Version</td>
<td>Version of Cognos. Select one of the following options: - Cognos 8.2 - Cognos 8.3 - Cognos 8.4</td>
</tr>
<tr>
<td>Dispatcher URL</td>
<td>URL of the Cognos Content Manager external dispatcher URL.</td>
</tr>
<tr>
<td>Namespace</td>
<td>Namespace that defines a collection of Cognos user accounts from an authentication provider. If you did not configure authentication for Cognos, do not configure this option.</td>
</tr>
<tr>
<td>User</td>
<td>User name to log in to the Cognos repository database. Required if the Cognos repository database has been set up to require a user name and password. If you did not configure authentication for Cognos, do not configure this option.</td>
</tr>
<tr>
<td>Password</td>
<td>Password to log in to the Cognos repository. Required if the Cognos repository database has been set up to require a user name and password. If you did not configure authentication for Cognos, do not configure this option.</td>
</tr>
</tbody>
</table>
To remove models from the Selected Models list, select the model in the Selected Models list and click **Remove**.

To add all available models, click **Add All**.

To remove models from the Selected Models list, select the model in the Selected Models list and click **Remove**.

To remove all models from the Selected Models list, click **Remove All**.

Click **Next**.

The Schedules page appears.

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<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| Content           | Path of models or reports to extract from Cognos. To extract models, use the path to the package containing the model. To extract packages and reports, use the complete search path to the package or report appended with the following characters: //
|                   | Use Cognos to find the search path for packages or reports. In the Cognos Administration Console, select the package or report and click Set Properties > View the Search Path, ID, and URL. If the search path contains multiple reports, Metadata Manager extracts the last report. If the search path contains published versions of a package, Metadata Manager extracts the latest version and any previous version used as a data source for current reports. Separate multiple values with a semicolon (;). For more information about the search path syntax, see the Cognos documentation. For example, to extract packages at the root level, use the following syntax: `/content/package[@name='GO Sales and Retailers']`/#
|                   | To extract packages within a folder, use the following syntax: `/content/folder[@name='Cognos - Folder']/package[@name='GO Sales and Retailers']`/#
|                   | To extract a single report, use the following syntax: `/content/folder[@name='Cognos - Folder']/package[@name='GO Sales and Retailers']/folder[@name='User Reports!']/report[@name='Cascading prompt report']`/#
|                   | If you configure this property, you do not need to configure the list of available models in the Parameters page. Metadata Manager includes the list of models defined by this property. |
| Encoding          | Code page for the Cognos repository database.                                                                                                                                                   |
| Auto Assign Connections | Metadata Manager configures connection assignments to relational database resource types during the resource load. If you disable this option, you must configure connection assignments in the resource properties after you create the resource. |

7. Click **Test Connection** to test the connection to the source system and validate the Metadata Manager Agent URL.
   
   If Metadata Manager cannot connect to the source system or validate the agent URL, an error message appears. Correct any error and test the connection again.

8. Click **Next**.
   
   The Parameters page appears.

9. Click **Retrieve/Refresh Models** to update the Available Models list with the models in the Cognos repository.
   
   If you configured the Content property, Metadata Manager lists the models defined by the property.

10. To select the models Metadata Manager extracts, choose one of the following options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extract metadata from all models</td>
<td>Extracts metadata from all Cognos models. If you configured the Content property, Metadata Manager extracts metadata from all Cognos models specified in the property.</td>
</tr>
<tr>
<td>Extract metadata from select models</td>
<td>Extracts metadata from the Cognos models you select. Use the selected models list to choose the models you want to extract.</td>
</tr>
</tbody>
</table>
16. To add a schedule, select **Attach a Schedule** and select a schedule in the Schedule list. If you have not created a schedule, you can assign a schedule to a resource after you create the resource.

17. Click **Finish**. The resource appears in the Resources panel on the Load tab.

**Configuring the Model Inclusion List**

You can configure the Model Inclusion List parameter for a Cognos resource. To edit the parameter, select the resource in the Resources panel of the Load tab, click **Edit Resource**, and click the **Parameters** tab in the Edit Resource window.

Use the Available Models list to specify the Cognos models that you want to load into the Metadata Manager warehouse. You can extract models to limit the objects that Metadata Manager extracts. You can load the models that Metadata Manager users need to analyze. The Cognos resource loads faster if you do not include all models.

If the model contains published versions of a package, Metadata Manager extracts the latest version and any previous version used as a data source for current reports.

If you change the models for Metadata Manager to extract and remove previously loaded models, Metadata Manager does not delete any metadata object from the Metadata Manager warehouse. To delete metadata objects in the Metadata Manager warehouse that no longer exist in the Cognos repository, purge the metadata for the resource. Then, load the models that you want in the Metadata Manager warehouse.

**Note:** If you configure the Content property for a Cognos resource, you do not need to configure the Model Inclusion List. Metadata Manager includes the list of models defined by the property in the Model Inclusion list. If you configure the Content property and select Extract metadata from all models, Metadata Manager extracts metadata from all Cognos models specified in the Content property.

**Troubleshooting**

**When I load a Cognos resource, Metadata Manager returns an out of memory error.**

The Metadata Manager Agent can return this error if you extract a large amount of metadata from Cognos. If you receive this error, configure the Cognos resource to extract a subset of the total models that you want to extract from Cognos. Then, incrementally extract models until you load the total number of models into Metadata Manager.

**I get the following error when I try to refresh or retrieve models from the Cognos server:**

**Metadata Manager Agent failed to extract metadata from source.**

This error can occur due to the following reasons:

- **Metadata Manager Agent URL is incorrect or the Metadata Manager Agent is not running.** To test the Metadata Manager Agent URL, go to the following URL on the machine where you installed the Metadata Manager Agent:
  
  http://<host name>:<port>/MIMBWebServices

- **The Cognos server may not be running.**

- **Authentication parameters are incorrect.** Use one of the following methods to troubleshoot authentication parameters:
  
  - Verify the connection. Use the following URL:
    
    http://localhost:8080/c8/cm_tester.htm

  Verify that you use the same Login Namespace, login user, and password that you use in Metadata Manager. Test these parameters using the machine on which the Metadata Manager Service is installed.

  - Verify the Namespace parameter. If Cognos is not configured to use LDAP or any other authentication, leave the Namespace parameter blank.
If the error persists, the Metadata Manager Agent cannot communicate with the Cognos server. Use the Cognos SDK to connect to the Cognos server from Metadata Manager instead.

**Reference**

After you create and load a Cognos resource, you can view and run data lineage on the metadata objects that Metadata Manager extracted.

**Objects Extracted**

Metadata Manager extracts schema-related and reports metadata from Cognos.

**Field-Level Lineage**

Metadata Manager may not display field-level lineage for Cognos attributes and measures that are defined with complex expressions. Complex expressions are expressions that are not of equality type.

The following example shows a simple expression metric:

```plaintext
m1 = col1
```

The following example shows a complex expression metric:

```plaintext
m2 = char(col2)
m3 = col3 + col4
```

**Metadata Catalog**

Metadata Manager displays objects differently than they appear in the Cognos client.

You may notice the following differences:

- Cognos client displays different icons for namespaces and folders. Metadata Manager displays the Namespace icon for namespaces and folders.
- Cognos shows display labels for Querysubjects that are created from dbQueries. Metadata Manager does not show the display labels. Instead, it shows the technical names such as the table from which the Querysubject is built.
- Certain objects in Cognos may have multiple instances in Metadata Manager. For example, if a Querysubject formed from a modelQuery has hierarchies and levels in Cognos, Metadata Manager displays it under the CognosFMDimension and CognosFMHierarchy classes. Since Metadata Manager models hierarchies as separate types of objects than dimensions, the same Querysubject appears multiple times in Metadata Manager.
- Metadata Manager may not load all hierarchies. For example, certain Querysubjects in Cognos are built from dbQueries (database table sources) instead of modelQueries, but still contain hierarchies. Metadata Manager assumes only dimensional objects can be included in hierarchies. Metadata Manager loads these Querysubjects as objects of CognosFMSchemaTable class, not the CognosFMHierarchy class.

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