Information Builders

IBM DB2 Web Query for IBM i

Version 2 Release 1.8

Contents

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	Using the DB2 Web Query Spreadsheet Client Add-in	Describes how to use the Spreadsheet Client Add-in to connect Microsoft Excel to DB2 Web Query reporting tools to access and analyze data on IBM i.
2	DB2 Web Query Change Management	

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.

Convention	Description
Key + Key	Indicates keys that you must press simultaneously.
{ }	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 Using the DB2 Web Query Spreadsheet Client Add-in

The Spreadsheet Client is a Microsoft Office add-in that enables you to connect Excel directly to DB2 Web Query reporting tools where you can access and analyze data. Connecting Excel to the DB2 Web Query reporting engine allows Spreadsheet Client to leverage all the adapters available to DB2 Web Query.

You can install the Spreadsheet Client Add-in on your desktop where you can create and edit queries by accessing predefined data sources. Queries can be saved in an Excel document and refreshed at any time.

Because all DB2 Web Query report and connection information can be saved in an Excel workbook, users with the proper security and access rights can share spreadsheets throughout an organization. This functionality lets you spend less time recreating reports and more time analyzing information for effective decision-making. It also enhances Excel data-privacy features and better addresses compliance concerns. When reports are built directly within Excel, you can lock all or some of the cells and password protect the worksheet. Locking cells can be useful to protect data and queries when sharing workbooks, but in Excel, locked cells cannot be refreshed or edited.

Topics:

Spreadsheet Client Features

When using Spreadsheet Client from within the familiar Excel environment, you can utilize many powerful features including, but not limited to, the following:

- Build Excel applications with real-time information fed by Spreadsheet Client.
- Create dashboards and scorecards in Excel by combining multiple data sources in a single worksheet.
- Ensure data integrity in your spreadsheets by using named ranges and formulas that are automatically generated and updated with Spreadsheet Client.
- Create queries from scratch using the simple, yet powerful ad hoc reporting capabilities of DB2 Web Query.
- Use your own custom guided ad hoc forms to populate the workbook.
- Output computations and totals as native Excel formulas.
- Style output, add data filtering, and include drill-downs.
- Supports 64-bit version of Excel 2010 and 2013.
- Supports 32-bit version of Excel 2003, 2007, 2010, and 2013.

Note: A user connecting to DB2 Web Query using the Spreadsheet Client Add-in must connect to the same Hotfix version. For example, if your Add-in version is from DB2 Web Query v2.1 HF4, you must connect to a DB2 Web Query v2.1 HF4 environment. Connecting to a different version is not supported.

Configuring Spreadsheet Client

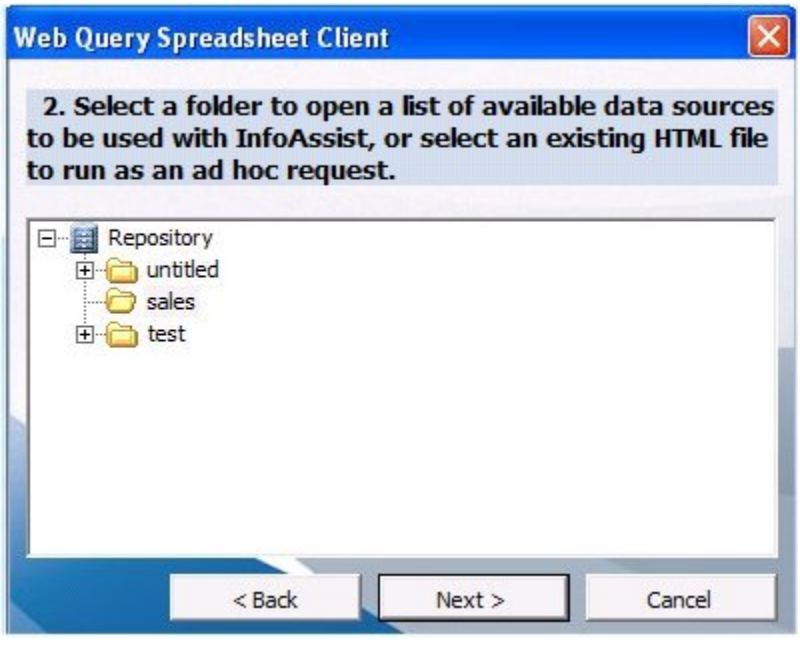
How to:

Configure Spreadsheet Client

The DB2 Web Query Administration Console is used to configure the Spreadsheet Client. By default, the Spreadsheet Client is configured to use DB2 Web Query MR Security. This leverages the security defined in DB2 Web Query and provides secure access to all data available through the DB2 Web Query environment. Additional optional settings in the console can be configured to provide you with the ability to create queries by accessing SAFs (Structured Ad hoc Forms) stored in the Managed Reporting repository. A SAF is an HTML form containing a report procedure that is already connected to a data source, which enables you to select from a series of parameters to build a data set for analysis in Excel.

Note: Run-time enablement users are not permitted to use the InfoAssist tool and must use SAFs.

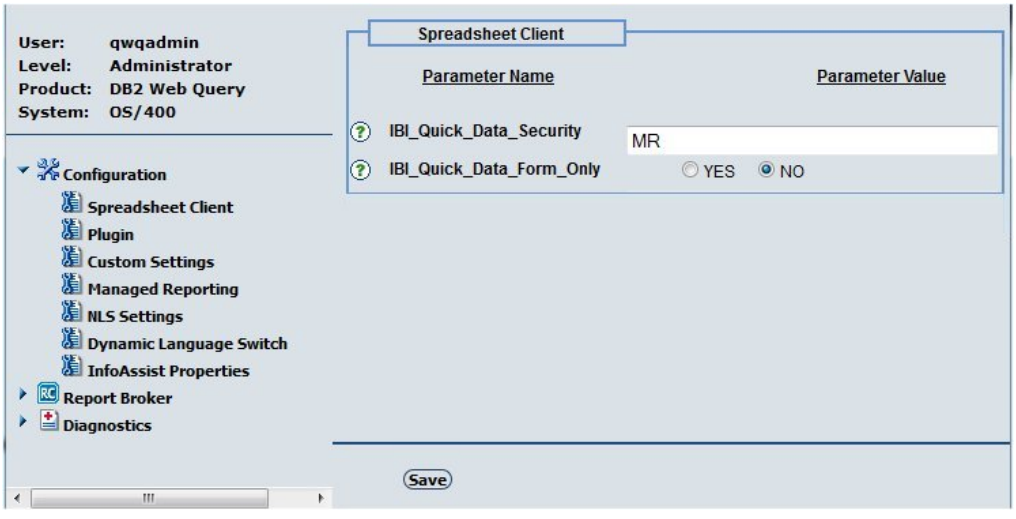
Spreadsheet Client has been enhanced when using Managed Reporting security to ensure that users are presented with a list of Master Files based on the application path set in the properties of a repository folder. This ensures that Managed Reporting Security is properly utilized and users only have access to metadata for which they are authorized.



Procedure: How to Configure Spreadsheet Client

1. Log on to DB2 Web Query using the QWQADMIN Administrator user ID, and launch the Administration Console. For more information, see *Administration Console*.
2. Click *Configuration* in the navigation pane, then click *Spreadsheet Client*.

The DB2 Web Query Spreadsheet Client panel appears with the *IBI_Quick_Data_Security* setting set to MR by default, as shown in the following image. Do not change this setting.



3. For the *IBI_Quick_Data_Form_Only* parameter, select *NO* (the default value) or *YES*. If you select *YES*, users can access only the available Structured Ad Hoc Forms (SAFs). Users will not be able to use InfoAssist to create a report.
4. The *IBI_Quick_Data_Form_Path* parameter is no longer used. SAFs may now reside in any folder that a user can access. For customers who have upgraded from a prior release, we recommend copying the SAFs to a folder owned by the respective users.
5. Click *Save* to save your configuration settings. Click *Clear Cache* on the main toolbar to clear the site collection cache for the web application.

Configuring a Default DB2 Web Query Environment

A configuration file is provided with the Spreadsheet Client Add-In as a template for the administrator to design a default DB2 Web Query environment. The configuration file defines such items as the DB2 Web Query Web server port number, alias, and client path. These items provide the user with a default DB2 Web Query environment allowing them to bypass the additional step of manually defining these parameters in order to use Spreadsheet Client.

The configuration file is named wqsclient.cfg and is located in

```
/QIBM/ProdData/QWEBQRY/base80/utilities/quickdata
```

The configuration file can contain multiple DB2 Web Query configurations. Keep in mind that if the configuration file contains more than one DB2 Web Query configuration, then the last one appearing in the file is the configuration that is used when opening Spreadsheet Client.

The configuration file provided as a template with Spreadsheet Client Add-in contains examples of configurations and instructions to help you create your own configuration. The following is an example of a DB2 Web Query configuration in the configuration file:

```
SERVER_START
      PROTOCOL="http"
      HOST="wq_hostname"
      PORT="12331"
      HTML_ALIAS="/webquery_html"
      CLIENT_PATH="/webquery/WFServlet"
SERVER_END
```

Use the following guidelines and rules to create the configuration file:

- The configuration file must have the same name as the Spreadsheet Add-In file and the extension, .cfg (for example, wqsclient.cfg).
- The configuration file must reside on the machine running the Spreadsheet Client in the same directory as the .xla file.
- Each DB2 Web Query configuration must be contained by the delimiters, SERVER_START and SERVER_END.
- Each configuration must contain the following parameters in order to connect to DB2 Web Query:
  - **PROTOCOL.** The protocol used in the environment running DB2 Web Query. If DB2 Web Query is running in an SSL environment, you must specify https as the protocol value. The default value is http.
  - **HOST.** The server name where the DB2 Web Query Web application is installed.
  - **PORT.** The port number of the application server where DB2 Web Query is installed. The default port is 12331. This should not be changed.
  - **HTML_ALIAS.** The Web server or application server alias where the DB2 Web Query static pages are located. The default value is /webquery_html and should not be changed. The leading slash is required.
  - **CLIENT_PATH.** The path to the DB2 Web Query Servlet, as defined in the DB2 Web Query Web application file, web.xml. This value is /webquery/WFServlet and should not be changed. The leading slash is required.
  - Using double quotation marks (" ") around parameter values, as shown in our example, is optional.
  - Begin a comment line in the file with a number sign (#).

Installing and Setting Up the Spreadsheet Client

How to:

Install and Set Up the DB2 Spreadsheet Client Excel Add-in for Excel 2003

Install and Set Up the DB2 Spreadsheet Client Excel Add-in for Excel 2007

The DB2 Web Query Spreadsheet Client requires:

- DB2 Web Query Version 2.1 or higher.
- Excel 2003 or higher.

Procedure: How to Install and Set Up the DB2 Spreadsheet Client Excel Add-in for Excel 2003

The Spreadsheet Client Add-in and configuration files are located in

`/QIBM/ProdData/QWEBQRY/base80/utilities/quickdata`

1. Copy the wqsclient.xla add-in and wqsclient.cfg file to the following directory on your hard drive:

   For Windows XP:

   `C:\Documents and Settings\`*`userid`*`\Application Data\Microsoft\AddIns\`

   For Windows 7:

   `C:\Users\`*`userid`*`\AppData\Roaming\Microsoft\AddIns\`

   where:

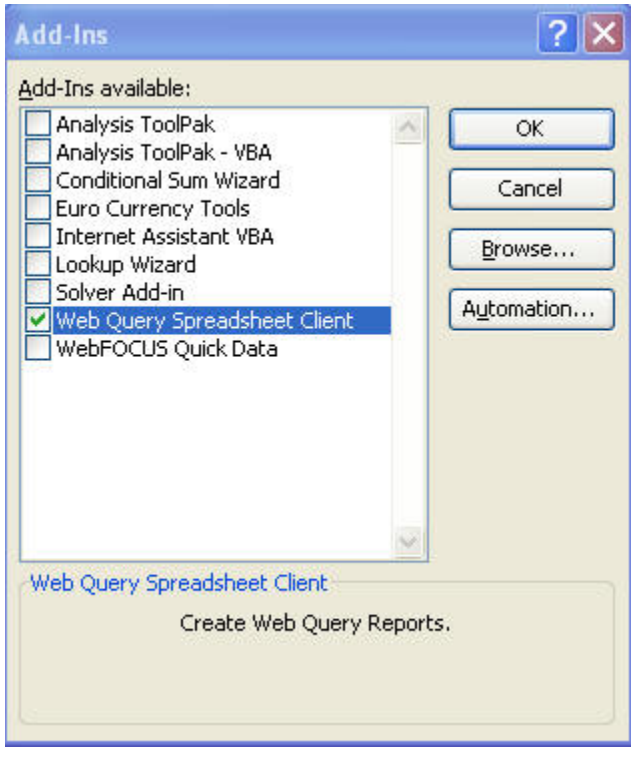
   `userid`

   Is the user name used to log on to the PC.

   After the Spreadsheet Client Add-in is in the proper directory location, you must open Excel and select the DB2 Web Query Spreadsheet Client option in the Add-Ins dialog box.

2. Launch Microsoft Excel.
3. Select *Tools*, then *Add-Ins*.

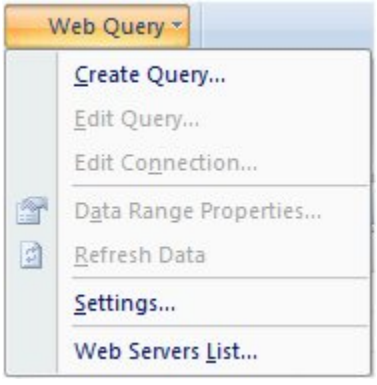
The Add-Ins dialog box appears with DB2 Web Query Spreadsheet Client listed as a selectable add-in option, as shown in the following image.



Note: If DB2 Web Query Spreadsheet Client is not listed in the Add-Ins dialog box, check that the add-in is in the correct directory.

4. Select *Web Query Spreadsheet Client* and click *OK*.
5. Close and open Microsoft Excel.

A new menu, labeled Web Query, is enabled in Excel, as shown in the following image.



Procedure: How to Install and Set Up the DB2 Spreadsheet Client Excel Add-in for Excel 2007

The Spreadsheet Client Add-in and configuration files are located in

`/QIBM/ProdData/QWEBQRY/base80/utilities/quickdata`

1. Copy the wqsclient.xla add-in and wqsclient.cfg file to the following directory on your hard drive:

   For Windows XP:

   `C:\Documents and Settings\`*`userid`*`\Application Data\Microsoft\AddIns\`

   For Windows 7:

   `C:\Users\`*`userid`*`\AppData\Roaming\Microsoft\AddIns\`

   where:

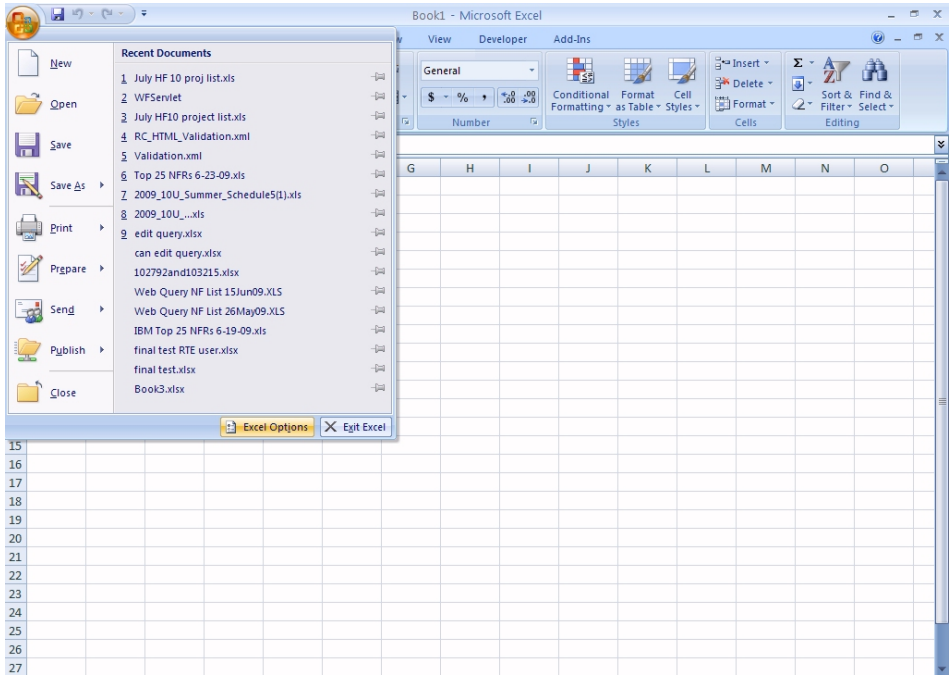
   `userid`

   Is the user name used to log on to the PC.

   After the Spreadsheet Client Add-in is in the proper directory location, you must open Excel and select the DB2 Web Query Spreadsheet Client option in the Add-Ins dialog box.

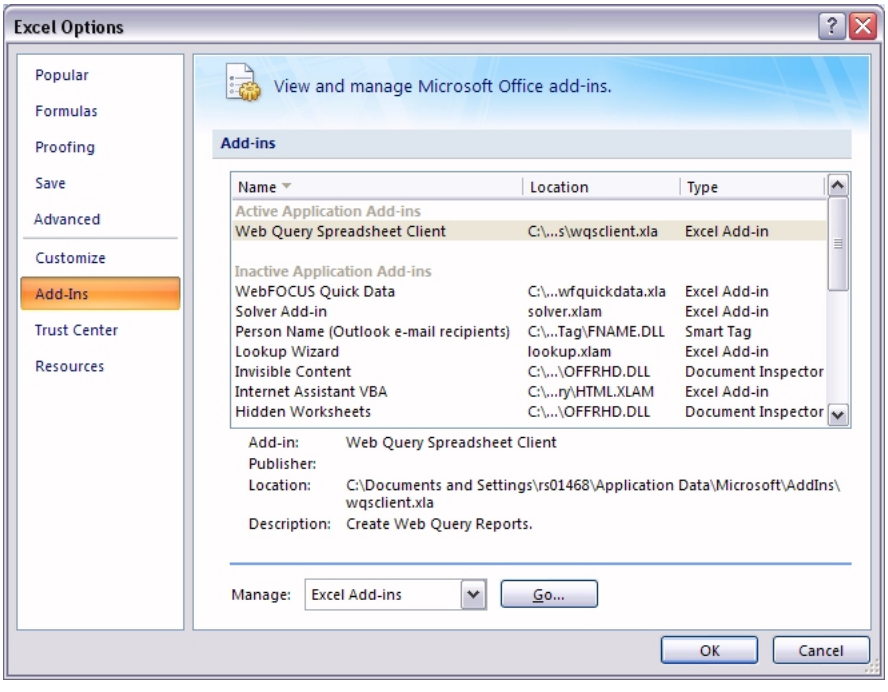
2. Launch Microsoft Excel.
3. Click the *Office* button.

4. Select *Excel Options*.



5. Click the *Add-Ins* option.

6. Click the *Go* button to the right of the Excel Add-in drop-down box.



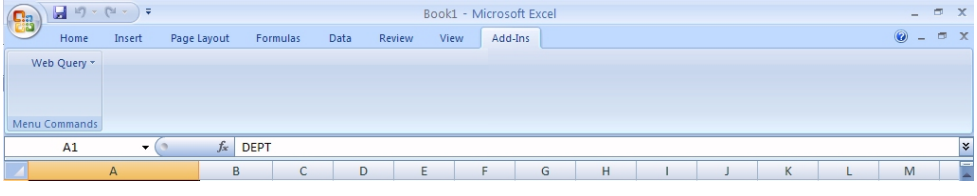
The Add-Ins dialog box appears.

7. Select *Web Query Spreadsheet Client* and click *OK*.

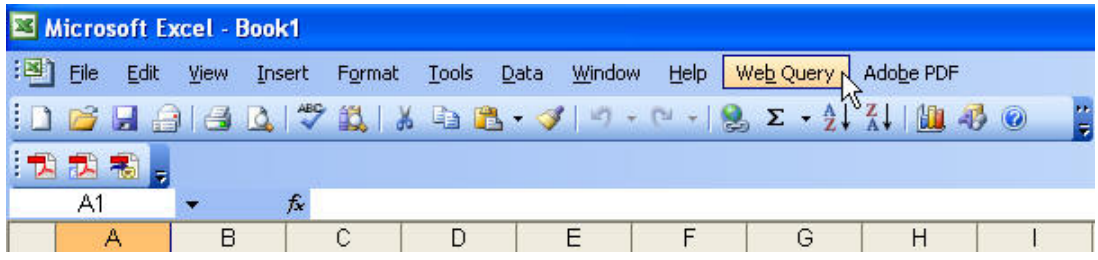
Accessing Spreadsheet Client

After installation, Spreadsheet Client is available in Excel from the main tool bar.

In Excel 2007, the Add-ins tab is displayed on the main tool bar and contains all add-in menu items, including the Web Query add-in, as shown in the following image.



In Excel 2003, the main tool bar contains the Web Query add-in as a new menu item, as shown in the following image.

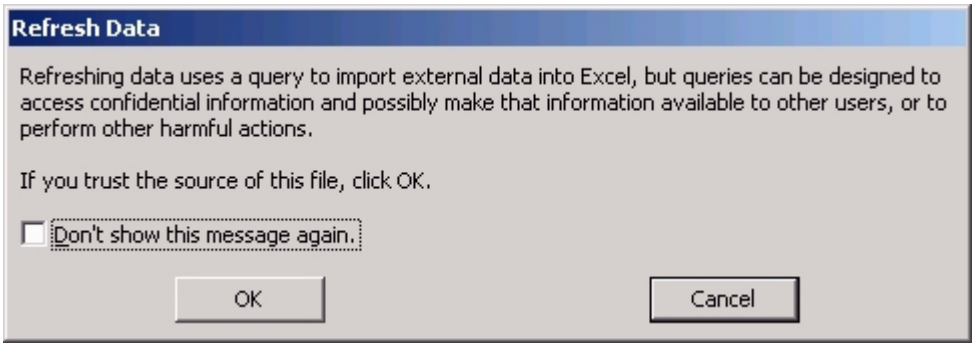


From Excel, click *Web Query* to view a drop-down menu with all of the necessary options for working with queries. The following options, except for Settings, are also available from Excel right-click context menus in cells containing any part of a query.

- **Create Query.** Available for new queries only, this option opens the Web Server Connection dialog box so you can connect to a Reporting Server. It continues by opening the Data Source Selection dialog box so you can select a Master File, and then opens the InfoAssist tool where you can create the query.
- **Edit Query.** Available for existing queries only, this option opens the InfoAssist tool where you can edit the query.

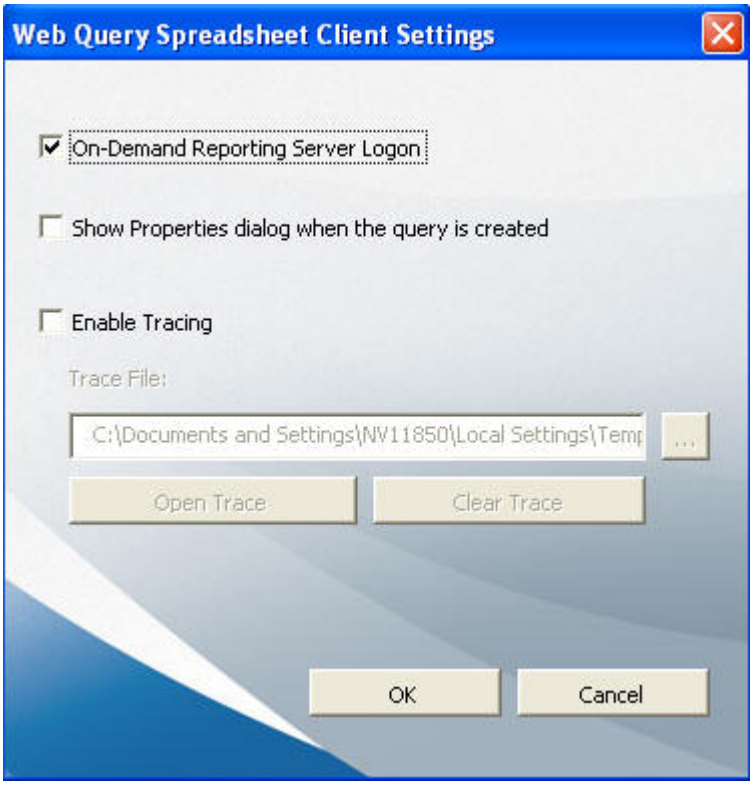
  Note: Edit Query is not enabled for password protected cells.
- **Edit Connection.** Available for existing queries only, this option opens the Web Server Connection dialog box, where you can edit the connection settings, including the Web Server URL, the HTML Alias, the Client Path, and the Reporting Server. The ability to edit connection information saves time when reusing reports and helps facilitate the sharing of workbooks across an organization.
- **Data Range Properties.** Available for existing queries only, this option opens the External Data Range Properties dialog box, where you can set Excel query properties. For more information, see *Setting Query Properties* on page 41.
- **Refresh Data.** Available for existing queries only, this option opens the Refresh Data dialog box where you can update the data in the report query.

The Refresh Data dialog box provides a security warning, as shown in the following image.



Note: Refresh is not enabled for password protected cells.

- **Settings.** This option opens the Web Query Spreadsheet Client Settings dialog box, as shown in the following image.



The Web Query Spreadsheet Client Settings window provides the following settings:

- **On-Demand Reporting Server Logon.** This setting determines if the user will be prompted to log on to DB2 Web Query the first time a connection to the server is made during an Excel session (check this setting), or each time a request is made to the DB2 Web Query during an Excel session (do not check this setting), for example, during a refresh or Edit Query operation.
- **Show Properties dialog when the query is created.** When this setting is selected, a dialog box with options on how to insert data into Excel opens each time a new query is executed. The following image shows this Properties dialog box.

The options to control how the results from the query will be inserted into the Excel worksheet are:

- **Insert cells for new data.** This option allows you to retain results from multiple queries in the same Excel worksheet. Depending on where new data will be inserted, data from an earlier request may shift.
- **Overwrite existing cells with new data.** This option will overwrite existing data to place results with those from the new request.

Once a query is generated, users can also control how data from new reports will be displayed in the Excel worksheet by right-clicking on a cell from an existing query and selecting *Data Range Properties*. For more information on this dialog box, see *Setting Query Properties* on page 41.

- **Enable Tracing.** This option allows you to capture DB2 Web Query Spreadsheet Client information in a trace file to troubleshoot communication problems and issues that occur when attempting to create and run report requests.

  The captured information includes tasks performed by the tool when it attempts to connect to the Web Server and Reporting Server, when requests are made for data, and when data is retrieved. The default name of the trace file is wqsclient.txt and it is created in the same directory as the DB2 Web Query Spreadsheet Client add-in file, for example:

  `C:\Users\userid\AppData\Roaming\Microsoft\Addins\`

  Note: Traces are captured for the duration of a single active Excel session. Tracing is automatically turned off when you close an Excel session. The trace file content is cumulative, adding trace information from each session where tracing is enabled.

  When you select Enable Trace, the Trace File field is automatically populated with the full path to the trace file. The path includes the trace file name. You can change the location and name of the trace file by either typing the changes in this field or by clicking the ellipsis and browsing to a new trace file location.

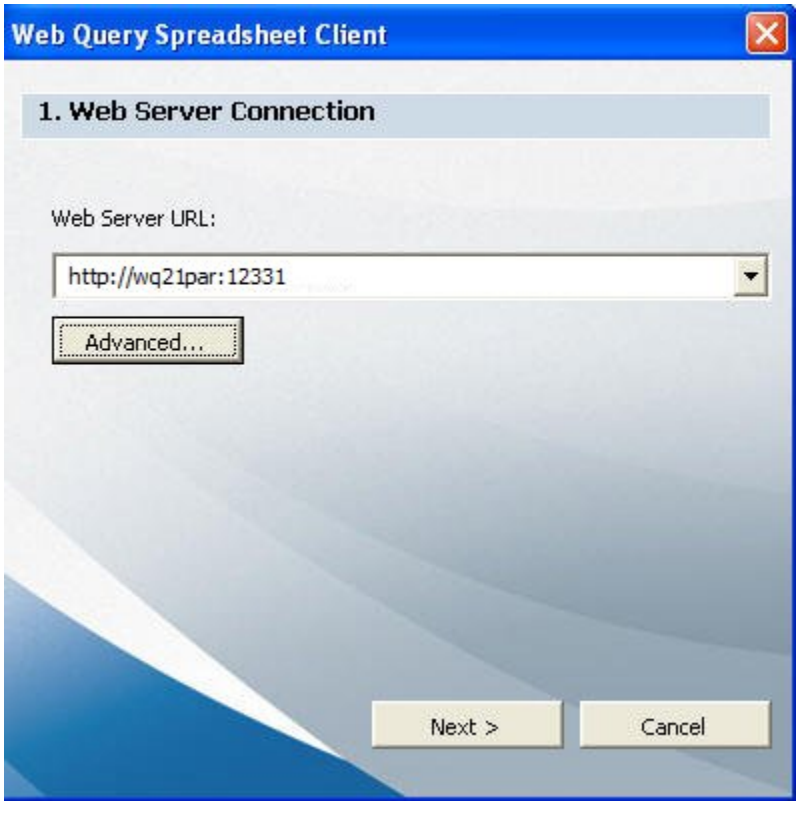
  To view the current trace file, click *Open Trace*.

  To delete the contents of the current trace file, click *Clear Trace*.

Defining Web Server Connection Settings

In this section:

Building, running, and accessing a query requires an HTTP connection to a DB2 Web Query reporting environment. The Web Server Connection dialog box opens when a new query is created, as shown in the following image.



The Spreadsheet Client configuration file, wqsclient.cfg, should have been updated by your administrator to include the correct Web Server URL for your environment. For more information, see *Configuring a Default DB2 Web Query Environment* on page 10. A newly created query will use this connection by default.

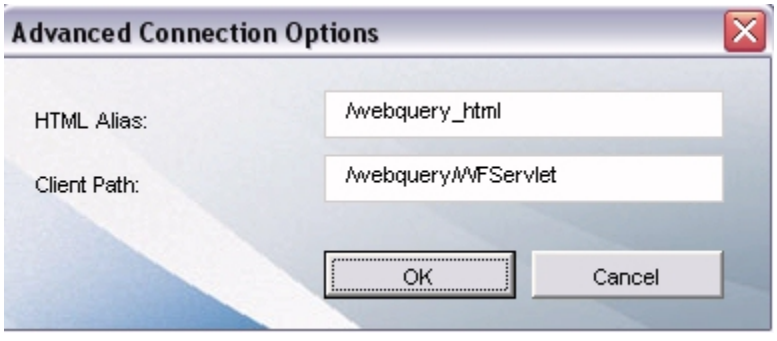
Reference: **Web Server Connection Usage Notes for Queries**

For query data connections, the following are supported:

- Anonymous Web servers.
- HTTP and HTTPS.

Advanced Connection Options Dialog

To access the Advanced Connection Options Dialog box, click the *Advanced* button in the Web Server Connection dialog box. The Spreadsheet Client configuration file contains the proper settings for your DB2 Web Query environment. Do not change these settings. The Advanced Connection Options dialog box is shown in the following image.



- **HTML Alias.** Defines the alias to the Web server where the webquery_html directory is located.
- **Client Path.** Specifies how calls are made to the Web server. Your DB2 Web Query environment uses the Web Query Servlet with the webquery context path, which results in the client path being set to /webquery/WFServlet by default.

Logging into DB2 Web Query

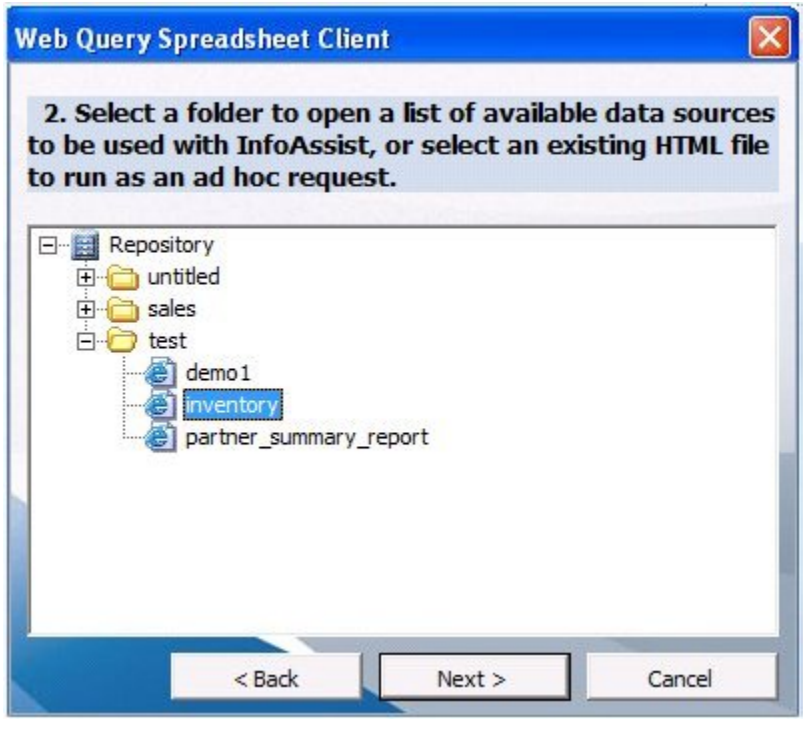
Spreadsheet Client is configured to use DB2 Web Query Authentication. You are prompted to log on with valid DB2 Web Query Managed Reporting credentials, as shown in the following image.

If your environment is not properly licensed, an error message appears.

After a successful login, you will be prompted to perform one of two options:

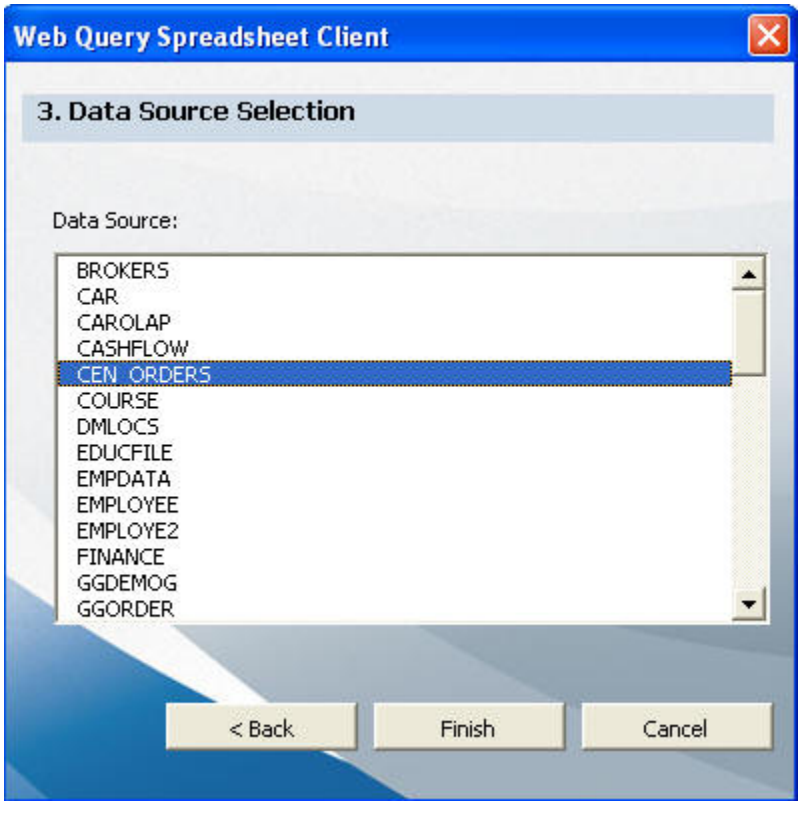
- Select a folder to determine which Master Files (synonyms) may be used to create a query with InfoAssist. The InfoAssist query will then be used to populate your Excel worksheet.
- Select an existing HTML file (SAF) that will be run to populate your Excel worksheet.

Folders and HTML files will be listed based on user privileges, as shown in the following image.



Selecting a Master File

After you select a folder from the Web Query repository, you are presented with a corresponding list of Master Files (synonyms), as shown in the following image.



Scroll through the Data Source list and select the desired Master File. When you click Finish, the associated data fields are loaded into the InfoAssist tool that opens.

Note: The only time you can select a Master File is when you are creating a new query. The Data Source Selection dialog box is not available for you to change Master Files when editing an existing query.

Creating Report Queries With the InfoAssist Tool

In this section:

Editing Report Queries in InfoAssist

How to:

Create a New Report Query in InfoAssist

You can create a new report query directly from Excel by accessing the Spreadsheet Client Add-in. Multiple queries can be placed within the same worksheet or spread out over multiple worksheets within a workbook.

Note that there are limitations with queries that overlap. However, there are data layout options available in the Query properties of Excel that can assist with overlapping queries. This behavior is governed by Excel, not Spreadsheet Client.

Procedure: How to Create a New Report Query in InfoAssist

1. Open an Excel file.
2. Select a cell in which to place the query.
3. Click the *Web Query* option in the Excel menu, then select *Create Query*.

   You can also right-click any cell and select *Create Web Query Report*.
4. Specify the desired Web Server URL when the Web Server Connection dialog box opens.

   When the desired connection settings have been specified, click *Next*.

   You are prompted to log on with valid DB2 Web Query credentials unless you are already logged on and have the on-demand Reporting Server Logon option checked under Web Query settings.
5. Select a folder to determine which Master Files (synonyms) may be used to create a query with InfoAssist.
6. In the Data Source Selection dialog box, select the desired Master File and click *Finish*. For more information, see *Selecting a Master File* on page 24.

   You are presented with the InfoAssist tool where you can build a query and run it to return the output data to Excel.

Example: Creating a New Report Query in InfoAssist

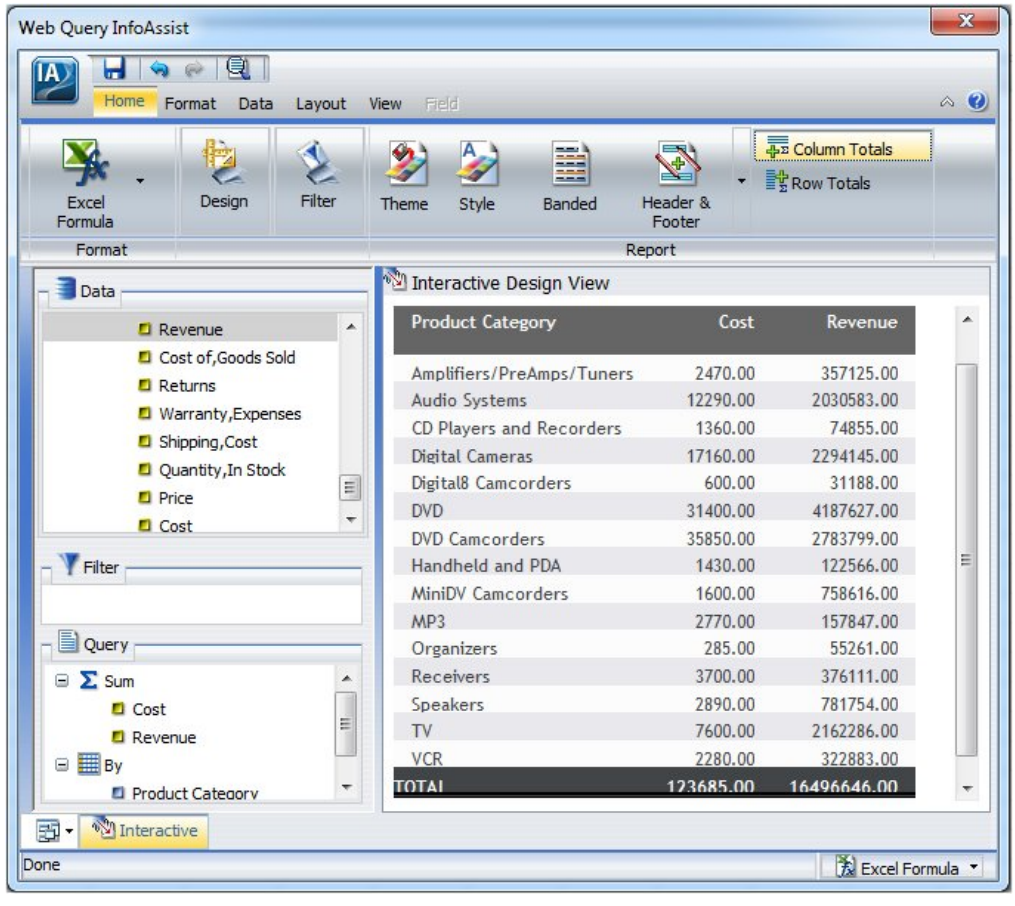
This example covers multiple aspects of creating a new report query using Spreadsheet Client from within an Excel file.

1. Open an Excel file, click the *Web Query* option in the Excel menu, then select *Create Query*.
2. Specify http://*hostname*:12331 in the Web Server URL field in the Web Server Connection dialog box that opens, then click *Next*.

   Note: Specify any Web Server URL that works in your reporting environment.
3. Select a folder to determine which Master Files (synonyms) may be used to create a query with InfoAssist.
4. In the Data Source Selection dialog box that opens, select *CEN_ORDERS* from the Data Source list, then click *Finish*.

   The InfoAssist tool opens.
5. In Interactive Design View, select *By* under Query on the left pane, and double-click *Product Category* from the Data list.
6. Select *Sum* under Query on the left pane, and double-click *Cost* and *Revenue* from the Data list.
7. On the Home tab, click the *Report* icon, and select *Column Totals*.

After you perform the steps up to this point, the InfoAssist window looks similar to the following.

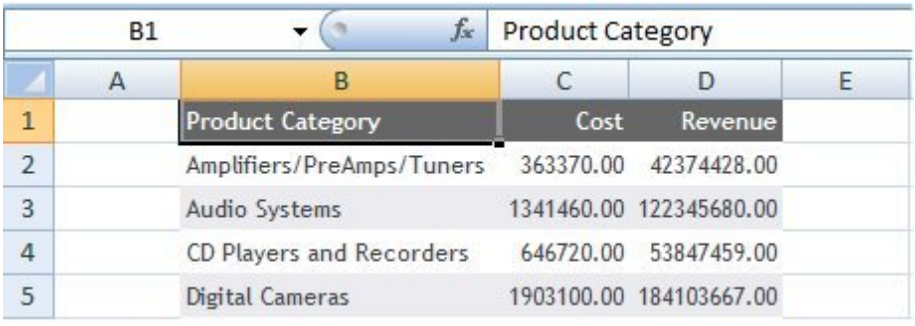


8. Click the *Save* button.

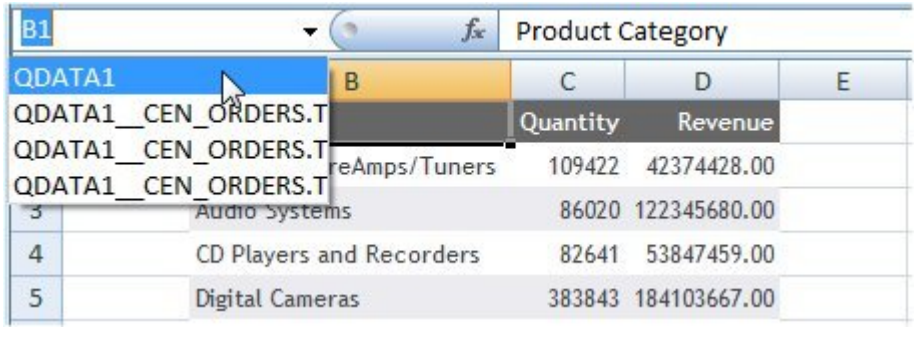
If you selected the *Show Properties dialog when the query is created* option in the DB2 Web Query Spreadsheet Client dialog box, the Properties dialog box opens. It allows you to choose to insert the new data into the Excel worksheet, or to replace the existing data with the new data. For details, see *Installing and Setting Up the Spreadsheet Client* on page 12.

9. If you see the Properties dialog box, select *Insert cells for new data*, and click *OK*.

The report query data is returned to the Excel file, as shown in the following image.



10. Click the drop-down arrow to the right of the Name Box. You will see named ranges that are automatically added to the query, as shown in the following image.



Named ranges are added to the entire data table. The named range for the entire data table is QDATA1.

11. Select *QDATA1* from the Name Box. The data in the table is automatically highlighted.

12. Save the Excel file so that it can be reused in the example on editing an existing report query.

Editing Report Queries in InfoAssist

How to:

Edit an Existing Report Query in InfoAssist

You can edit an existing query previously created with DB2 Web Query Spreadsheet Client in an Excel file. The Edit Query option automatically launches the InfoAssist tool using the same connection attributes and data source selected when the query was first created or last saved.

If you want to edit the connection attributes, prior to editing the query, right-click any cell in the existing query, and select *Edit Connection* to open the Web Server Connection dialog box.

Note:

- You cannot select a new Master File when editing an existing query.
- You cannot edit password-protected cells.

Procedure: How to Edit an Existing Report Query in InfoAssist

1. Open the desired Excel file that contains the existing query.
2. Move the cursor over any cell in the existing query data, and select the *Edit Query* option from the Excel right-click context menu.

   If there is only one query in the Excel file, you can also use the DB2 Web Query menu in the main toolbar to select the *Edit Query* option.

   Selecting Edit Query launches the InfoAssist tool, where you can edit the existing query.

Any cell that contains data from the query is a part of that query, so that you can click anywhere within that range of data to edit the query.

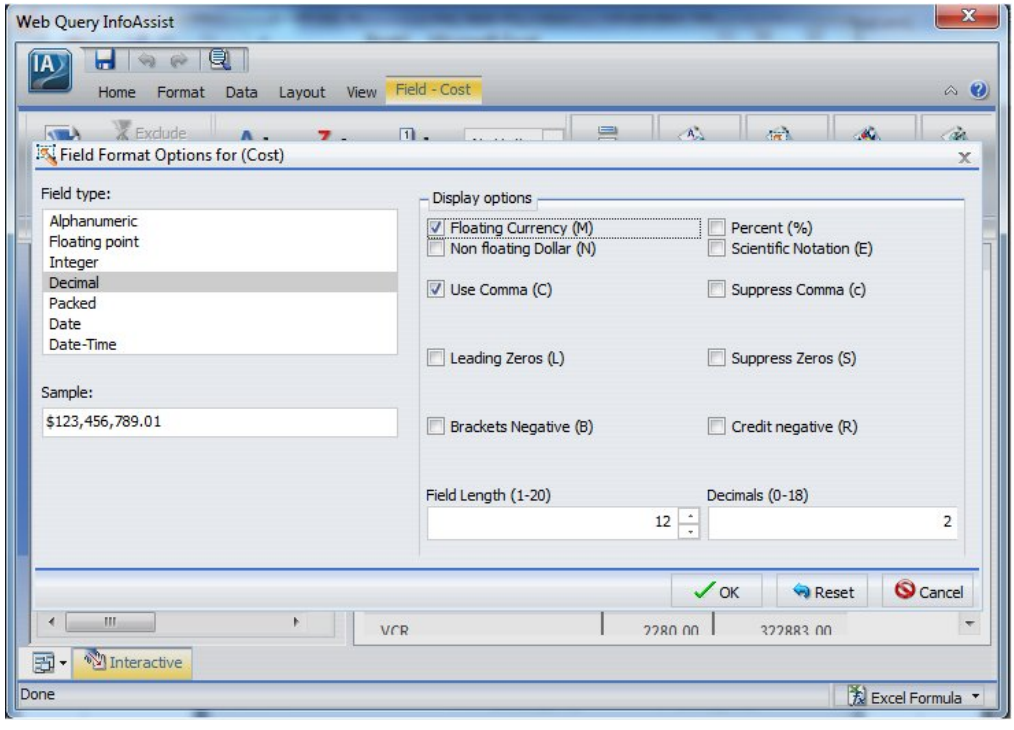
Example: Editing an Existing Report Query in InfoAssist

This example covers multiple aspects of editing an existing report query using the DB2 Web Query Spreadsheet Client tool from an Excel file.

1. Open the existing Excel file created in the previous example in *How to Create a New Report Query in InfoAssist* on page 25.
2. Right-click any cell in the data area of the existing report query, and select *Edit Query*.

   The InfoAssist tool opens, displaying the query.
3. To change the format of the Cost measure, right-click *Cost* under Sum in the Query list, and click *Edit Format* to open the Field Format Options dialog box.
4. Set the Field type to *Decimal*, leave the Field Length set to the default value of *12*, set the number of Decimals to *2*, and select *Floating Currency (M)* and *Use Comma (C)* from the Display options list.

The Field Format Options dialog box will look similar to the following.



5. Click *OK*.
6. Perform the same three previous steps to change the format of the Revenue measure to match the settings applied to the Revenue measure.
7. Right-click *Product Category* under By in the Query list, and click *Delete* to delete this field.
8. Double-click *Product Type* in the Data list, making it a By field to replace the Product Category field that you deleted in the previous step.
9. Click the *Save* button.

The report query data is returned to the Excel file, as shown in the following image.

Tip: You may need to widen the Cost and Revenue columns to correctly display the TOTAL value.

10. Since you can do formatting in DB2 Web Query and Excel, you need to make sure that the Excel formatting is preserved when you edit a query and return the data to Excel.

    To preserve any formatting applied in Excel, right-click any cell in the data area of the query, and select *Data Range Properties*.

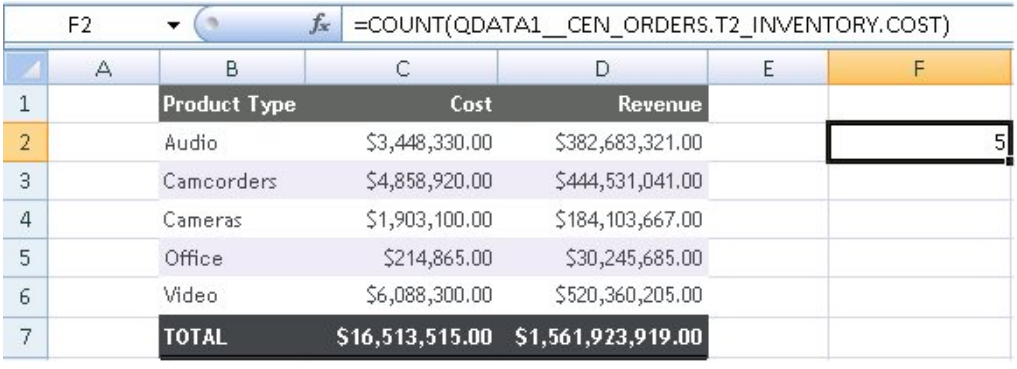
    The External Data Range Properties dialog box opens.

11. Select the *Preserve cell formatting* check box in the Data formatting and layout area of the dialog box, and click *OK*.

12. To demonstrate the value of having named ranges, add a formula that counts the number of values in a named range.

    Click any cell to the right of the existing query data, click the down arrow to the right of the AutoSum (formula) button on the Excel toolbar, select *Count Numbers*, and replace the range of cells in the function text box with the named range for the Cost column, which is QDATA1__CEN_ORDERS.T2_INVENTORY.COST. This cell now contains =COUNT(QDATA1__CEN_ORDERS.T2_INVENTORY.COST), and press the Enter key.

Because there are 5 values in the Cost column, the cell displays 5, as shown in the following image of the worksheet.



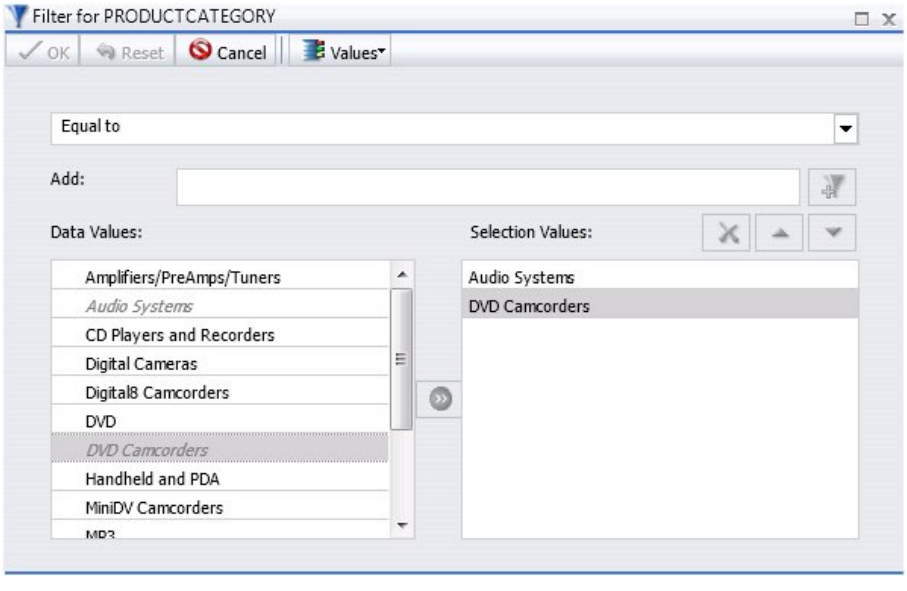
	A	B	C	D	E	F
1		Product Type	Cost	Revenue		
2		Audio	$3,448,330.00	$382,683,321.00		5
3		Camcorders	$4,858,920.00	$444,531,041.00		
4		Cameras	$1,903,100.00	$184,103,667.00		
5		Office	$214,865.00	$30,245,685.00		
6		Video	$6,088,300.00	$520,360,205.00		
7		TOTAL	$16,513,515.00	$1,561,923,919.00		

Notice the COUNT formula displayed in the function text box above the query data.

13. To edit the query again, right-click any cell in the query data, and select *Edit Query*. The InfoAssist tool opens, displaying the query.

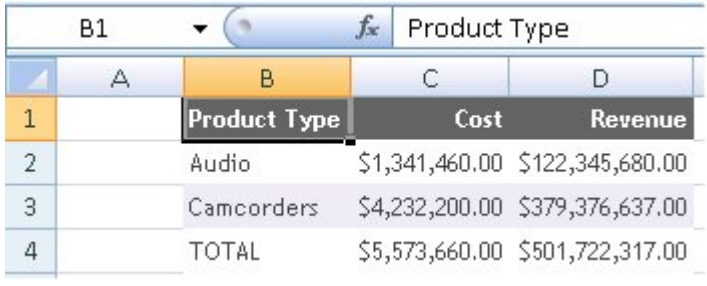
14. To add a filter, select *Product Category* from the Data list on the left pane, and click the *Filter* icon on the Home tab. In the Filter for PRODUCTCATEGORY dialog box, click the *Values* button, and select *Fetch All Values from Source*. Move *Audio Systems* and *DVD Camcorders* from the Data Values list to the Selection Values list, and click *OK*.

The filter is shown in the following image.



15. Click the *Save* button.

    The filtered data is returned to the Excel file, as shown in the following image.



16. Save the Excel file.

Creating Report Queries From Structured Ad hoc Forms

How to:

Create a Report Query From a Structured Ad hoc Form

You can create a new report query directly from Excel by accessing existing SAFs (Structured Ad hoc Forms). A SAF is an HTML form containing a report procedure that is already connected to a data source, which enables you to select from a series of parameters to create output that is added to the active worksheet in Excel. You can analyze the output data in Excel and rerun the query to refresh the data as needed.

Note: SAFs are created in the Developer Workbench HTML Composer, which references an existing parameterized report.

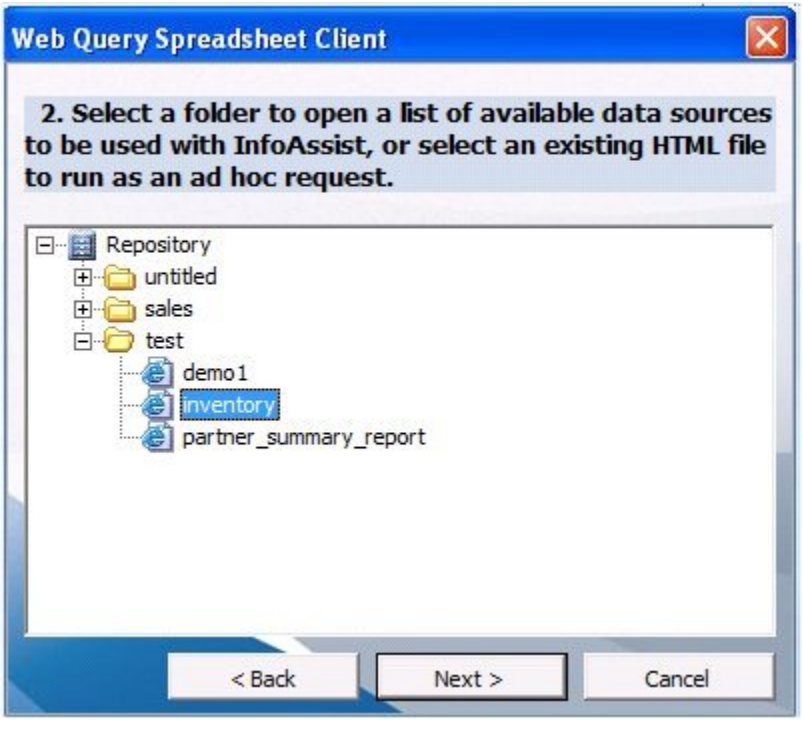
Procedure: How to Create a Report Query From a Structured Ad hoc Form

1. Open an Excel file.
2. Select a cell in which to place the query.
3. Click the *Web Query* option in the Excel menu, then select *Create Query*.

   You can also right-click any cell and select *Create Web Query Query*.
4. If connection information was not specified during the creation of a previous query, you must specify the desired Reporting Server URL when the Web Server Connection dialog box opens. When the desired connection settings have been specified, click *Next*. For more information, see *Defining Web Server Connection Settings* on page 21.

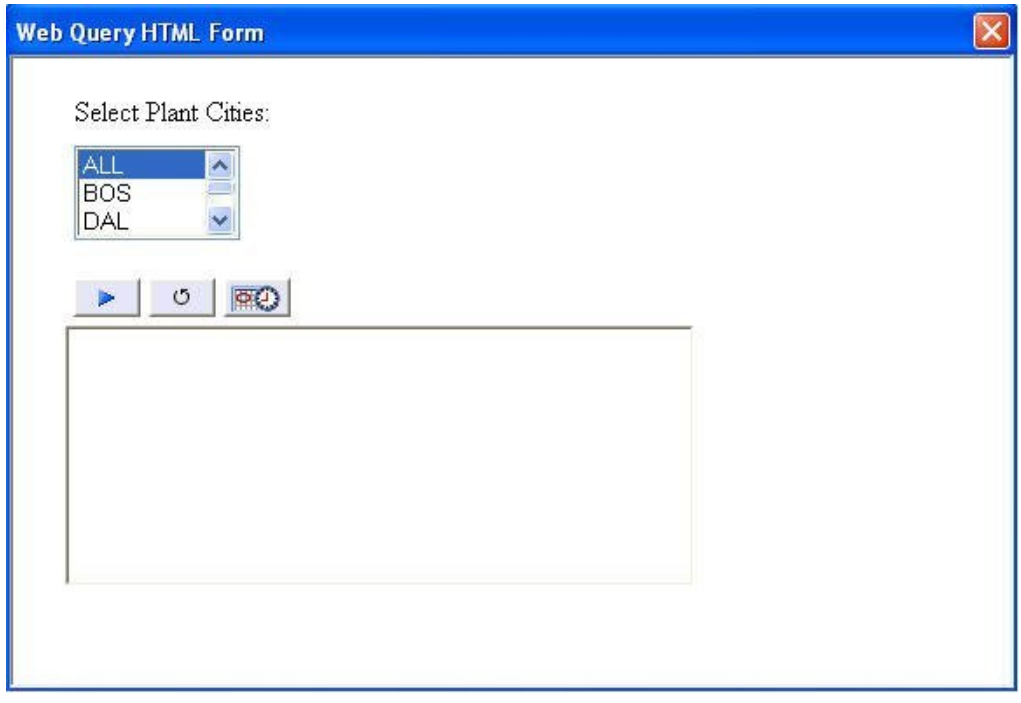
   Spreadsheet Client is configured to use MR Authentication, so you are prompted to log on with valid DB2 Web Query credentials (unless you are already logged on).

Structured Ad hoc forms can now reside in any folder. Folders and HTML files will be listed based on user privileges, as shown in the following image.



5. Navigate to the folder, select an HTML file (SAF), and click *Next*.

6. Select a parameter in the Web Query HTML Form dialog box that appears, as shown in the following image. Next, click the *Run* button to populate the Excel file with data from the report.



The output data is added to the Excel file, as shown in the following image.

	A	B	C	D
1				
2	**Sales Analysis**			
3			Units	
4	City	Units Sold	Returned	Revenue
5	BOS	1275843	123134	$881,737,037.00
6	DAL	201193	19383	$141,089,667.00
7	LA	165755	28521	$108,025,795.00
8	ORL	213405	20445	$136,998,975.00
9	SEA	97242	9390	$69,131,048.00
10	STL	333143	31765	$224,941,397.00
11				
12	**TOTAL**	**2286581**	**232638**	**$1,561,923,919.00**

You can edit the query to select different parameter values, or just rerun the same parameter values to refresh the data, by right-clicking any cell in the query and selecting *Edit Query*.

Creating Structured Ad hoc Forms in Developer Workbench

How to:

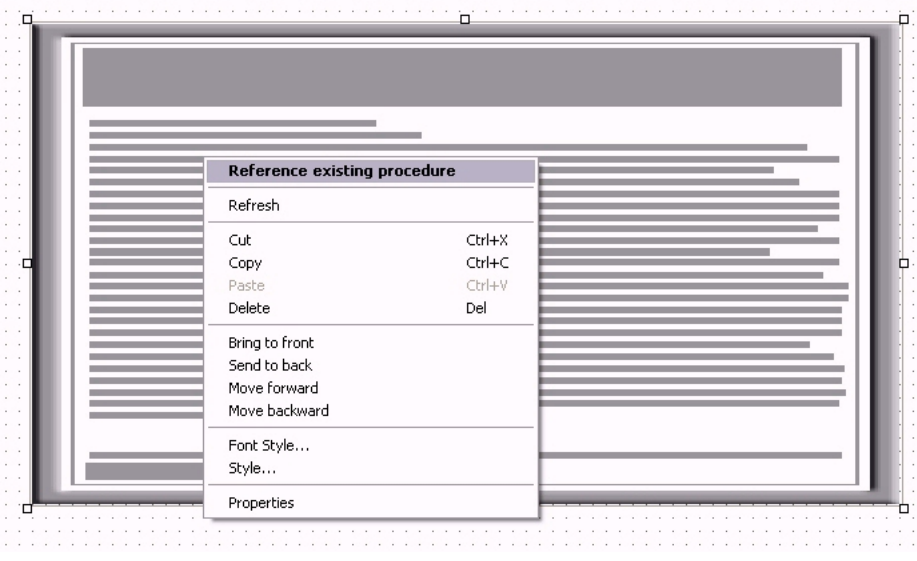
Create a Structured Ad hoc Form

Hide a Report Frame

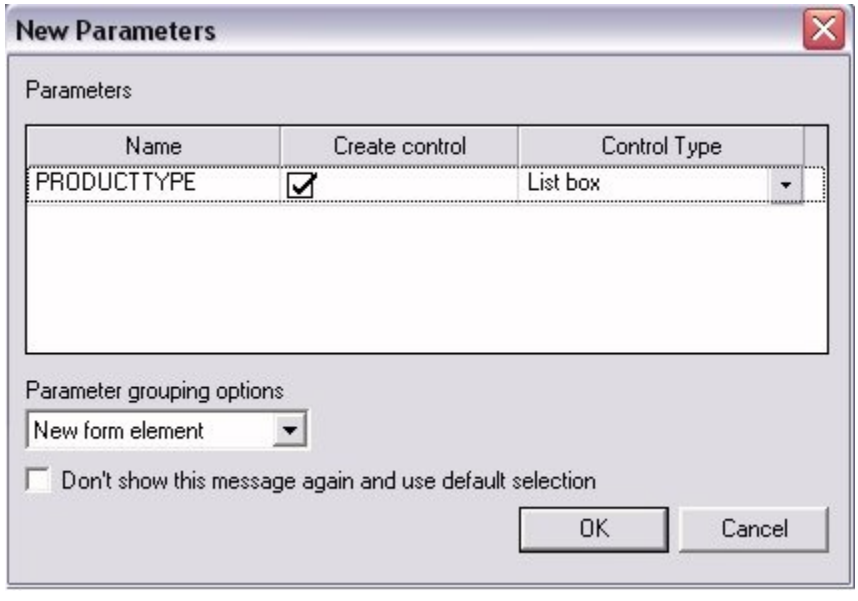
SAFs (Structured Ad hoc Forms) are created in the Developer Workbench Managed Reporting environment using the HTML Composer, by referencing an existing parameterized DB2 Web Query report. A parameter must be added to a report to make it a valid SAF.

Procedure: How to Create a Structured Ad hoc Form

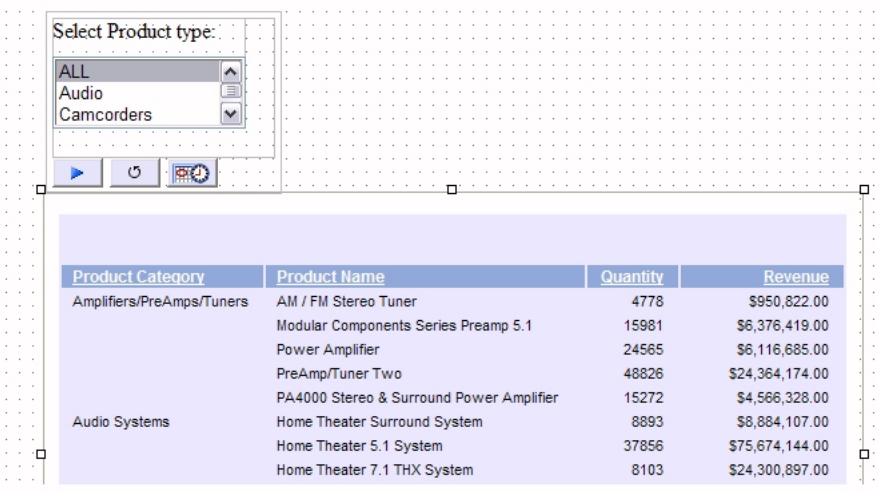
1. Insert a parameterized report into your HTML Layout by referencing an existing report, as shown in the following image.



2. Select the desired options in the New Parameters dialog box that appears.



The completed report that will be used as a SAF in Spreadsheet Client is shown in the following image.

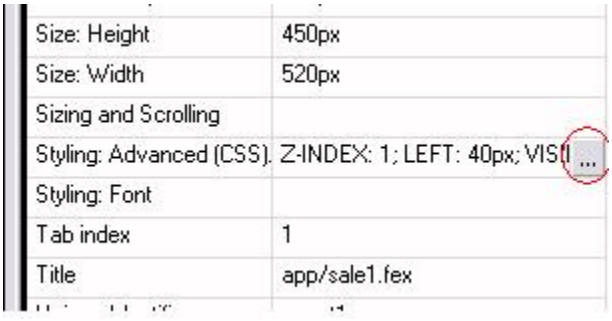


When a SAF is called from Excel, Spreadsheet Client automatically bypasses the report frame in the HTML page and returns the data to Excel. This allows forms to be used in the browser and in Excel.

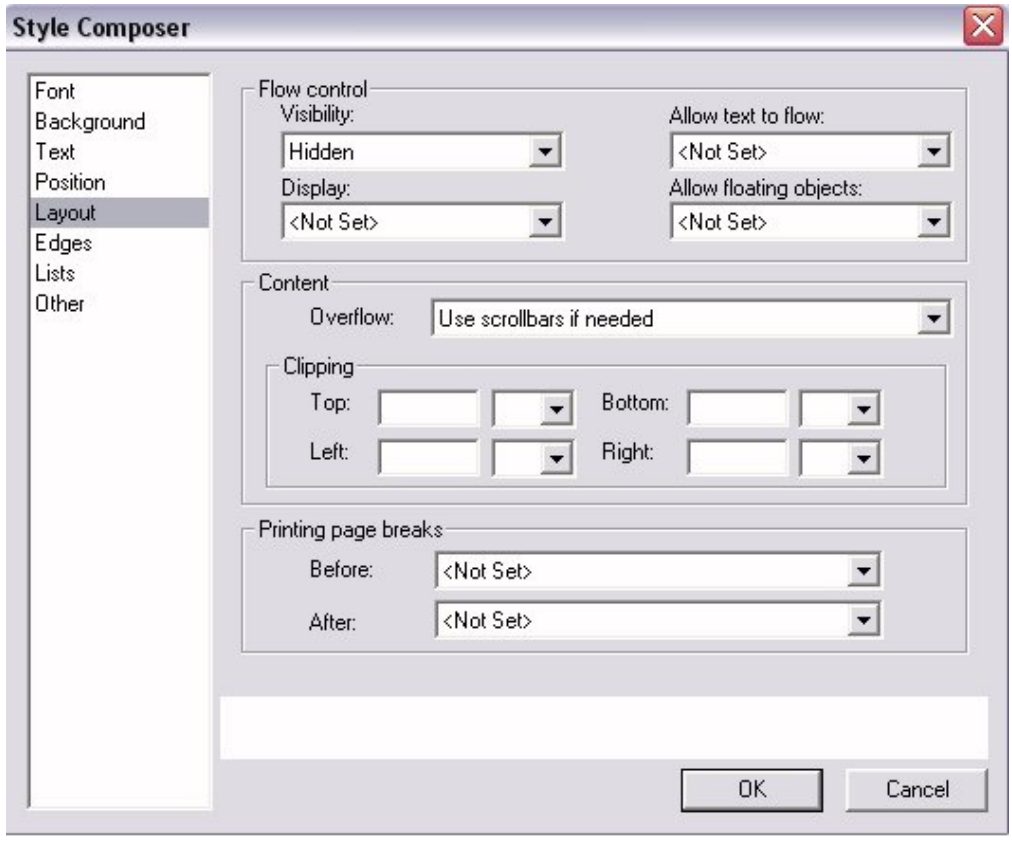
Procedure: How to Hide a Report Frame

If a form is to be used only in Excel, then you can hide the frame by changing the visibility property to hidden in the Layout window of the Style Composer in the HTML Composer.

1. Highlight the report frame.
2. In the Properties panel, select the Styling Advance ellipsis button.

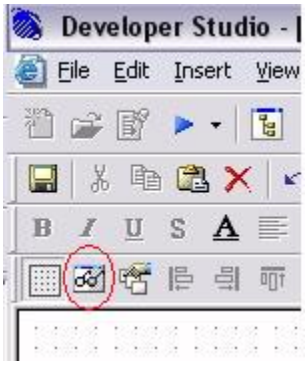


The Style Composer appears, as shown in the following image.



3. Select the *Layout* option.
4. Select *Hidden* in the Flow control Visibility drop-down list.
5. Click *OK*.

Once you hide a frame, you can make it visible in the HTML layout toolbar by clicking the Visibility Toggle button, as shown in the following image.

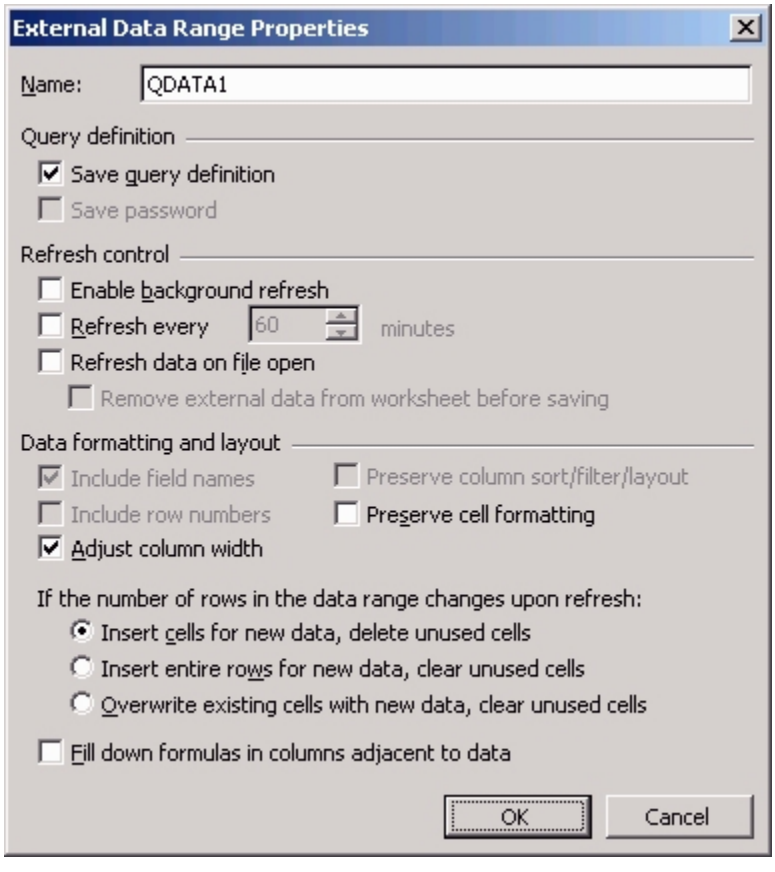


Setting Query Properties

In this section:

Defining Data Formatting and Layout

You can modify query properties in Excel by right-clicking any cell in an existing query and selecting *Data Range Properties*, which opens the External Data Range Properties dialog box, as shown in the following image.



Some of the External Data Range Properties options you can control include:

- **Name.** You can change the name that is automatically assigned to the named range.

  Spreadsheet Client automatically adds a named range to the entire data table and also to each individual column. Named ranges are useful when referencing data as a source for analysis or within an advanced Excel application.

- **Query definition.** Unchecking this option will remove the query from the worksheet. The data remains but is no longer tied to a Spreadsheet Client query.
- **Refresh control.** You can enable background refresh, set the refresh interval, and enable the file to refresh data when opened. If applicable, you can also remove external data from the worksheet before saving.

Defining Data Formatting and Layout

The report layout determines how the data returned from the server interacts with the existing worksheet and any existing content within the worksheet. The following are options you can select in the Data formatting and layout section of the External Data Range Properties dialog box.

- **Preserve cell formatting.** This option affects how data is returned to the worksheet when refreshed. If this option is checked, the existing formatting in the worksheet is preserved. If this option is unchecked, the existing formatting is removed when the query is refreshed.
- **Auto adjustment of existing data.** These options determine how existing data is handled when new data is returned from the query. In some instances, the number of rows returned from the query is more or less than the original data set, and the following options determine what happens when this occurs.
  - Insert cells for new data, delete unused cells.
  - Insert entire rows for new data, clear unused cells.
  - Overwrite existing cells with new data, clear unused cells.

For more information on specifying external data range properties for a query, see your Microsoft Excel documentation.

2 DB2 Web Query Change Management

Change management is the process of moving application components between DB2 Web Query environments of the same release level. Typically, this is done to ensure that applications have been fully tested, prior to deploying to a production environment.

There are features and methodologies within DB2 Web Query Version 2.1, which are used to facilitate these important tasks.

Topics:

- Understanding the Change Management Process
- Creating a Change Management Package

Understanding the Change Management Process

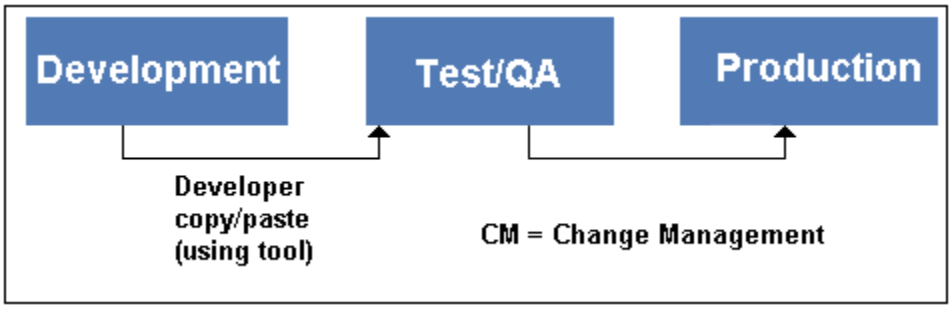
Developing an application is an iterative process. Developers revise application code and periodically move these components to the test environment for user feedback and acceptance. At some point within the application development lifecycle, when the application is stabilized, it is moved to production. After an application is released for general use, problems must be fixed, tested, and incorporated into the production environment. This is the essence of the change management process, which is also referred to as production control.

Organizations vary widely in how they approach change management. Some delegate much of the responsibility to developers, while others establish alternative processes to maintain a higher degree of control. Typically, developers utilize development tools to perform these duties, while change management professionals prefer batch-oriented methods to move application components between environments. Developers may be required to create a change management package in order to initiate changes after the application is moved to production. A combination of these approaches is often used in larger companies.

The examples that follow illustrate two different change management processes. These sections describe product features and methodologies that can be utilized by companies to meet their change management objectives with DB2 Web Query Version 2.1.

Example: Moving Application Files: A Simple Change Management Process

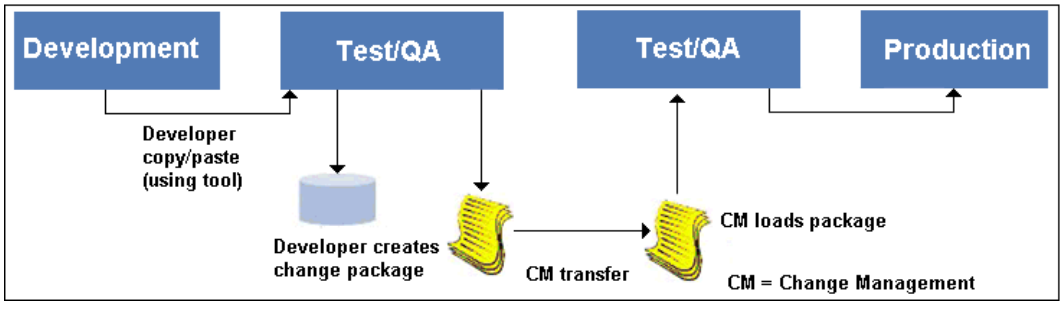
As shown in the following image, developers move application files between the development and test environments using their development tool. When the application is finished, a systems person copies the application from test to production using operating system utilities. There may only be a single test environment.



Example: **Moving Application Files: A Comprehensive Change Management Process**

In this example, four DB2 Web Query environments are established to increase the level of control of moving application code to production. Developers use the Business Intelligence Portal Resources tree or Developer Workbench to move application files from development to test. Developers then use the Change Management Export facility when they are ready to move their changes to the user acceptance test environment.

The Change Management Export facility allows the Developer to select the resources to be moved and creates a change management package. An administrator can subsequently move the change package into an acceptance test using the Change Management Import facility. Some organizations may choose to utilize an automated process to import the content, to achieve better integration with their business processes. As shown in the following image, when the application is deemed ready for release, the production control personnel initiates a file system copy of the application to the production environment. Users begin using the application and the change management process shifts into an application maintenance support role. From this point forward, incremental updates to production are facilitated by administrators using the Change Management Import facility.



Creating a Change Management Package

How to:

Create a Change Management Extract Package

Access the Change Management Export Facility to Create a Scenario

Import a Change Management Package

Many organizations do not grant developers write access to the user acceptance test and production environments. Access to these environments is strictly controlled and granted only to administrators, production control personnel, or automated change management processes.

Only developers know which changes are ready to be moved into test. The Change Management Export facility presents developers with a graphical view of the resources they manage and allows them to build a change management package. This package is then loaded into another environment by production control personnel or automated processes.

Procedure: How to Create a Change Management Extract Package

A user must be a Web Query developer or administrator to create a Change Management Export Package.

The steps required for creating a Change Management Package are:

1. **Creating a Scenario.** Utilizing the Change Management Export user interface, an authorized user will create a Scenario by selecting the resources to be exported. A Scenario is a description of all the resources that will be exported into a Change Management Export Package.
2. **Exporting a Scenario.** After a scenario is created, a user can export this scenario into a Change Management package. This Change Management Export Package is placed in the directory with the same name as the scenario:

   `/qibm/userdata/qwebqry/base80/cm/export`

   The exported folder is then copied to the target environment and placed in this directory:

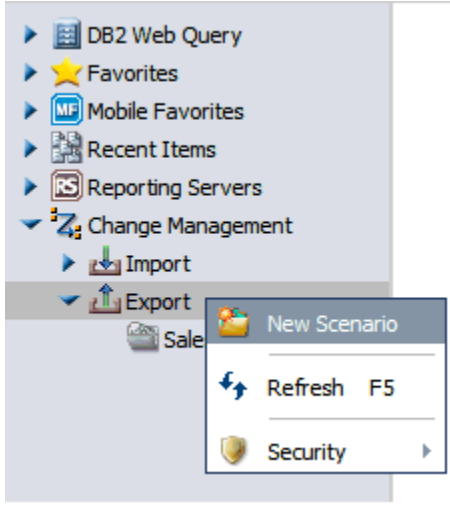
   `/qibm/userdata/qwebqry/base80/cm/import`

   Note: The Change Management Export and Import activity is written to the following log file:

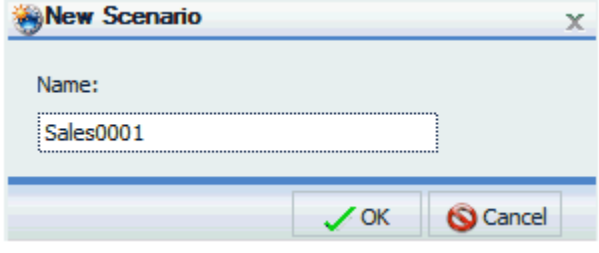
   `/qibm/userdata/qwebqry/base80/logs/impex.log`

Procedure: How to Access the Change Management Export Facility to Create a Scenario

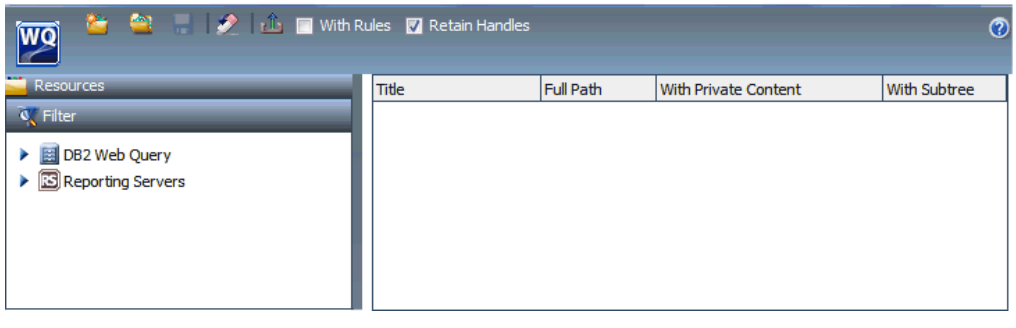
1. Right-click *Export* in the Change Management section, and select *New Scenario*, as shown in the following image.



2. You will then be prompted to enter the Scenario Name, as shown in the following image.



This will invoke the user interface to create the Scenario, which allows a user to select Resources that will be moved to the target system.



There are two major options listed on the top of the Change Management Export Interface.

With Rules. Unselected by default. This option should not be selected.

Retain Handles. This option is necessary when the Version 2.1.x source environment is migrated from a 1.1.x version of DB2 Web Query, and this content is used in a Change Management process. During migration from Version 1.1.x to Version 2.1.x, the 1.1.x version hrefs are used as the 2.1.x version handles to allow the earlier code for –INCLUDEs and drill downs to continue to work with the Version 1.1.x style syntax. Moving these handles to the target environment, will allow code that contained the earlier style –INCLUDE and drill down syntax to continue to work.

The following types of resources can be moved:

- Any folder or item from the /WFC/Repository or what is shown in the user interface as DB2 Web Query, including procedures (FOCEXECs), Stylesheets, Images, HTML files, Schedules, and Distribution Lists.
- Any application or specific files from the Reporting Server node on the tree.

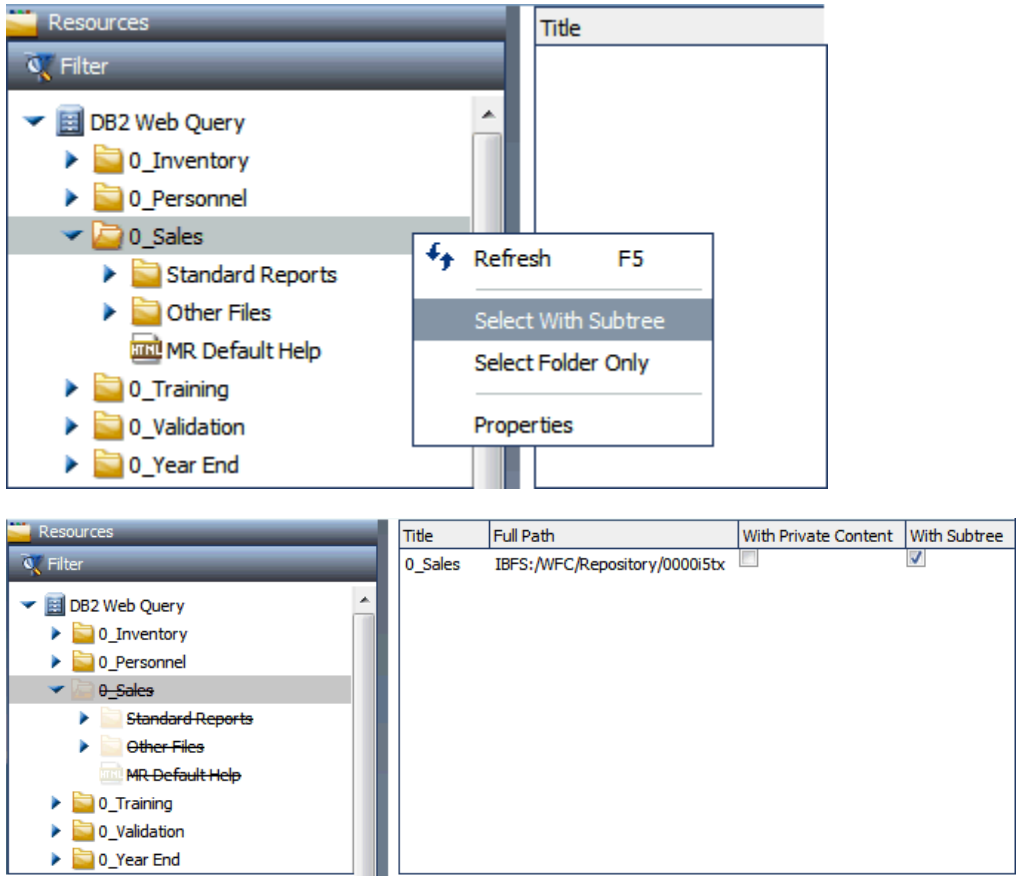
Selecting Resources

- Resources are selected by either dragging or dropping content from the Change Management tree on the left, to the right pane. Or, using the context menu and right-selecting the content you want to move, and choosing either *Select With Subtree* or *Select Folder Only*.
  - Select With Subtree selects that folder and all subfolders.
  - Select Folder Only selects the specific folder, with no content. Typically, that is done to move rules on the folder.
- If a Private resource is selected, the With Private Content check box is automatically selected and cannot be unselected.
- If a Published Folder is selected, you have the option of including Private Content within that folder, by selecting the With Private Content check box for that resource. This will export ALL of the private content in that folder and its subfolders.

Note:

- If Private Content is selected, it will ONLY be imported if the owner of that Private Content, already exists in the target environment.
- It is also possible to import Private Content to a target environment, and the users that should have access to it, do not have access to the Published Folder that contains those items. This can happen if the rules in that environment are different than the source environment.
- If a subfolder is selected, its parent folder must exist in the target system.

Selecting a folder



3. Now that resources are selected, the scenario should be saved.

   Once saved, the Scenario can be run through the Change Management Import interface.

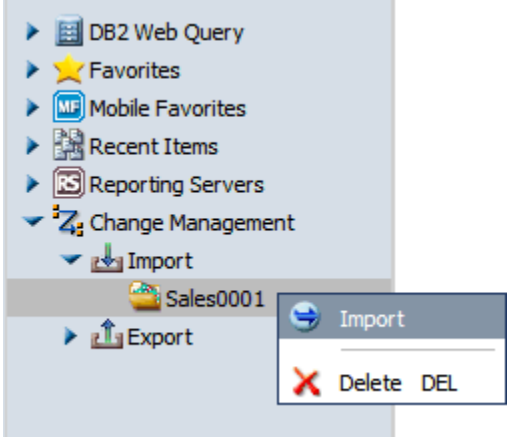
Procedure: How to Import a Change Management Package

A user must be a Web Query administrator to Import a Change Management Package.

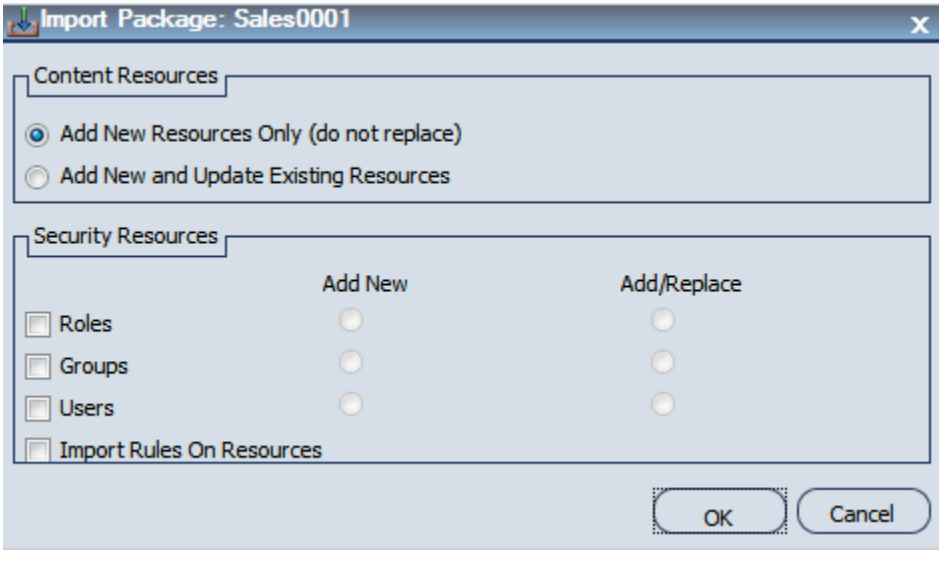
This step assumes that a Change Management Extract Package has been previously created and has been copied to the target environment in this directory:

`/qibm/userdata/qwebqry/base80/cm/import`

1. The Change Management Export Package is selected from the Change Management Import folder, and the option of Import is selected, as shown in the following image.



2. A number of options are presented to the user, as shown in the following image.



Add New Resource Only (do not replace). This option will only add new resources to the target environment. For newly created items, the Created On and Last Modified On fields will be updated with the time at which they were imported. The Created On and Last Modified On fields are accessible by right-clicking an item and selecting *Properties*.

If an item already exists in the target environment, but is also part of the Change Management Export Package, the target resource will be left alone and the Last Modified On field is not updated.

Add New and Update Existing Resources. This option will add new resources to the target environment if they do not exist, and update existing resources if they already exist. For newly created items, the Created On and Last Modified On fields will be updated with the time in which they were imported. For Updated items, the Created On value for the target will be retained, but the Last Modified On field will be updated with the time in which it was imported.

Security Resources: Roles, Groups, Users

Note: The Security Resources options should not be selected and are reserved for future use.