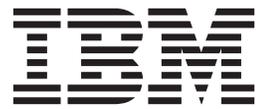


IBM InfoSphere Information Server  
Version 11 Release 3

*Connectivity Guide for Accessing  
Cognos TM1*





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Version 11 Release 3

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Cognos TM1*



**Note**

Before using this information and the product that it supports, read the information in “Notices and trademarks” on page 27.

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## IBM Cognos TM1 databases

Use the Cognos TM1 connector to connect to Cognos TM1 databases and perform various read and write functions.

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### Configuring the Cognos TM1 connector

Before you can use the Cognos TM1 connector, you must install and configure the Cognos TM1 client package on the InfoSphere Information Server engine tier.

#### Procedure

1. Install the Cognos TM1 API component from the Cognos TM1 client package:

Option	Description
Microsoft Windows	Copy the file from <i>TM1_installation_directory/bin/classes/TM1JavaAPI.jar</i> to <i>IS_installation_directory/Server/DSComponents/bin</i> directory.
Other platforms	<ul style="list-style-type: none"><li>• Copy the file <i>TM1_installation_directory/bin/classes/TM1JavaAPI.jar</i> from Cognos TM1 server machine to IBM InfoSphere Information Server Engine tier machine and locate the file under <i>IS_installation_directory/Server/DSComponents/bin</i> directory.</li><li>• Copy the file <i>TM1_installation_directory\bin\ssl\applixca.pem</i> from Cognos TM1 server machine to IBM InfoSphere Information Server Engine tier machine.</li></ul>

2. Import the IBM Cognos TM1 certificate into the keystore of the InfoSphere DataStage. The InfoSphere DataStage keystore file is *ASBNode/conf/iis-ds-truststore.jks*.
  - a. On the InfoSphere Information Server engine tier computer, open a command prompt.
  - b. Change the directory to *IIS\_installation\_directory/jdk/bin*.
  - c. Enter the following IBM Java Keytool command to import the Cognos TM1 certificate:

```
keytool.exe -import -file TM1_installation_directory\bin\ssl\applixca.pem -keystore IIS_installation_directory/ASBNode/conf/iis-ds-truststore.jks -storepass truststore password
```
3. Create a property file that stores truststore password.
  - a. Encrypt the truststore password by using the *IIS\_installation\_directory/ASBNode/bin/encrypt.sh* file or *encrypt.bat* file.
  - b. Create the *IIS\_installation\_directory/ASBNode/conf/iis-ds-truststore.properties* file in plain text format and add the following line: `password=truststore password`. Where *truststore password* is an encrypted version of the password that is specified as the value for the *-storepass* parameter for the keytool import command.

- If the Cognos TM1 server is configured with Integrated Windows authentication login, set the **DS\_LOGIN\_CONFIG\_LOCATION**, **DS\_KERBEROS\_CONFIG\_LOCATION**, and **TM1CC\_INTEGRATED\_SECURITY\_MODULE\_NAME** environment variables.

Option	Description
<b>Windows</b>	Set the environment variables for the system, and then restart the ASB agent and DSRPC services.
<b>Linux or UNIX</b>	Set the environment variables in the dsenv file, and then restart the ASB agent and DSRPC services.

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## Importing Cognos TM1 metadata

You can use InfoSphere® Metadata Asset Manager to import metadata about cubes, views, and dimensions in a Cognos® TM1 server. You can then use this metadata to perform data lineage analysis and impact analysis in InfoSphere Information Governance Catalog.

### Before you begin

Configure the Cognos TM1 connector.

### About this task

By using the Cognos TM1 connector, you can import metadata for the following types of assets:

- Cubes
- Cube dimensions
- Views of each cube
- Row, column, and title subsets of each view
- Elements of each subset
- Dimensions
- Dimension elements

Views are imported into the metadata repository as BI reports.

### Procedure

Use InfoSphere Metadata Asset Manager to import the metadata. For more information, see *Importing metadata by using InfoSphere Metadata Asset Manager* in IBM® Knowledge Center ([http://www.ibm.com/support/knowledgecenter/SSZJPZ\\_11.3.0/com.ibm.swg.im.iis.mmi.doc/topics/t\\_importing\\_metadata\\_into\\_staging\\_area.html](http://www.ibm.com/support/knowledgecenter/SSZJPZ_11.3.0/com.ibm.swg.im.iis.mmi.doc/topics/t_importing_metadata_into_staging_area.html)).

---

## Designing jobs that use the Cognos TM1 connector

You can use the Cognos TM1 Connector stage in your jobs to read data from or write data to Cognos TM1 databases that Cognos TM1 uses.

## Procedure

1. Define a job that includes the Cognos TM1 Connector stage.
2. Define a connection to the Cognos TM1 server.
3. To set up the Cognos TM1 Connector stage as a source stage to read data from Cognos TM1 databases that Cognos TM1 uses configure the Cognos TM1 connector as a source.
4. To set up the Cognos TM1 Connector stage as a target stage to write data to Cognos TM1 databases that Cognos TM1 uses configure the Cognos TM1 connector as a target.
5. Compile and run the job.

## Defining a job that includes the Cognos TM1 connector

To read data from or write data to Cognos TM1 databases that Cognos TM1 uses, you can create a job that includes the Cognos TM1 connector. Then, you add any additional stages that are required and create the necessary links.

### Procedure

1. In the InfoSphere DataStage® and QualityStage® Designer client, select **File > New** from the menu.
2. In the **New** window, select the **Parallel Job** icon, and then click **OK**.
3. Add the Cognos TM1 connector to the job:
  - a. In the palette, select the **Database** category.
  - b. Drag the Cognos TM1 Connector stage to the canvas.
  - c. Optional: Rename the Cognos TM1 Connector stage. Choose a name that indicates the role of the stage in the job.
4. Create the necessary links and add more stages for the job:
  - For a job that reads Cognos TM1 data, create the next stage in the job, and then create an output link from the Cognos TM1 connector to the next stage.
  - For a job that writes data to Cognos TM1 databases that Cognos TM1 uses, create an input link from the previous stage in the job to the Cognos TM1 connector.
5. Save the job.

## Defining a connection to the Cognos TM1 server

To configure the Cognos TM1 connector, you need to specify connection properties on the Configuration window for Cognos TM1 connector.

### Procedure

1. Double-click the Cognos TM1 Connector stage.
2. Click **Configure** to configure properties. A Configuration window for the Cognos TM1 connector opens.
3. In the Connection properties section, specify the values to configure the Cognos TM1 connector:
  - a. In the **TM1 Admin Server** field, specify the host name of a Cognos TM1 admin server.
  - b. In the **SSL port number** field, specify the SSL port number of a Cognos TM1 Admin Server. The default value is 5498.
  - c. In the **Authentication method** field, select the authentication method that you want to use to connect to a Cognos TM1 server.

- d. In the **TM1 server** field, specify the TM1 server name.
- e. In the **User name** field, specify the user name of a Cognos TM1 server.
- f. In the **Password** field, specify the password.
- g. Optional: Click **Test** to validate the connection properties.

## Reading data from Cognos TM1

You can use the Cognos TM1 connector to read data from a Cognos TM1 cube, dimension, or view.

### Before you begin

- Define a job that includes the Cognos TM1 Connector.
- Define a connection to the Cognos TM1 server.

### About this task

The following figure shows an example of using the Cognos TM1 connector to read data from a Cognos TM1 cube, dimension, or view. In this example, the Cognos TM1 connector reads data from a Cognos TM1 cube, dimension, or view, and the Sequential File stage writes the data to a file. When you configure the Cognos TM1 connector to read data from a Cognos TM1 cube, dimension, or view you create an output link, which in this example transfers rows from the Cognos TM1 connector to the Sequential File stage.

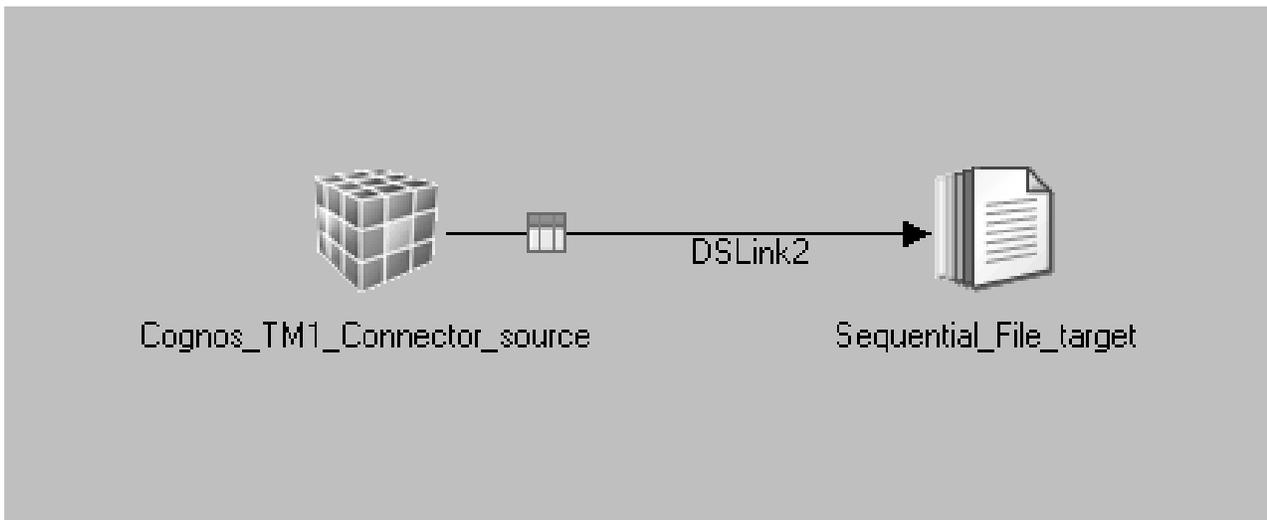


Figure 1. Example of reading data from a Cognos TM1 cube, dimension, or view

### Configuring the Cognos TM1 connector as a source

You can configure the connector to read Cognos TM1 data from a cube, dimension, or view.

### Before you begin

- Define a job that contains the Cognos TM1 Connector stage as a source.
- Define a connection to the Cognos TM1 server.

### Procedure

1. On the parallel canvas, double-click the Cognos TM1 Connector stage.
2. Click **Configure**.

- Specify information about the cube, dimension, or view in Cognos TM1 databases that you want to read data from.

Option	Description
<b>Cube</b>	<ol style="list-style-type: none"> <li>In the Source section, select <b>Cube</b>.</li> <li>Click <b>Browse</b> to select the cube and to generate column mappings.</li> <li>In the Cube pane, select the cube that you want to read from.</li> <li>Select the cube dimensions that you want to output the element names along with the cell values.</li> <li>Click <b>OK</b></li> </ol>
<b>Dimension</b>	<ol style="list-style-type: none"> <li>In the Source section, select <b>Dimension</b></li> <li>Click <b>Browse</b> to select the dimension and to generate column mappings.</li> <li>In the Dimension pane, select the dimension that you want to read from.</li> <li>Specify the <b>Element Parent Name</b>, <b>Element Type</b>, <b>Element Weight</b>, <b>Element Index</b>, <b>Element Level</b>, and <b>Dimension Name</b> values from Built-in Attribute pane, if you want these values to be extracted.</li> <li>Select <b>Element Attributes</b> from Attribute pane that you want to extract.</li> <li>Click <b>OK</b>.</li> </ol>
<b>View</b>	<ol style="list-style-type: none"> <li>In the Source section, select <b>View</b>.</li> <li>Click <b>Browse</b> to select the view and to generate column mappings.</li> <li>Select the cube that the view belongs to.</li> <li>Select the view from the View pane.</li> <li>Select the dimensions that you want to extract element name of the cell in the Dimension pane.</li> <li>Specify the values for <b>Cell Type</b>, <b>Cube Name</b>, and <b>View Name</b> from the Built-in Attribute pane, if you want these values to be extracted.</li> <li>Click <b>OK</b>.</li> </ol>

- Define the mapping between TM1 and InfoSphere DataStage columns in the Mapping Definition pane. You can change the InfoSphere DataStage column names by double-clicking the cells. And you can change the InfoSphere DataStage column order and dimension order only in case of Load to Cube.
- Click **OK** to save the settings that you specified.

### Data that the Cognos TM1 connector reads

By using the Cognos TM1 connector, you can read cell values from all cells in a cube, cells that are visible in a view, element names, and metadata about the dimension structure from a dimension.

For example, the following table shows the data that is read from a source cube or view that has three dimensions, Budget version, Product, and Price and Cost.

*Table 1. Example of output data with all dimension elements*

DSCOL1 (Budget version)	DSCOL2 (Product)	DSCOL3 (Price and Cost)	DSCOL4 (Cell value)
Version1	P1	Price	654000
Version1	P2	Price	558000
Version1	P3	Price	612000
Version1	P1	Cost	322000
Version1	P2	Cost	118000
Version1	P3	Cost	429000

You can read the following data and metadata from a dimension:

- Element name
- Parent name
- Element type
- Weight
- Index
- Level
- Attribute value

For example, the following table shows the data that is read from a dimension. Output records are sorted by element index.

*Table 2. Example of output data*

DSCOL1 (Element name)	DSCOL2 (Parent name)	DSCOL3 (Element type)	DSCOL4 (Level)	DSCOL5 (Index)	DSCOL6 (Alias attribute 'SmallChar')	DSCOL7 (Dimension name)
Category1		C	1	1	category1	SampleDim
AAA	Category1	N	0	2	aaa	SampleDim
BBB	Category1	N	0	3	bbb	SampleDim
CCC		S	0	4	ccc	SampleDim
DDD		N	0	5	ddd	SampleDim

## Metadata extraction

You can read the following metadata for a cube or a view:

- Cell type
- Cube name
- View name (only for Cognos TM1 views)

For example, the following table shows the data that is read from a cell type and cube name along with the cell values. In the Cell type column, *N* means that the cell type is **Numeric** and *S* means that the cell type is **String**.

Table 3. Example of metadata that the Cognos TM1 connector can read

DSCOL1 (Product)	DSCOL2 (Price and Cost)	DSCOL3 (Cell value)	DSCOL4 (Cell type)	DSCOL5 (Cube name)
P1	Price	654000	N	Product
P2	Price	558000	N	Product
P3	Price	612000	N	Product
P1	Cost	322000	S	Product
P2	Cost	118000	S	Product
P3	Cost	429000	S	Product

## Writing data to Cognos TM1

You can use the Cognos TM1 connector to write data to a Cognos TM1 cube or dimension.

### Before you begin

- Define a job that includes the Cognos TM1 Connector.
- Define a connection to the Cognos TM1 server.

### About this task

The following figure shows an example of using the Cognos TM1 connector to write data to a cube or dimension. In this example, the Sequential File stage writes data to a file, and then the Cognos TM1 Connector stage writes data to a cube or dimension.

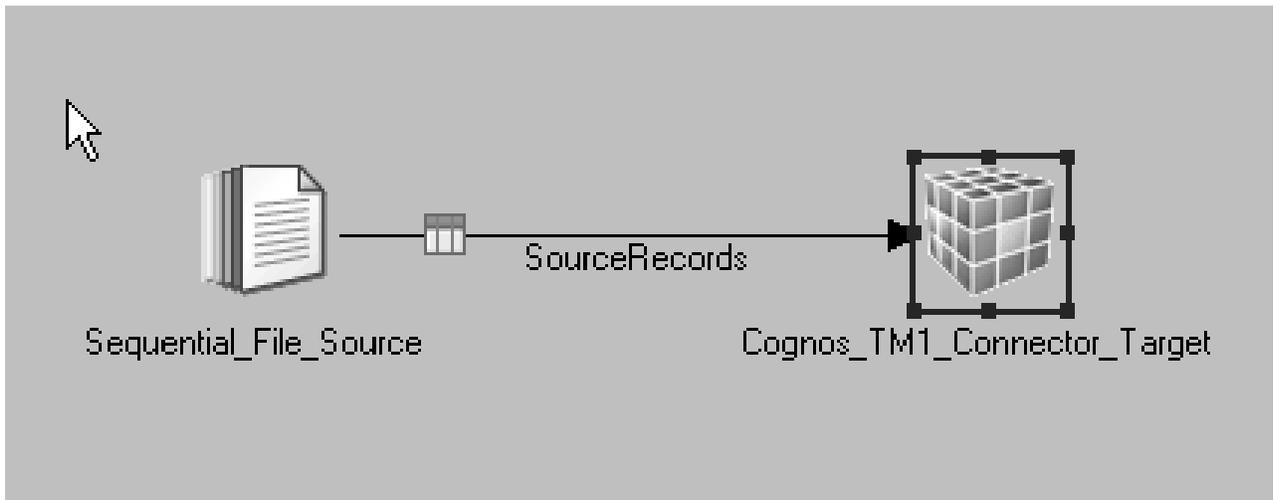


Figure 2. Example of writing data into a Cognos TM1 cube or dimension

### Configuring the Cognos TM1 connector as a target

You can configure the connector to write Cognos TM1 data to a cube, dimension, or view.

### Before you begin

- Define a job that contains the Cognos TM1 Connector stage as a target.
- Define a connection to the Cognos TM1 server.

## Procedure

1. On the parallel canvas, double-click the Cognos TM1 Connector stage.
2. Click **Configure**.
3. Specify information about the cube or dimension in Cognos TM1 databases that you want to write data to.

Option	Description
<b>Cube</b>	<ol style="list-style-type: none"> <li>1. In the Target section, select <b>Cube</b>.</li> <li>2. Click <b>Browse</b> to select the cube and to generate column mappings.</li> </ol>
<b>Dimension</b>	<ol style="list-style-type: none"> <li>1. In the Target section, select <b>Dimension</b>.</li> <li>2. Click <b>Browse</b> to select the dimension and to generate column mappings.</li> </ol>

4. Specify the information about the cube or dimension in Cognos TM1 databases that you want to write data into.

Option	Description
<b>Cube</b>	<ol style="list-style-type: none"> <li>1. In the Cube pane, select the target cube that you want to write data to.</li> <li>2. In the Cube Dimension pane, select <b>All Dimensions</b>.</li> <li>3. In the Options pane, select <b>Do not create</b> or <b>Create</b> for <b>Create cube mode</b>.</li> </ol>
<b>Dimension</b>	<ol style="list-style-type: none"> <li>1. In the Dimension pane, select the target dimension that you want to write data to.</li> <li>2. Specify the Built-in attribute values: <ol style="list-style-type: none"> <li>a. In the Built-in attribute pane, select the <b>Parent Element Name</b> to structure the dimension hierarchy.</li> <li>b. In the Built-in attribute pane, select the <b>Element Type</b> to specify the element type.</li> <li>c. In the Built-in attribute pane, select the <b>Element Weight</b> to structure the dimension hierarchy and to specify the child element weight.</li> </ol> </li> <li>3. In the Attribute pane, select the element attribute that you want to keep in the new dimension.</li> <li>4. In the Attribute pane, click <b>Add attribute</b>  to define the new element attributes.</li> <li>5. In the <b>Configuration window &gt; Options</b> pane, select <b>Re-create</b> for <b>Create dimension mode</b>.</li> </ol>

5. Specify the information about the cube or dimension in Cognos TM1 databases that you want to write data into.

Option	Description
Cube	<ol style="list-style-type: none"> <li>1. In the Cube pane, select <b>Select a Cube</b>.</li> <li>2. In the Cube Dimension pane, click <b>Add dimension</b> . The Add dimension window opens.</li> <li>3. In the Add dimension window, select the cube dimensions with which you want to create a new cube.</li> <li>4. In the Add dimension window, click <b>OK</b>.</li> <li>5. In the <b>Configuration window &gt; Name</b> field, enter new dimension name.</li> <li>6. In the <b>Configuration window &gt; Options</b> pane, select <b>Create</b> or <b>Re-create</b> for <b>Create cube mode</b>.</li> <li>7. In the <b>Configuration window &gt; Mapping Definition</b> section, select the dimension and click <b>Move up</b> or <b>Move down</b> to change the dimension order.</li> </ol>
Dimension	<ol style="list-style-type: none"> <li>1. In the Dimension pane, select <b>Select a Dimension</b>.</li> <li>2. Specify the Built-in attribute values. <ol style="list-style-type: none"> <li>a. In the Built-in attribute pane, select the <b>Parent Element Name</b> if you want the dimension to be structured hierarchically.</li> <li>b. In the Built-in attribute pane, select the <b>Element Type</b>.</li> <li>c. In the Built-in attribute pane, select the <b>Element Weight</b> if you want the dimension to be structured hierarchically and to specify the child element weight.</li> </ol> </li> <li>3. In the Dimension pane, click <b>Add attribute</b>  to define the new element attributes.</li> <li>4. In the <b>Configuration window &gt; Name</b> field, enter the new dimension name</li> <li>5. In the <b>Configuration window &gt; Options</b>, select the <b>Error if dimension exists</b> for <b>Create dimension mode</b>.</li> </ol>

6. Define the mapping between TM1 and InfoSphere DataStage columns in the Mapping Definition pane. You can change the InfoSphere DataStage column names by double-clicking the cells. And you can change the InfoSphere DataStage column order and dimension order only in case of Load to Cube.
7. Click **OK** to save the settings that you specified.

### Data that the Cognos TM1 connector writes

By using the Cognos TM1 connector, you can write data into cube cells and create a dimension with the elements that are specified in the input data.

When you write data into cells of a cube that has  $N$  dimensions, the input data for the Cognos TM1 connector must have a minimum of  $N+1$  columns. For example, if the target cube has three dimensions, Budget version, Product, and Price and Cost, then the input data for the Cognos TM1 connector must have four or more columns, as shown in the following table.

Table 4. Example of input data with all dimension elements

DSCOL1 (Budget version)	DSCOL2 (Product)	DSCOL3 (Price and Cost)	DSCOL4 (Cell value)
Version1	P1	Price	654000
Version1	P2	Price	558000
Version1	P3	Price	612000
Version1	P1	Cost	322000
Version1	P2	Cost	118000
Version1	P3	Cost	429000

The fourth column has values for the cell that is identified by the element names in the first three columns. For example, in the first row, the value 654000 is written to the cell where Budget version = Version1, Product = P1, and Price and Cost = Price.

The input records must have one column that contains element names for creating a new dimension.

To create a dimension with elements that are organized into a hierarchy, the input records must have two or more columns. One column has the element name, and one column has the parent element name. When an element does not have a parent element, the parent name can be null or a string with a length of zero. In the following table, the **Category1** and **Category2** elements do not have parent elements.

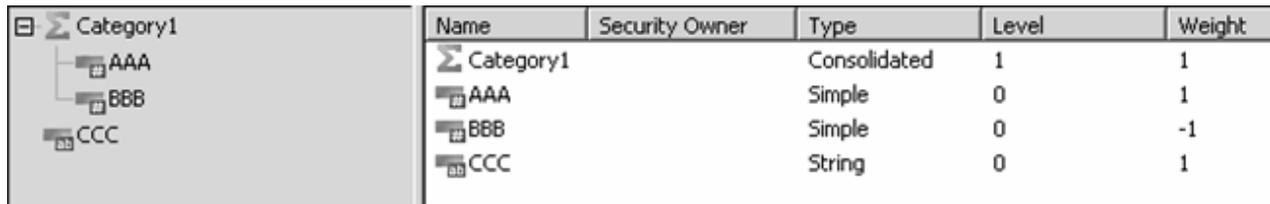
Table 5. Example of input data with parent elements

DSCOL1 (Element name)	DSCOL2 (Parent name)
Category1	
AAA	Category1
BBB	Category1
CCC	Category1
Category2	
DDD	Category2
EEE	Category2

You can also specify the element type, weight, and element attributes in the input data. If these properties are not specified, a default value is used. By default, the element type is  $N$  (Numeric) when the element has no children and  $C$  (Consolidated) when the element has a child. The default weight is 1.

Table 6. Example of input data with element types and weights

DSCOL1 (Element name)	DSCOL2 (Parent name)	DSCOL3 (Element type)	DSCOL4 (Weight)	DSCOL6 (Alias attribute 'SmallChar')
Category1		C		category1
AAA	Category1	N	1	aaa
BBB	Category1	N	-1	bbb
CCC		S	2	ccc
DDD	Category1	S	1	ddd



Name	Security Owner	Type	Level	Weight
Category1		Consolidated	1	1
AAA		Simple	0	1
BBB		Simple	0	-1
CCC		String	0	1

Figure 3. Dimension created with input data that includes the element type, weight, and an additional element attribute

### Element insertion order

Cognos TM1 assigns an index to each element of a dimension. This index is used to determine the default order of elements when the elements are shown in the IBM Cognos TM1 user interface. The Cognos TM1 connector inserts elements into the dimension in the order from the input records. Therefore, if you want the elements to be indexed in a particular order, sort the input records.

### Rejecting records that contain errors

When the Cognos TM1 connector includes a reject link, you can configure the connector to send records that cannot be parsed to the target stage on the reject link. If you configure the connector to send records to the reject link, the job completes even if data is rejected.

### About this task

If a reject link is not defined, the Cognos TM1 connector functions in these ways:

- When the connector writes data to a cube, the connector logs a warning when it encounters an invalid record and processes all records.
- When the connector writes data to a dimension, the connector stops when it encounters the first invalid record.

### Procedure

1. On the job design canvas, add and configure a target stage to receive the rejected records.
2. Right-click the Cognos TM1 connector and drag to create a link from the Cognos TM1 connector to the target stage.
3. Double-click the connector to open the stage editor.
4. On the Output page, select the link to the target stage for rejected records from the **Output name** list.
5. Click the **Reject** tab.

6. Optional: Use **Abort when**, **Abort after (rows)**, and **Abort after (%)** properties to specify when the job fails.
7. Optional: From the **Add to reject row** list, select **ERRORCODE**, **ERRORMESSAGE**, or both. When a record fails, the rejected record includes the error code and the corresponding message that describes the failure.

---

## Reference

To use the Cognos TM1 connector successfully, you might need detailed information, such as information about data type mappings.

### Data type conversions from Cognos TM1 to InfoSphere DataStage

Before the Cognos TM1 connector writes data that is extracted from Cognos TM1 objects to the output link, the data is converted to InfoSphere® DataStage® data types.

The following table shows how InfoSphere DataStage data types can be mapped to Cognos TM1 objects.

*Table 7. Mapping between Cognos TM1 objects and InfoSphere DataStage data types*

Cognos TM1 object	Cognos TM1 data type	InfoSphere DataStage data type
Dimension elements	String	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar
Cube cell values	String when the cell is String type. Double when the cell is Numeric type or Consolidated type.	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar  <b>Integer data types</b> BigInt Integer SmallInt TinyInt Bit  <b>Fraction data types</b> Double Float Real  <b>Decimal data types</b> Decimal Numeric

Table 7. Mapping between Cognos TM1 objects and InfoSphere DataStage data types (continued)

Cognos TM1 object	Cognos TM1 data type	InfoSphere DataStage data type
Element attribute values	String when the attribute is Text or Alias type. Double when the attribute is Numeric type.	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar  <b>Integer data types</b> BigInt Integer SmallInt TinyInt Bit  <b>Fraction data types</b> Double Float Real  <b>Decimal data types</b> Decimal Numeric
Cell type	String	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar
Element type	String	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar
Element weight	Double	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar  <b>Integer data types</b> BigInt Integer SmallInt TinyInt Bit  <b>Fraction data types</b> Double Float Real  <b>Decimal data types</b> Decimal Numeric

Table 7. Mapping between Cognos TM1 objects and InfoSphere DataStage data types (continued)

Cognos TM1 object	Cognos TM1 data type	InfoSphere DataStage data type
Element level	Integer	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar  <b>Integer data types</b> BigInt Integer SmallInt TinyInt Bit  <b>Fraction data types</b> Double Float Real  <b>Decimal data types</b> Decimal Numeric
Element Index	Integer	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar  <b>Integer data types</b> BigInt Integer SmallInt TinyInt Bit  <b>Fraction data types</b> Double Float Real  <b>Decimal data types</b> Decimal Numeric
Cube name	String	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar
Dimension name	String	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar
View name	String	<b>Text data types</b> Char VarChar LongVarChar  <b>National language text data types</b> NChar NVarChar LongNVarChar

## Properties for the Cognos TM1 connector

Use these options to modify how the connector reads and writes data.

### Skip empty cells and Skip consolidated cells properties

Use the **Skip empty cells** and **Skip consolidated cells** properties to skip null cells and to skip consolidated cells in Cognosf TM1 connector files.

#### Skip empty cells

This option is enabled by default.

- If the cell type is **Numeric**, cells that have a value of 0 are skipped.
- If the cell type is **String**, cells that have no value are skipped.

#### Skip consolidated cells

This option is enabled by default. If you plan to write the extracted data into another cube, enable this option because consolidated cells cannot be written.

### Create cube mode and Create dimension mode properties

Use the **Create cube mode** property for creating the cube. Use the **Create dimension mode** property for creating the dimension.

#### Create cube mode

##### Do not create

Updates an existing cube. The cube must exist before the job is run.

**Create** Creates a cube if the cube does not exist. If the cube exists, the connector updates the cube. For the connector to create a cube, the cube dimensions must exist before the job is run.

##### Re-create

Deletes an existing cube and re-creates it with the specified dimensions. The cube dimensions must exist before the job is run.

#### Create dimension mode

##### Error if dimension not exists

Creates a dimension. If the dimension exists, the job fails.

##### Re-create

Deletes an existing dimension and re-creates it.

## Runtime column propagation

Use runtime column propagation to have the connector automatically add missing columns to the link schema when the job runs.

### Usage

Before you can enable runtime column propagation in a stage, runtime column propagation must be enabled for parallel jobs at the project level from the InfoSphere DataStage Administrator client. To enable runtime column propagation for the output link of the stage, select the **Runtime column propagation** check box on the Columns page.

When runtime column propagation is disabled, all InfoSphere DataStage columns that are used by the Cognos TM1 connector must be defined at design time. Also, you must define the mappings between InfoSphere DataStage columns and Cognos TM1 items in the Configuration window.

When runtime column propagation is enabled, you do not need to define the InfoSphere DataStage columns at design time or define the column mappings in the Configuration window. When the Cognos TM1 connector is configured as a source, the Cognos TM1 connector populates necessary columns automatically. When the Cognos TM1 connector is configured as a target, it determines how to handle each input column at run time based on the column name.

## InfoSphere DataStage column names and data types

When runtime column propagation is enabled, InfoSphere DataStage columns are generated with the name and data type shown in the following table.

*Table 8. Column names and data types when runtime column propagation is enabled*

Cognos TM1 item type	Column name	Column data type
Cell value	Cell_Value	varchar
Cube dimension	Dimension_ <i>dimension name</i> <b>Note:</b> Spaces are removed from the dimension name.	varchar
Element name	Element_Name	varchar
Element type	Element_Type	varchar
Element parent name	Element_Parent_Name	varchar
Element weight	Weight	double
Attribute (Numeric)	NumericAttribute_ <i>attribute name</i> <b>Note:</b> Spaces are removed from the attribute name.	double
Attribute (String)	StringAttribute_ <i>attribute name</i> <b>Note:</b> Spaces are removed from the attribute name.	varchar
Attribute (Alias)	AliasAttribute_ <i>attribute name</i> <b>Note:</b> Spaces are removed from the attribute name.	varchar

For example, suppose the source cube has the following dimensions:

- Budget version
- Product
- Price and Cost

If runtime column propagation is enabled and the columns are not defined at design time, the Cognos TM1 connector creates the following InfoSphere DataStage columns at runtime:

- Dimension\_Budgetversion
- Dimension\_Product
- Dimension\_PriceandCost
- Cell\_Value

For example, suppose that the input link has the following columns:

- Dimension\_Budgetversion
- Dimension\_Product
- Dimension\_PriceandCost
- Cell\_Value

If runtime column propagation is enabled, the Cognos TM1 connector acts in the following ways:

- The target cube is assumed to have three dimensions, as the input link has three InfoSphere DataStage columns that start with **Dimension\_**.
- Element names for each dimension are specified by the **Dimension\_xxx**.
- The cell value is specified in the **Cell\_Value** column.

## Using job parameters

When you use the Cognos TM1 connector, you cannot create job parameters or select existing job parameters in the Configuration window. However, you can specify the name of a job parameter that is enclosed in number signs (#) in the property fields and then create the job parameter in the Designer client.

You can use job parameters in the values for the following properties:

- **TM1 Admin Server**
- **SSL port number**
- **TM1 Server**
- **User name**
- **Password**
- **Cube name, Dimension name, and View name**

Any job parameters that you reference in the Cognos TM1 Connector stage must be created in the Designer client.

For more information about creating job parameters, see Lesson 2.4: Adding parameters in the IBM InfoSphere DataStage Parallel Job Tutorial and Lesson 2.5: Creating a parameter set.

### Related information:

Lesson 2.4: Adding parameters

Lesson 2.5: Creating a parameter set

---

## Troubleshooting

Use the information in this section to help you understand, isolate, and resolve issues with the Cognos TM1 connector.

### Error when you use Integrated Windows Authentication to connect to Cognos TM1 with Integrated login

If you use Integrated Windows Authentication to connect to Cognos TM1 databases that Cognos TM1 uses, you might get the following error in the job log or when you test your connection:

The Cognos TM1 connector could not connect to the TM1 server because an unknown exception was encountered.

Do the following steps:

- Ensure that you are connecting to Cognos TM1 version 10.2.0.1.
- Ensure that the Cognos TM1 server is configured to authenticate with Integrated Windows Authentication
- Ensure that the Cognos TM1 server is not configured with other authentication methods.
- Ensure that the InfoSphere Information Server engine tier computer is a member of the same Microsoft Windows domain as the Cognos TM1 server.
- Ensure that the version of the `TM1JavaAPI.jar` file on the InfoSphere Information Server engine tier computer is the same version as the file on the Cognos TM1 server.
- Specify valid user name and password.
- Specify valid values for the `DS_LOGIN_CONFIG_LOCATION` and `DS_KERBEROS_CONFIG_LOCATION` environment variables.
- Specify a valid value for the `TM1CC_INTEGRATED_SECURITY_MODULE_NAME` environment variable if it is defined. If the environment variable is not defined, ensure that the Cognos TM1 server is configured with the default login module name, **TM1SignedOnUserLoginContext**. If the Cognos TM1 server is not configured with the default login module name, specify environment variable `TM1CC_INTEGRATED_SECURITY_MODULE_NAME` and set actual login module name to the environment variable.
- Ensure that the maximum number of connections to the Cognos TM1 server is not exceeded.

---

## Product accessibility

You can get information about the accessibility status of IBM products.

The IBM InfoSphere Information Server product modules and user interfaces are not fully accessible.

For information about the accessibility status of IBM products, see the IBM product accessibility information at [http://www.ibm.com/able/product\\_accessibility/index.html](http://www.ibm.com/able/product_accessibility/index.html).

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The documentation that is in IBM Knowledge Center is also provided in PDF files, which are not fully accessible.

### IBM and accessibility

See the IBM Human Ability and Accessibility Center for more information about the commitment that IBM has to accessibility.



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## Accessing the product documentation

Documentation is provided in a variety of formats: in the online IBM Knowledge Center, in an optional locally installed information center, and as PDF books. You can access the online or locally installed help directly from the product client interfaces.

IBM Knowledge Center is the best place to find the most up-to-date information for InfoSphere Information Server. IBM Knowledge Center contains help for most of the product interfaces, as well as complete documentation for all the product modules in the suite. You can open IBM Knowledge Center from the installed product or from a web browser.

### Accessing IBM Knowledge Center

There are various ways to access the online documentation:

- Click the **Help** link in the upper right of the client interface.
- Press the F1 key. The F1 key typically opens the topic that describes the current context of the client interface.

**Note:** The F1 key does not work in web clients.

- Type the address in a web browser, for example, when you are not logged in to the product.

Enter the following address to access all versions of InfoSphere Information Server documentation:

```
http://www.ibm.com/support/knowledgecenter/SSZJPZ/
```

If you want to access a particular topic, specify the version number with the product identifier, the documentation plug-in name, and the topic path in the URL. For example, the URL for the 11.3 version of this topic is as follows. (The ⇒ symbol indicates a line continuation):

```
http://www.ibm.com/support/knowledgecenter/SSZJPZ_11.3.0/⇒  
com.ibm.swg.im.iis.common.doc/common/accessingiidoc.html
```

**Tip:**

The knowledge center has a short URL as well:

```
http://ibm.biz/knowctr
```

To specify a short URL to a specific product page, version, or topic, use a hash character (#) between the short URL and the product identifier. For example, the short URL to all the InfoSphere Information Server documentation is the following URL:

```
http://ibm.biz/knowctr#SSZJPZ/
```

And, the short URL to the topic above to create a slightly shorter URL is the following URL (The ⇒ symbol indicates a line continuation):

```
http://ibm.biz/knowctr#SSZJPZ_11.3.0/com.ibm.swg.im.iis.common.doc/⇒  
common/accessingiidoc.html
```

## Setting up a locally installed information center

IBM Knowledge Center contains the most up-to-date version of the documentation. However, you can install a local version of the documentation as an information center and configure your help links to point to it. A local information center is useful if your enterprise does not provide access to the internet.

Set up a locally installed information center on the computer of your choice by completing one of the following actions:

- Use the installation instructions that come with the information center installation package
- Use the installation instructions in the following technote: <http://www-01.ibm.com/support/docview.wss?uid=swg27042237>

## Changing help links to refer to locally installed documentation

After you install and start your locally installed information center, you can use the **iisAdmin** command on the services tier computer to change the documentation location that the product help links refer to. (The `⇒` symbol indicates a line continuation):

### Windows

```
IS_install_path\ASBServer\bin\iisAdmin.bat -set -key ⇒  
com.ibm.iis.infocenter.url -value http://<host>:<port>/help/topic/
```

### AIX® Linux

```
IS_install_path/ASBServer/bin/iisAdmin.sh -set -key ⇒  
com.ibm.iis.infocenter.url -value http://<host>:<port>/help/topic/
```

Where `<host>` is the name of the computer where the information center is installed and `<port>` is the port number for the information center. The default port number is 8888. For example, on a computer named `server1.example.com` that uses the default port, the URL value would be `http://server1.example.com:8888/help/topic/`.

## Obtaining PDF documentation

The PDF file books are available online and can be accessed from this support document: <https://www.ibm.com/support/docview.wss?uid=swg27008803&wv=1>.

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- To send a comment about the topic in IBM Knowledge Center to IBM that is not viewable by anyone else, sign in and click the **Feedback** link at the bottom of IBM Knowledge Center.
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*Table 9. Use of cookies by InfoSphere Information Server products and components*

Product module	Component or feature	Type of cookie that is used	Collect this data	Purpose of data	Disabling the cookies
Any (part of InfoSphere Information Server installation)	InfoSphere Information Server web console	<ul style="list-style-type: none"> <li>• Session</li> <li>• Persistent</li> </ul>	User name	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> </ul>	Cannot be disabled
Any (part of InfoSphere Information Server installation)	InfoSphere Metadata Asset Manager	<ul style="list-style-type: none"> <li>• Session</li> <li>• Persistent</li> </ul>	No personally identifiable information	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> <li>• Enhanced user usability</li> <li>• Single sign-on configuration</li> </ul>	Cannot be disabled

Table 9. Use of cookies by InfoSphere Information Server products and components (continued)

Product module	Component or feature	Type of cookie that is used	Collect this data	Purpose of data	Disabling the cookies
InfoSphere DataStage	Big Data File stage	<ul style="list-style-type: none"> <li>• Session</li> <li>• Persistent</li> </ul>	<ul style="list-style-type: none"> <li>• User name</li> <li>• Digital signature</li> <li>• Session ID</li> </ul>	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> <li>• Single sign-on configuration</li> </ul>	Cannot be disabled
InfoSphere DataStage	XML stage	Session	Internal identifiers	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> </ul>	Cannot be disabled
InfoSphere DataStage	IBM InfoSphere DataStage and QualityStage Operations Console	Session	No personally identifiable information	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> </ul>	Cannot be disabled
InfoSphere Data Click	InfoSphere Information Server web console	<ul style="list-style-type: none"> <li>• Session</li> <li>• Persistent</li> </ul>	User name	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> </ul>	Cannot be disabled
InfoSphere Data Quality Console		Session	No personally identifiable information	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> <li>• Single sign-on configuration</li> </ul>	Cannot be disabled
InfoSphere QualityStage Standardization Rules Designer	InfoSphere Information Server web console	<ul style="list-style-type: none"> <li>• Session</li> <li>• Persistent</li> </ul>	User name	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> </ul>	Cannot be disabled
InfoSphere Information Governance Catalog		<ul style="list-style-type: none"> <li>• Session</li> <li>• Persistent</li> </ul>	<ul style="list-style-type: none"> <li>• User name</li> <li>• Internal identifiers</li> <li>• State of the tree</li> </ul>	<ul style="list-style-type: none"> <li>• Session management</li> <li>• Authentication</li> <li>• Single sign-on configuration</li> </ul>	Cannot be disabled
InfoSphere Information Analyzer	Data Rules stage in the InfoSphere DataStage and QualityStage Designer client	Session	Session ID	Session management	Cannot be disabled

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## Contacting IBM

You can contact IBM for customer support, software services, product information, and general information. You also can provide feedback to IBM about products and documentation.

The following table lists resources for customer support, software services, training, and product and solutions information.

*Table 10. IBM resources*

<b>Resource</b>	<b>Description and location</b>
IBM Support Portal	You can customize support information by choosing the products and the topics that interest you at <a href="http://www.ibm.com/support/entry/portal/Software/Information_Management/InfoSphere_Information_Server">www.ibm.com/support/entry/portal/Software/Information_Management/InfoSphere_Information_Server</a>
Software services	You can find information about software, IT, and business consulting services, on the solutions site at <a href="http://www.ibm.com/businesssolutions/">www.ibm.com/businesssolutions/</a>
My IBM	You can manage links to IBM Web sites and information that meet your specific technical support needs by creating an account on the My IBM site at <a href="http://www.ibm.com/account/">www.ibm.com/account/</a>
Training and certification	You can learn about technical training and education services designed for individuals, companies, and public organizations to acquire, maintain, and optimize their IT skills at <a href="http://www.ibm.com/training">http://www.ibm.com/training</a>
IBM representatives	You can contact an IBM representative to learn about solutions at <a href="http://www.ibm.com/connect/ibm/us/en/">www.ibm.com/connect/ibm/us/en/</a>



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