Information Builders

DB2 Web Query for IBM i Wizards

Version 2 Release 1.0

Contents

IBM

Preface

This documentation describes the functions that are available for IBM DB2 Web Query for IBM i.

How This Manual Is Organized

This manual includes the following chapters:

	Chapter/Appendix	Contents
1	Working With Metadata in DB2 Web Query	Describes how to create, test, and manage a synonym, using the Metadata tools.
2	Uploading Data in DB2 Web Query	Describes how to upload (import) external data files in DB2 Web Query.

Documentation Conventions

The following table lists and describes the conventions that apply in this manual.

Convention	Description
THIS TYPEFACE or this typeface	Denotes syntax that you must enter exactly as shown.
this typeface	Represents a placeholder (or variable), a cross-reference, or an important term.
underscore	Indicates a default setting.
this typeface	Highlights a file name or command. It may also indicate a button, menu item, or dialog box option you can click or select.
Key + Key	Indicates keys that you must press simultaneously.

Convention	Description
{ }	Indicates two or three choices; type one of them, not the braces.
[ ]	Indicates a group of optional parameters. None is required, but you may select one of them. Type only the parameter in the brackets, not the brackets.
|	Separates mutually exclusive choices in syntax. Type one of them, not the symbol.
. . .	Indicates that you can enter a parameter multiple times. Type only the parameter, not the ellipsis points (...).
. . .	Indicates that there are (or could be) intervening or additional commands.

1 | Working With Metadata in DB2 Web Query

This topic describes how to create, test, and manage a synonym, using the Metadata tools. This includes the Metadata Wizard, which generates a set of Express Analytics based upon the synonym that is defined during the wizard process.

Topics:

❑ Working With Metadata

❑ Creating a Synonym With the Metadata Wizard

❑ Editing Metadata

❑ Managing Synonyms

Working With Metadata

> **In this section:**
>
> Defining Synonyms

The data source being used determines the type of metadata that is required. For example:

❑ When the server accesses a relational data source, it needs to know how to interpret the data stored there. You must create a synonym that describes the structure of the data source and the server mapping of the data types.

❑ When the server invokes a transaction or procedure, it needs to know how to build the request, what parameters to pass, and how to format an answer set from the response. You must create a synonym that describes the layout of the request or response area.

Whatever your data source, the adapter you are using manages the synonym creation process for you, creating a synonym that meets your specific requirements.

Defining Synonyms

Synonyms define unique names (or aliases) for each table, view, transaction, or procedure that is accessible from the server. Synonyms are useful because they hide the underlying data source location, identity, transaction, or procedure from client applications. They also provide support for extended metadata features of the server, such as virtual fields and additional security mechanisms.

Note: Although all synonym creation panes have the same look and feel, the parameters are specific to each adapter. To obtain detailed information for an adapter, click the question mark (?) next to a parameter.

Creating a Synonym With the Metadata Wizard

In this section:

Authorization Requirements

Launching the Metadata Wizard

Step One: Connect to SQL

Step Two: Import Metadata

Step Three: Joins

Step Four: Measures and Dimensions

How to:

Save a Synonym and Visualize Data

The Metadata Wizard provides a step-by-step process for configuring adapters that connect to data sources in DB2 Web Query.

Using the Metadata Wizard, you can perform the following steps:

1. **Connect to SQL.** Configures an adapter, creates a new connection, or changes connection parameters.

2. **Import Metadata.** Creates a synonym for one or more data sources.

3. **Joins.** Creates a cluster of facts and dimensions (star schema) by joining one or more synonyms. A single synonym can also be created for analysis during this step.

4. **Measures and Dimensions.** Enhances metadata by adding measures, dimensions, and dimension hierarchies.

5. Generate a set of express analytics based on the synonyms created or modified by the Metadata Wizard.

Note:

❑ A measure is a numeric value, such as Gross Profit or Cost of Goods Sold, that you may want to aggregate. All numeric values that can be summed are measures. Numeric fields that cannot be summed, such as product number and miles per gallon, are not treated as measures. Instead, they may be used in the same way as dimension fields to analyze measures. It is up to you to understand your data and determine whether each numeric field can be summed. Related measures can be organized into measure groups. For example, Gross Profit and Cost of Goods Sold can be part of a Sales measure group.

❑ A dimension is a way to categorize data. You can use a dimension to analyze and compare measures. Generally, any field that is not a measure, usually an alphanumeric field such as product, is a dimension. Dimensions can be organized into hierarchies to define the relationships between the fields in the hierarchies. For example, a Geography hierarchy can contain the Continent, Country, State, and City dimensions. You can also define dimension fields that are not part of a dimension hierarchy.

❑ You can assign dimension attributes to any dimension field, whether or not it is in a hierarchy. When applied to a field, attributes provide supplementary information that can be used for analysis or display. For example, in a Geography hierarchy, which includes the Country, State, and City dimensions, Population can be assigned as an attribute of the City dimension. It is up to you to determine whether a measure as an attribute is useful. It depends on the design of the data source.

These steps are displayed in the navigation pane, as shown in the following image. The step that you are on is highlighted. Click any step to go directly to that step.
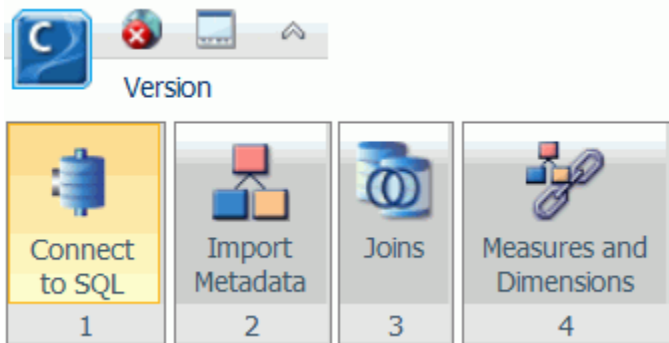
As you complete the tasks for each step, the Wizard automatically proceeds to the next step.

Authorization Requirements

A user must belong to one or more of the following groups in order to use the Metadata Wizard:

❑ WebQueryAdministrator

❑ TLF-dev and TLF-dba

❑ TLF-analyst and TLF-dba

Note: TLF indicates Top Level Folder.

Launching the Metadata Wizard

To access the Metadata Wizard, from the Resources tree, right-click a folder, select *Metadata*, and then select *Wizard*, as shown in the following image.
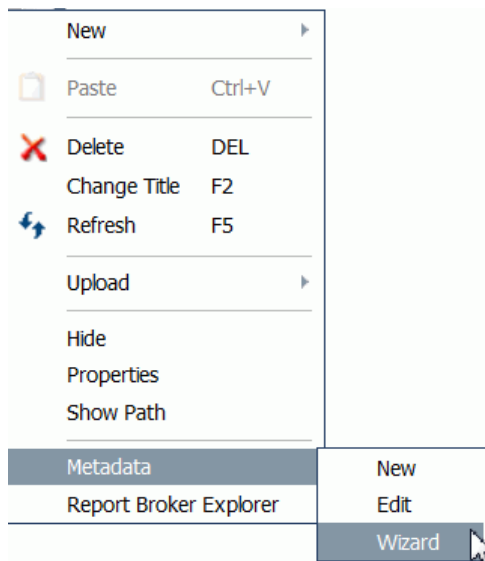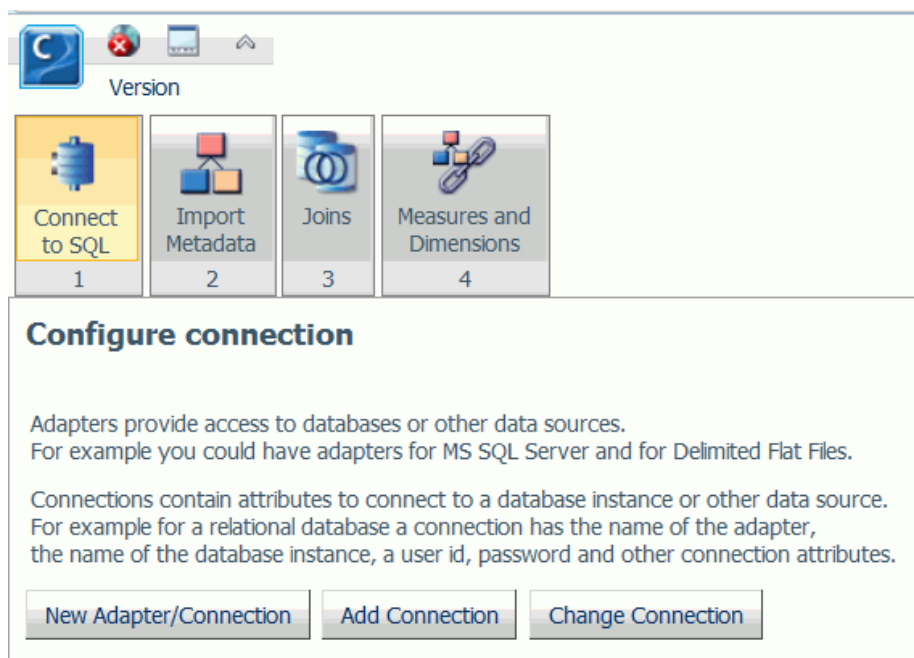
Step One: Connect to SQL

How to:

Configure a New Adapter/Connection

Add a Connection

Change a Connection

The first step in the Metadata Wizard is creating a connection to your data. In this step, you can configure an adapter, add a connection, or change a connection. The first pane in the Wizard is the Configure connection pane, as shown in the following image.

Procedure: **How to Configure a New Adapter/Connection**

    1. From the Configure connection pane, click *New Adapter/Connection*.

The Configure Adapter pane opens, as shown in the following image.
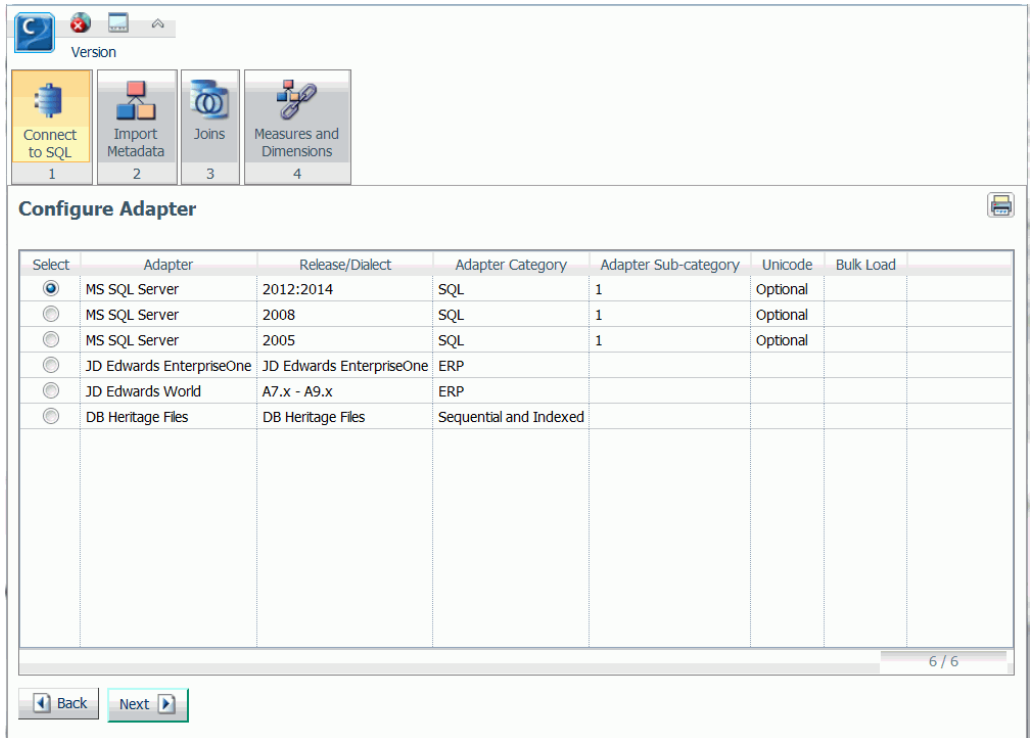
2. Select the radio button for the adapter and click *Next*.

   Note: You can click the *Adapter*, *Release/Dialect*, *Adapter Category*, or *Adapter Sub-category* columns to sort the available adapters.

   The Add to Configuration pane opens.

3. Enter the parameters for the specific adapter and click *Configure*.

Procedure: **How to Add a Connection**

1. From the Configure connection pane, click *Add Connection*.

   The Add Connections pane opens.

2. Select the radio button for the adapter and click *Next*.

3. Enter the parameters for the specific adapter and click *Configure*.

Procedure: **How to Change a Connection**

1. From the Configure connection pane, click *Change Connection*.

   The Edit Connections pane opens.

2. Select the radio button for the connection and click *Next*.

   Note: You can click the *Adapter*, *Connection*, *Connection string*, or *Profile* columns to sort the available connections.

3. Change the parameters for the specific connection and click *Configure*.

Step Two: Import Metadata

How to:

Import Metadata

The first pane in this step is the Select connection to create synonyms pane, as shown in the following image.

In this step, you select the connection and metadata that you want to import for use in DB2 Web Query.
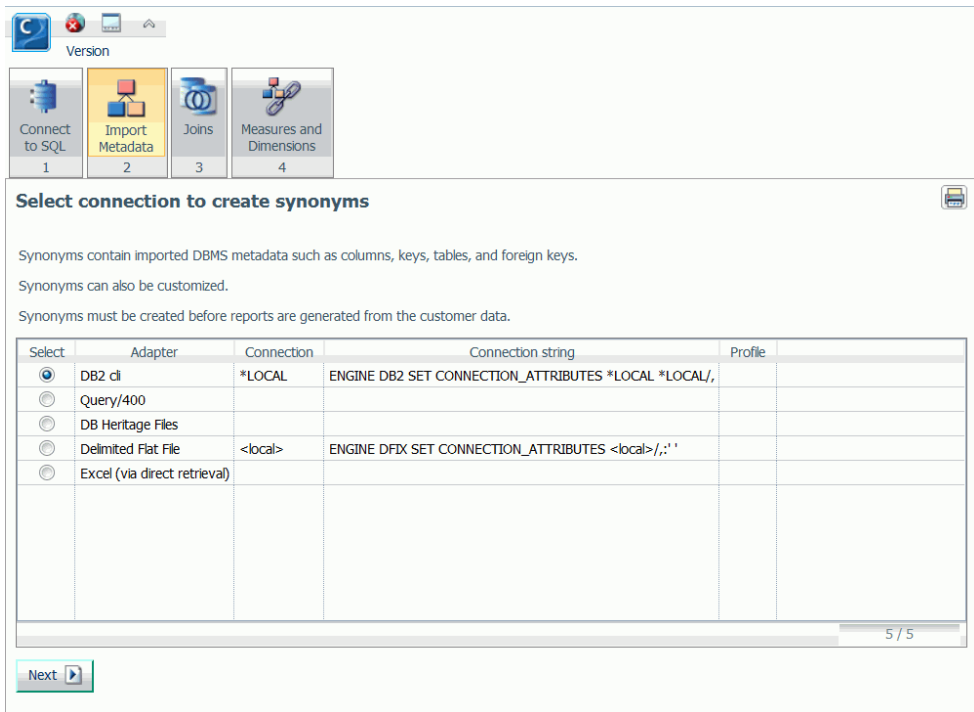
Procedure: **How to Import Metadata**

1. Select the radio button for the adapter and click *Next*.

   Note: The Query/400, DB Heritage, and optional J.D. Edwards adapters are not supported by the Import Metadata step. From the folder right-click menu, select *Metadata New* to create synonyms for these adapters.

   The Select Synonym Candidates pane opens.

2. Select or enter the parameters for each screen and click *Next*.
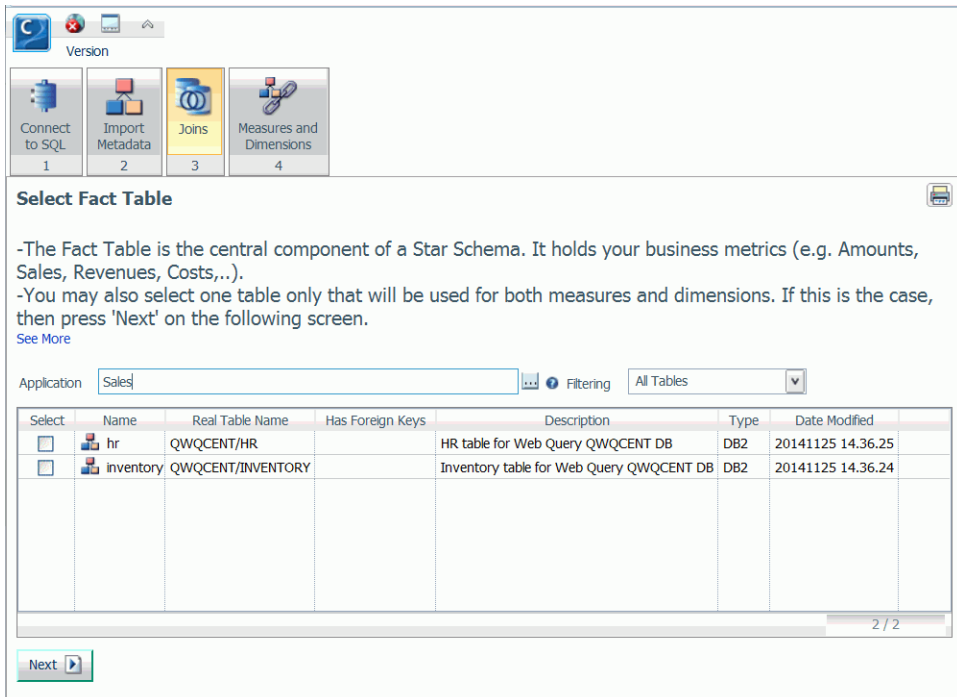
   The Create Synonym pane opens.

3. Select one or more default synonym name check boxes.

4. Click *Next*.

   The synonyms are created in the application directory.

Step Three: Joins

> **How to:**
>
> Select a Fact Table

The first pane in this step is the Select Fact Table pane, as shown in the following image.

In this step, you select a primary Join or Fact Table.

Procedure: **How to Select a Fact Table**

1. You can select a Fact Table in one of the following ways:

   ❏ If you are defining a single table, select a corresponding check box.

   ❏ If you have multiple tables that you are working with, select the primary Join or Fact Table.

   Note: You can also select multiple Fact Tables in this step.

2. Click *Next*.

The Select Synonyms to be added for the Star Schema pane opens, where you are shown default Joins based on identical field names and attributes.

Note: If you are defining a single table, skip this pane and click *Next*.

3. Select the tables that you want to join to your primary or Fact Table or Tables and click *Next*.

Step Four: Measures and Dimensions

The first pane in this step is the Categorize Fields into Measures, Dimensions and Hierarchies pane, shown in the following image. In this step, you can modify the view of your measures and dimensions.

The Measure/Dimension/Hierarchy View pane shows:

❑ The default set of measures (all numeric columns).

❑ The default dimension hierarchies, based on joins and selected synonyms.

If you click *Show hidden* in the Measure/Dimension/Hierarchy View pane, two panes will display. The pane on the left will show the file in Column/Table View and the right pane will show the Measure/Dimension/Hierarchy View, as shown in the following image.
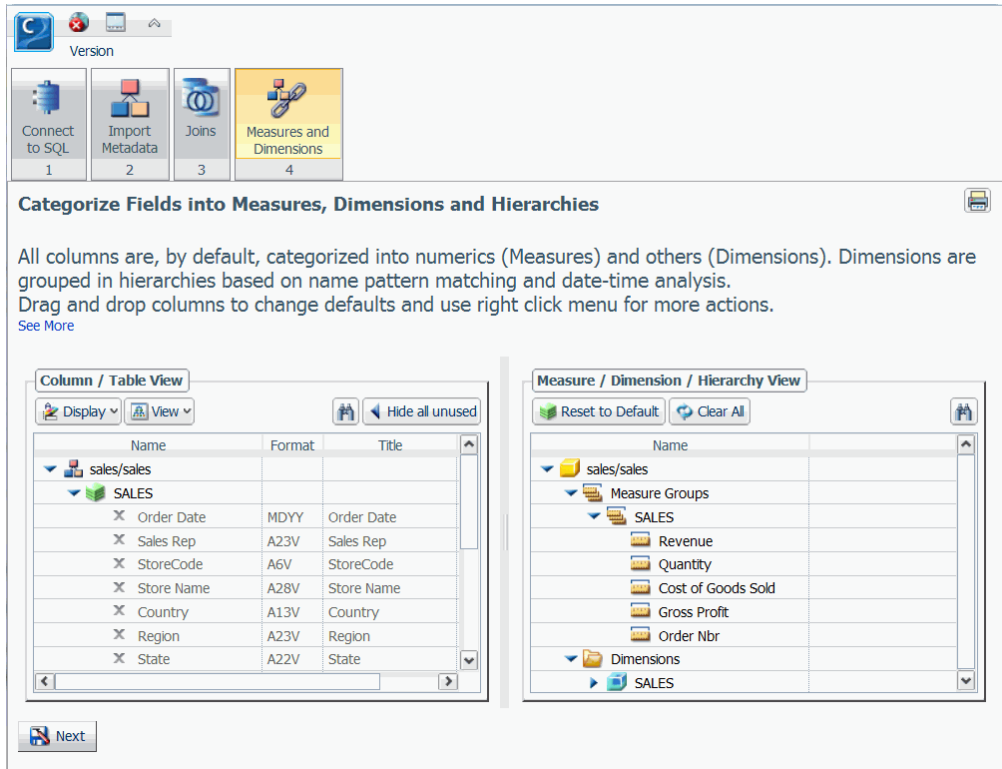
Once the two panes are visible, you can drag columns between the panes.

Note: An X next to the column name in the Column/Table View indicates that the column has been added to the Measure/Dimension/Hierarchy View.

From the Column/Table View pane, you can:

❑ Click the *Display* button to choose how to display the columns in both panes. The options are Name, Title, Description, Alias. Title is the default display.

❑ Click the *View* button to choose between Column and Table view. The Column view may be useful to simplify navigation of large objects.

❑ Use *Hide all unused* and *Show hidden* buttons to alternate between one-pane and two-pane views.

❑ Select multiple list items by holding the Shift key.

From the Measure/Dimension/Hierarchy View pane, you can:

❑ Click the *Reset to Default* button to undo all changes and refresh the view back to the initial categorization of measures and dimensions.

❑ Click the *Clear All* button to move all columns back to the Column/Table View pane.

❑ Drag the measures, dimensions, and hierarchies within the pane to rearrange the order.

❑ Select multiple list items by holding the Shift key.

Using shortcut menu options, you can:

❑ Right-click the *Measure Groups* folder and click *New Measure Group*, *New Measure Group based on Segment*, or *Sample Data*.

❑ Right-click a measure and click *Rename*, *Geographic Role*, *Sample Data*, or *Hide*. The Hide option moves the measure to the Column/Table View pane.

❑ Right-click a dimension and click *Create Hierarchy*, *Rename*, *Geographic Role*, *Sample Data*, *Hide* or *Show/Hide Attribute*. The Hide option moves the dimension to the Column/Table View pane.

❑ Right-click a hierarchy and click *Remove Hierarchy*, *Rename*, *Sample Data*, or *Hide*. The Hide option removes the hierarchy and moves the columns contained in the hierarchy to the Column/Table View pane.

Procedure: **How to Save a Synonym and Visualize Data**

1. Once you have defined the measures and dimensions, click *Next*.

The Save As dialog box opens.

2. Enter a name for the synonym in the File Name field and click *OK*.

The Express Analytics generator appears and generates a set of procedures in the DB2 Web Query Repository. You will find these in a new folder that matches the name of the new or modified synonym.

A new active dashboard is automatically run and will appear in the Report output pane of Web Query.
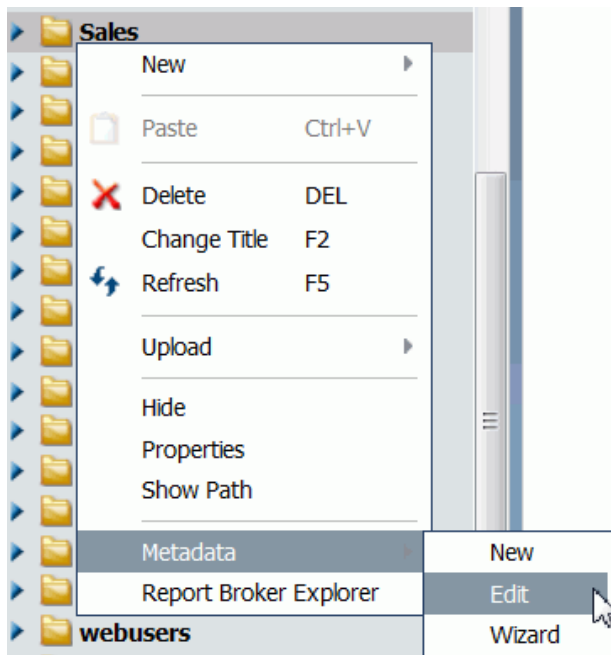
Editing Metadata

How to:

Edit a Synonym

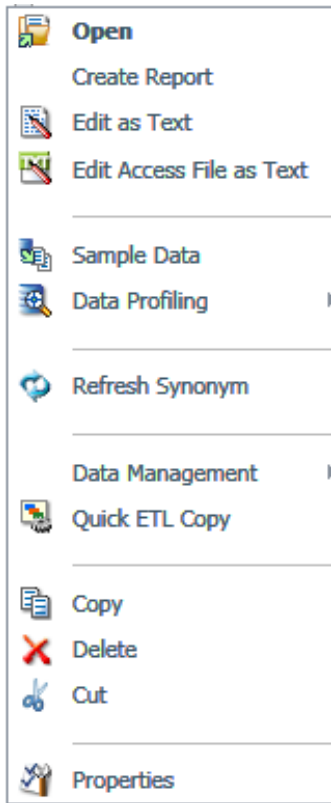You are able to edit previously created synonyms using the shortcut menu.

Procedure: **How to Edit a Synonym**

1. To access the Synonym Editor, right-click a folder, select *Metadata*, and then select *Edit*, as shown in the following image.


A list of synonyms associated with the folder displays in the Reporting Server window.

2. Right-click a synonym and click *Open*, as shown in the following image.

Open
Create Report
Edit as Text
Edit Access File as Text

Sample Data
Data Profiling ▸

Refresh Synonym

Data Management ▸
Quick ETL Copy

Copy
Delete
Cut

Properties

The Synonym Editor, shown in the following image, is a graphical tool that allows you to edit the synonym to include virtual fields that you may want to define at the metadata level, rather than force each user to define it at the report level.
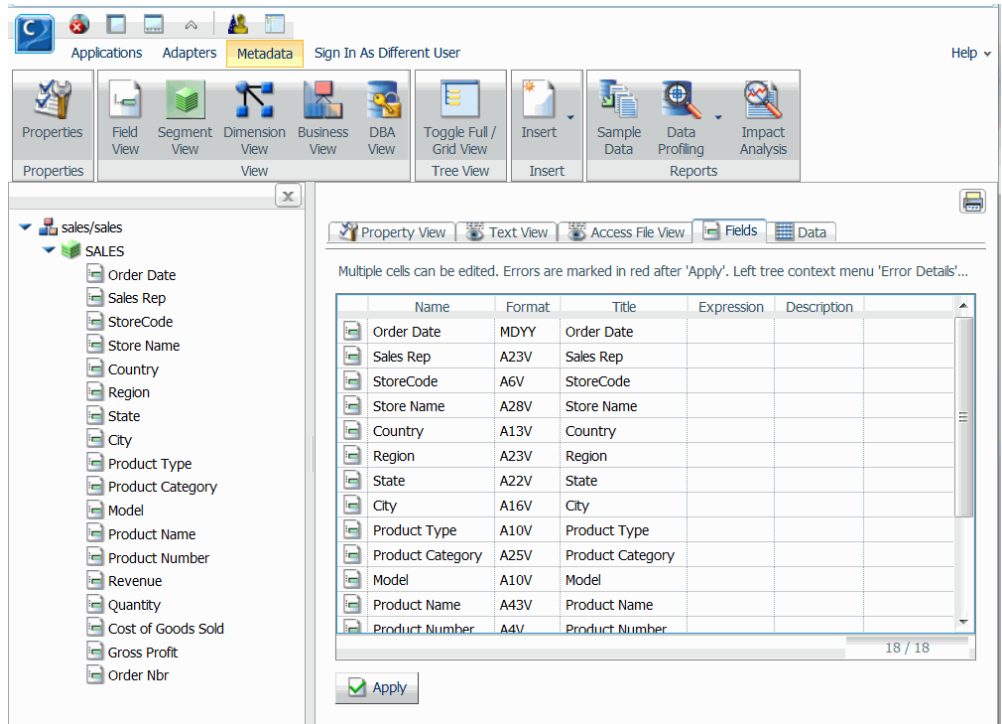
Managing Synonyms

In addition to editing a synonym, a number of other options are available:

Option	Description
Open	Opens the Master File for viewing and editing using a graphical interface. If an Access File is used, it will also be available.
Create Report	Opens InfoAssist, where you can create a report based on the synonym.

Option	Description
Edit as Text	Enables you to view and manually edit the Master File synonym. **Note:** To update the synonym, it is strongly recommended that you use the graphical interface provided by the *Edit* option, rather than manually editing the Master File.
Edit Access File as Text	Enables you to view and manually edit the Access File synonym. **Note:** This option is available only when an Access File is created as part of the synonym.
Sample Data	Retrieves up to 20 rows from the associated data source.
Data Profiling	Data Profiling provides data characteristics for synonym columns. Alphanumeric columns provide the count of distinct values, total count, maximum, minimum, average length, and number of nulls. Numeric columns provide the count of distinct values, total count, maximum, minimum, average value, and number of nulls.
Refresh Synonym (if applicable)	Regenerates the synonym. Use this option if the underlying object has been altered.
Data Management	Provides access to the following options: ❑ Recreate DBMS Table ❑ Delete All Data ❑ Drop Table ❑ Insert Sample Data ❑ Show/Modify Data
Quick ETL Copy	Creates a simple data flow based on the selected synonym.
Copy	Copies the synonym to the clipboard.
Delete	Deletes the synonym. You are asked to confirm this selection before the synonym is deleted.
Cut	Deletes the synonym and places it in the clipboard.

Option	Description
Properties	Displays the properties of the synonym, including physical location, last modified date, and description.

2 Uploading Data in DB2 Web Query

In DB2 Web Query, you can upload (import) external data files. After the initial file is uploaded, you can append new data or replace data without changing the structure and parameters of the file.

The Upload tools are available from the DB2 Web Query Resources tree. This includes the Upload Wizard, which generates a set of Express Analytics based upon the uploaded data and newly created synonym.

Topics:

❏ Authorization Requirements

❏ Guidelines for Uploading Data Files

❏ Launching the Upload Tools

❏ Uploading Files to the Repository

Authorization Requirements

A user must belong to one or more of the following groups in order to use the Metadata Wizard:

❏ WebQueryAdministrator

❏ TLF-dev and TLF-dba

❏ TLF-analyst and TLF-dba

Note: TLF indicates Top Level Folder.

Guidelines for Uploading Data Files

The Excel or delimited flat file to be uploaded using the Upload tools should:

❏ Contain header, row, and data records where all data records have the same layout.

❏ Should not have multiple record formats, Subtotals, or Totals.
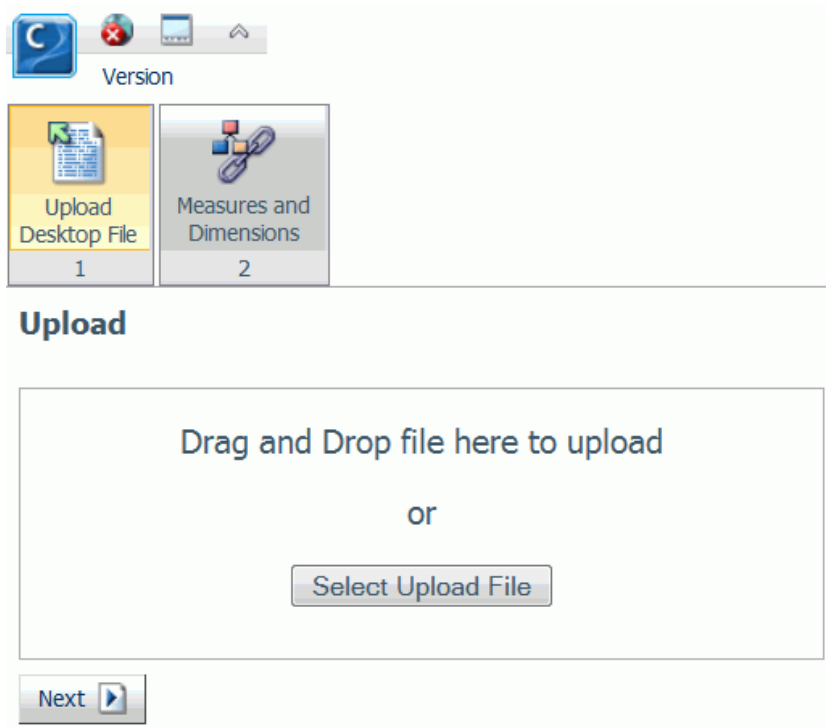
Launching the Upload Tools

How to:

Upload an Excel Spreadsheet

Append New Data to an Existing Synonym

Replace Data in an Existing Synonym

To launch the Upload tool, from the Resources tree, right-click a folder, select *Upload*, and then select *Data*, as shown in the following image.
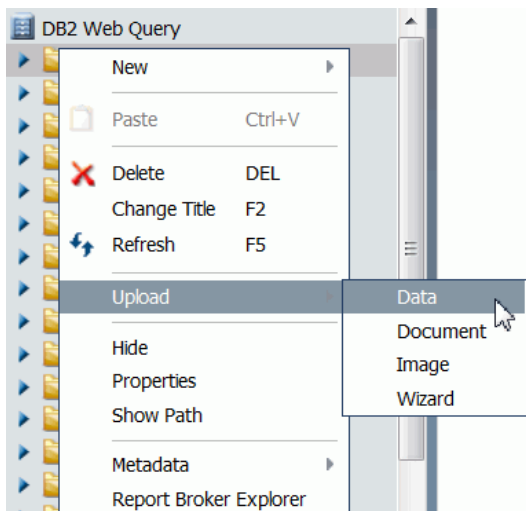
The Upload pane opens, as shown in the following image.

The Upload Wizard option is almost identical to the Upload Data option. The only difference is that the Wizard will generate the Express Analytics as the last step.

Procedure: **How to Upload an Excel Spreadsheet**

1. Launch the Upload tool.

2. Drag the file that you want to upload into the Upload pane or click *Select Upload File*, and navigate to the location of a file on your machine.

3. Click *Next*.

The Select Worksheet pane opens, as shown in the following image.

4. You can customize your worksheet by using the options available on this pane.

    The options include:

    Row scan limit

    Indicates how many Worksheet rows are scanned to determine the formats of the columns. Set this value to 0 if you want to scan all of the Worksheet rows.

    Number of header rows

    Sets the number of rows used as a header row in the Worksheet. Set the value to 0 if a header is not used.

    Error check Excel columns

    Produces informational messages, if the uploaded file contains inconsistent data.

Load Option

Provides access to the following options:

New

Uploads a new worksheet to create a synonym.

Append Existing Data (Keep Metadata)

Adds new data to the existing synonym without changing the structure and parameters of the synonym.

Replace Existing Data (Keep Metadata)

Replaces data in the existing synonym without changing the structure and parameters of the synonym.

Target Application

Sets the application folder location for the output metadata (synonym).

Note: This option is available when the *Load Option* field is set to New.

Select Target Synonym

Sets the application folder location for the existing synonym.

Note: This option is available when the *Load Option* field is set to Append Existing Data (Keep Metadata) or Replace Existing Data (Keep Metadata).

Overwrite existing synonyms

Overwrites the existing synonym with the same name.

Note: This option is available when the *Load Option* field is set to New.

Default Name (editable)

Indicates the synonym name to be created, based on the worksheet name. You can change this default name.

Note: This option is available when the *Load Option* field is set to New.

Worksheet Name

Indicates the worksheet name, determined from the uploaded file.

Named Range

Indicates an Excel Named Range to a specific group of cells within a worksheet.
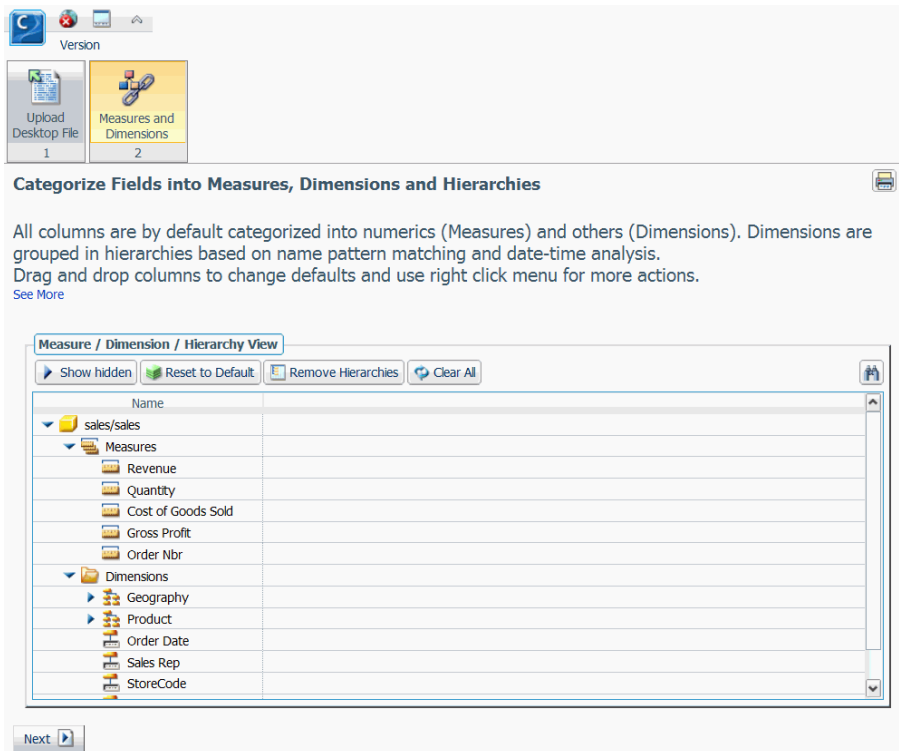
Rows/Columns

Indicates the number of rows and columns in the worksheet.

Display Worksheet

Shows the data in the selected worksheet in tabular format.

5. Click *Next*.

If your upload is successful, the Categorize Fields into Measures, Dimensions and Hierarchies pane opens, as shown in the following image.

Note: If there are informational messages or if your upload is unsuccessful, the Status pane opens.

The Measure/Dimension/Hierarchy View shows:

❑ The default set of measures (all numeric columns).

❑ The default dimension hierarchies, based on name pattern-matching and date-time analysis.

❑ The remainder of columns as individual dimensions.

6. In the Measure/Dimension/Hierarchy View, click *Show hidden* to display two panes. The pane on the left will show the uploaded file in Column View and the right pane will show the Measure/Dimension/Hierarchy View, as shown in the following image.

Once the two panes are visible, you can drag columns between the panes.

Note: An X next to the column name in the Column View indicates that the column has been added to the Measure/Dimension/Hierarchy View.

From the Column View, you can:

❑ Click the *Display* button to choose how to display the columns in both panes. The options are Name, Title, Description, Alias. Title is the default display.

❑ Click the *Add All* button to move all unused columns from the Column View to the Measure/Dimension/Hierarchy View as individual dimensions.

❑ Click the *Hide all unused* button to hide the left pane and set the view back to the Measure/Dimension/Hierarchy View.

❑ Manage columns by accessing their shortcut menu options, such as Sample Data and Rename.

❑ Select multiple list items by holding the Shift key.

From the Measure/Dimension/Hierarchy View, you can:

❑ Click the *Reset to Default* button to undo all changes and refresh the view back to the initial categorization of measures and dimensions.

❑ Click the *Remove Hierarchies* button to remove all hierarchies, but leave columns as individual dimensions.

❑ Click the *Clear All* button to move all columns back to the Column View.

❑ Drag the measures, dimensions, and hierarchies within the pane to rearrange the order.

❑ Select multiple list items by holding the Shift key.

Using shortcut menu options:

❑ Right-click the *Measures* folder and select *New Measure Group* or *Sample Data*.

❑ Right-click a measure and select *Rename*, *Geographic Role*, *Sample Data*, or *Hide*. The Hide option moves the measure to the Column View.

❑ Right-click a dimension and select, *Create Hierarchy*, *Rename*, *Geographic Role*, *Sample Data*, *Hide* or *Show/Hide Attribute*. The Hide option moves the dimension to the Column View.

❑ Right-click a hierarchy and select *Remove Hierarchy*, *Rename*, *Sample Data*, or *Hide*. The Hide option will remove the hierarchy and moves the columns contained in the hierarchy to the Column View.

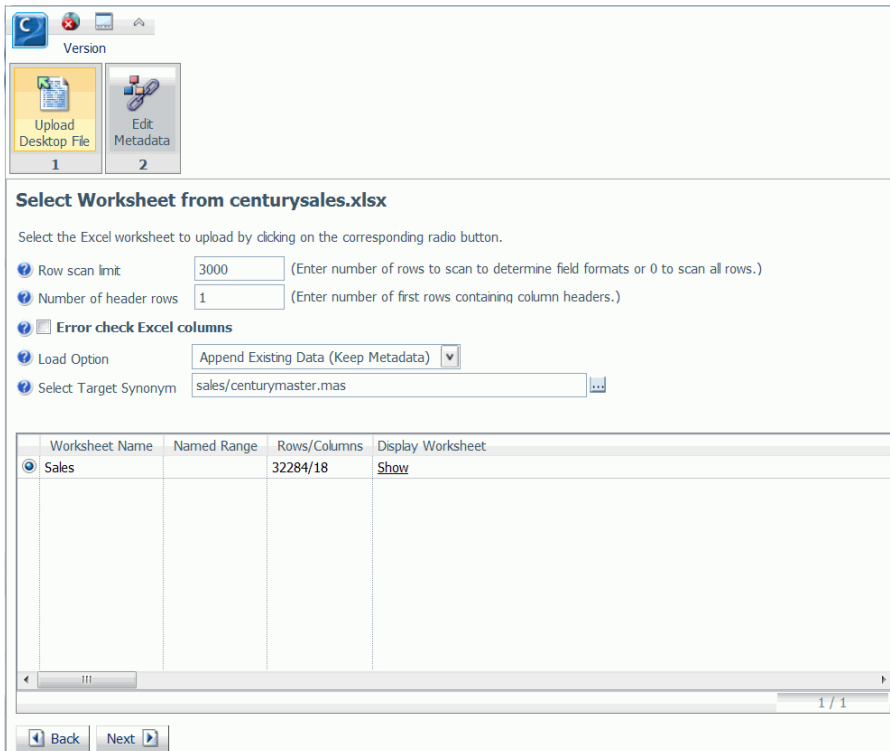**7.** Once you have defined the measures and dimensions, click *Next*.

InfoAssist opens, so you can start analyzing your uploaded file.

Procedure: **How to Append New Data to an Existing Synonym**

1. Launch the Upload tool.

2. Drag the file, containing the data that you want to append, into the Upload pane or click *Select Upload File*, and navigate to the location of a file on your machine.

3. Click *Next*.

The Select Worksheet pane opens.

4. From the *Load Option* drop-down list, click *Append Existing Data (Keep Metadata)*.

5. Click the *Show File Picker* button ⌐ next to the Select Target Synonym option and select the synonym to which you want to append data.

The path to the synonym appears in the Select Target Synonym field, as shown in the following image.

6. Click *Next*.

If you chose the Upload Data option, InfoAssist opens and allows the user to develop a procedure and analyze the uploaded data.

If you chose the Upload Wizard, the Express Analytics generator appears and generates a set of procedures in the DB2 Web Query Repository. You will find these in a new folder that matches the name of the new synonym.

A new active dashboard is automatically run and will appear in the Report output pane of Web Query.

Note: If there are informational messages or if your upload is unsuccessful, the Status pane opens.

Procedure: **How to Replace Data in an Existing Synonym**

1. Launch the Upload tool.

2. Drag the file that you want to use for replacing data into the Upload pane or click *Select Upload File*, and navigate to the location of a file on your machine.

3. Click *Next*.

   The Select Worksheet pane opens.

4. From the *Load Option* drop-down list, click *Replace Existing Data (Keep Metadata)*.

5. Click the *Show File Picker* button ⋯ next to the Select Target Synonym option and select the synonym for which you want to replace data.

6. Click *Next*.

   InfoAssist opens, so you can start analyzing your uploaded file.

   Note: If there are informational messages or if your upload is unsuccessful, the Status pane opens.

Uploading Files to the Repository
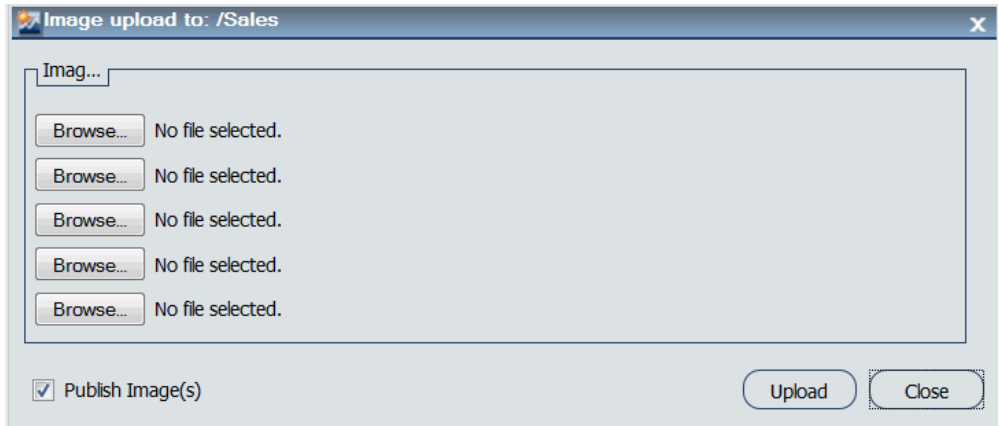
> **How to:**
>
> Upload an Image
>
> Upload a Document

In DB2 Web Query, you can upload other files, such as images and documents. These files can be shared with other users and groups.

Procedure: **How to Upload an Image**

1. From the Resources tree, right-click a folder, select *Upload* and then select *Image*.

The Image upload dialog box opens, as shown in the following image.

2. Click *Browse* to select your image. You can upload the following formats: .jpg, .png, and .gif.

3. Select *Publish Image(s)* to provide other users with access to your images.

4. Click *Upload*.

   A confirmation window opens.

5. Click *OK*.

Procedure: **How to Upload a Document**

1. From the Resources tree, right-click a folder, select *Upload*, and then select *Document*.

   The Document upload dialog box opens, as shown in the following image.

2. Click *Browse* to select your document.

3. Select *Publish Document(s)* to provide other users with access to your documents.

4. Click *Upload*.

    The confirmation window opens.

5. Click *OK*.

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