

IBM DB2 Web Query Tool



User's Guide

Version 1 Release 3

IBM DB2 Web Query Tool



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Note:

Before using this information and the product it supports, be sure to read the general information under "Notices."

Seventh Edition (November 2002)

This edition applies to the following releases and to all subsequent releases and modifications until otherwise indicated in new editions:

- IBM® DB2® Web Query Tool for z/OS, Version 1 Release 3 Modification 2 (product number 5655-E71)
- IBM DB2 Web Query Tool for Multiplatforms, Version 1 Release 3 Modification 2 (product number 5724-B34)
- IBM DB2 Web Query Tool for iSeries, Version 1 Release 3 Modification 2 (product number 5697-G85)

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About this book

This book contains information on installing and using DB2® Web Query Tool.

Who should read this book

This book is intended for all DB2 Web Query Tool users.

Service updates and support information

To find service updates and support information, including software FixPaks, PTFs, Frequently Asked Question (FAQs), technical notes, troubleshooting information, and downloads, refer to the following Web address:
www.ibm.com/software/data/db2imstools/support.html

Contacting Customer Support

There are a few things that it would be helpful to prepare if you need to contact customer support for any reason. They are as follows:

- Operating System name and version
- WebSphere® version
- The following logs:
 - `<installRoot>/logs/stderr.txt`
 - `<installRoot>/logs/stderr.txt`
- The name and version of the HTTPd
- The name and version of your DB2 database
- The version of DB2 Web Query that you are running.
- The DB2 Web Query Tool log from effected day, from the following directory:`<installRoot>/logs/traceYYYY-MM-DD.log`
- Configuration information which can be obtained by using the XMLConfig tool.
This information is obtained by running the following command:
`<wqt_wasRoot>/bin/xmlConfig -adminNodeName <wqt_nodeName> -export <xmlFileName>`

Where to find information

The Data Management Tools Library Web page provides current product documentation that you can view, print, and download. To locate publications with the most up-to-date information, refer to the following Web address:

www.ibm.com/software/data/db2imstools/library.html

IBM® Redbooks™ that cover Data Management Tools are available from the following Web address:

www.ibm.com/software/data/db2imstools/support.html

How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other IBM DB2 Web Query Tool documentation:

- Use the online reader comment form located at www.ibm.com/software/data/db2imstools/rcf/
- Send your comments by e-mail to dmtinfo@us.ibm.com. Be sure to include the name of the book, the part number of the book, the version of DB2 Web Query Tool, and, if applicable, the specific location of the text that you are commenting on (for example, a page number or table number).
- Fill out one of the forms at the back of this book and return it by mail, by fax, or by giving it to an IBM representative.

Summary of Changes to IBM DB2 Web Query Tool

IBM WebSphere Application Server Support:

IBM DB2 Web Query Tool now supports J2EE compliant web servers including IBM WebSphere Application server Version 3.x and Version 4.0.

Benefit: You can now use IBM DB2 Web Query Tool through IBM WebSphere Application Server Version 4.0.

Shared Catalog Support:

You can now choose to share saved objects, such as queries and results, in a DB2 Web Query catalog.

Benefit: By sharing a catalog, you can avoid having to set up separate catalogs at each location/connection, you can now choose to share saved objects, such as queries and results, in a shared DB2 Web Query catalog. Objects saved in a shared catalog can be directed to run at any connectable database server.

SQL Assistant:

An SQL assistant is available to aid less technical users in writing SQL queries.

Benefit: Even if you are not an SQL expert the SQL assistant can help you to write SQL queries.

Informix™ support:

You can use DB2 Web Query to access Informix Dynamic Server 9.x databases.

Benefit: Data stored in Informix Dynamic Server 9.x databases is now accessible through DB2 Web Query.

Server Side XSL Support:

Server side XSL transformations are now applied to the generated XML/XSL data.

Benefit: It is no longer necessary to have client side XML translation software components on your machine in order to use XSL functionality in DB2 Web Query.

DB2 Stored Procedure Support:

A DB2 stored procedure can be run by selecting it from the Web Query object tree. You can also run a stored procedure by specifying a CALL statement in your SQL query.

Benefit: You can now run DB2 Stored procedures from the DB2 Web Query interface.

SOAP Support:

A saved query can be published as a SOAP service.

Benefit: Any SOAP requestor can access a query published as a SOAP service.

Scalable Vector Graphing:

The Scalable Vector Graphics (SVG) model is now supported by DB2 Web Query for use with graphs and charts.

Benefit: Result sets can be transformed to graphs/charts using the Scalable Vector Graphics (SVG) model.

LOB Support:

You can retrieve Large Object (LOB) data in DB2 Web Query. DB2 Web Query can also be used to launch the appropriate viewing application to render the LOB data (picture, video, audio, etc.).

Benefit: Working with LOB data is now possible through DB2 Web Query.

Chapter 1. Introduction

This chapter contains basic information about DB2 Web Query Tool, including product highlights, performance and security information, and software requirements.

Product description

DB2 Web Query Tool is a data management tool that allows you to create and run SQL queries against your DB2 databases, through a web browser. It uses Java™ technology to provide server platform independence, running in a Java servlet application server environment such as IBM WebSphere Application Server.

Highlights

DB2 Web Query Tool allows you to run SQL queries against DB2 databases and view the results or export them for use in other applications. With DB2 Web Query Tool, you can:

- Create and run SQL queries
- Save queries and results for later use
- View query results through your web browser
- E-mail query results
- Create new DB2 tables
- Compare similar DB2 objects
- Export query results to a new or existing table
- Export query results to the following formats:
 - XML
 - HTML
 - CSV (comma separated value)
 - text files
 - Microsoft® Excel
- Use DB2 Web Query to connect to Informix Version 9.3 databases

Performance and security

You can mitigate the impact of long-running queries and govern access to Web Query catalogs.

Performance

Some long queries may impact system performance. The system administrator can set a time-out value to help mitigate the impact of long-running jobs. This may be done by setting the **queryTimeout** value to the number of seconds that you want the system to wait before a time-out occurs. The default **queryTimeout** value is 60 seconds.

Note: If you set the **queryTimeout** value too low sporadic query results and displays may result, depending on the utilization of the host. The **queryTimeout** value should not be set below 60 seconds except in well understood situations.

Queries that are run against a database are saved on the file system in WQML (Web Query Markup Language). Adequate disk space must be made available in order for the result sets to be saved. To help manage these space issues, Web Query uses the **daysSaved** parameter to automatically remove result sets that are older than the specified setting. The default **daysSaved** value is 7 days.

Security

To protect your data from unauthorized access you can configure IBM WebSphere to use Secure Socket Layer (SSL) encryption during DB2 Web Query transactions. For more information on Configuring IBM WebSphere to use SSL, see "Configuring IBM WebSphere to Use Secure Socket Layer (SSL) encryption" on page 32.

Web Query uses an administrative user to govern access to the Web Query catalogs. This user name and password is specified by the **wqUserId** and **wqUserPass** parameters. These parameters are required in order to access the DB2 Web Query Tool Catalog Objects. As these are shared objects, they should only be accessible to this User ID.

The **wqUserId** and **wqUserPass** parameters are stored in the *was.conf* file. It is recommended that this file be secured using normal file permissions. Additionally, this user name and password should be synchronized across all database locations to which Web Query will connect.

In addition, on OS/390® and z/OS™, the RRSAF (rather than CAF) connection facility is required. This must be set up properly with the JDBC driver to allow authentication.

Hardware Requirements

Hardware requirements are those needed to run the software that is described in "Software Requirements."

DB2 Web Query has the following hardware requirements:

- Approximately 64 MB of free disk space on any supported platform
- Additional space for user data
- Memory to fulfill Websphere and DB2 minimum requirements

Software Requirements

In order to work with IBM DB2 Web Query Tool, you need to have a Web server, a Web Application server (such as IBM WebSphere Application Server), JDBC and DB2 installed on your system. You also need to be able to connect to a DB2 database. When you are using DB2 Web Query Tool, you are working in a browser. Information that you send to DB2 Web Query Tool first goes through your Web Server. Your Web Server passes the information to your Web Application Server (IBM WebSphere Application Server). Your Web Application Server passes the information to DB2 through JDBC.

The following table indicates the operating systems, DB2 Web Query Tool products, and WebSphere products that you can choose for your business.

IBM DB2 Web Query Tool environment:

Operating System	IBM DB2 Web Query Tool Product	IBM WebSphere Product
UNIX [®] and Linux	IBM DB2 Web Query Tool for Multiplatform	IBM WebSphere Application Server V3.5.5, or V4.0.3
Windows NT [®] or Windows [®] 2000	IBM DB2 Web Query Tool for Multiplatform	IBM WebSphere Application Server V3.5.5, or V4.0.3
OS/400 [®] Version 4.5 or later	IBM DB2 Web Query Tool for iSeries [™]	IBM WebSphere Application Server V3.5.5, or V4.0.3
z/OS, OS/390 Operating System, Version 2 Release 5 or higher with UNIX System Services installed on MVS [™]	IBM DB2 Web Query Tool for z/OS	IBM WebSphere Application Server V3.5.5, or V4.0.3

Note: IBM WebSphere Application Server is recommended (versions 3.5.5, and 4.0 are supported). However, DB2 Web Query Tool is compatible with any application server that supports JSDK 1.3 and above, J2EE and JDBC 1.0.

Functional Dependency:

If you use WebSphere Application Server on z/OS or OS/390, Version 4.0 is required to use the SOAP functions.

Database:

IBM DB2 Version 5.x and above with a JDBC Type-2 Driver, with the applicable updates to enable JDBC. DB2 Web Query will also work with Informix Dynamic Server 9.3.

Note: JDBC Drivers other than those for DB2 can be used to view but not edit database data.

Web Query Tool implements ANSI SQL API with Standard JDBC communication. Other conforming databases might work with Web Query Tool. However, IBM does not warrant this use, and Web Query Tool is tested only with DB2 and Informix databases.

Web Browser:

To use DB2 Web Query, you must use a Web Browser that supports Java 1.1.x and has cookies and Java script enabled.

Microsoft Internet Explorer version 5.5, with fixpack 2 is installed and higher is supported.

Netscape Version 4.7 and higher is supported.

Tip: Ensure that the current fix levels are applied for the JDBC driver, JDK, HTTPD, and IBM WebSphere.

Licensing

IBM DB2 Web Query Tool can access DB2 on a variety of platforms depending on which License Use Management (LUM) key you have. The three different versions are as follows:

1. IBM DB2 Web Query Tool for Multiplatform. You can access DB2 running on the following platforms using IBM DB2 Web Query Tool for Multiplatform:
 - Linux
 - Linux 390
 - AIX®
 - SUN Solaris
 - HP-UX
 - OS/2®
 - SCO
 - NUMA-Q®
 - Windows NT
 - Windows 2000
2. IBM DB2 Web Query Tool for iSeries:
 - AS/400®
 - iSeries
3. IBM DB2 Web Query Tool for z/OS:
 - z/OS
 - MVS
 - OS/390

The Web Query license is enforced based on the platform to which IBM DB2 Web Query Tool is connecting. That is, the platform where DB2 is running. For instance you could install IBM DB2 Web Query Tool on Windows 2000, and use it to access DB2 running on z/OS. In this instance you would need a License Use Management key for IBM DB2 Web Query Tool for z/OS.

You can have more than one License Use Management key installed. This would permit you to connect to DB2 on more than one platform.

To find out what licenses you currently have:

1. Click **Connections**. A drop-down menu appears.
2. Click **About**. The About screen appears. On the about screen you can find information about what license use management keys are installed.

Using DB2 Web Query to connect to DB2 on more than One Platform

You can use DB2 Web Query to connect to DB2 on z/OS, Windows, UNIX, Linux, and iSeries. For each platform to which you want to connect, you must install the corresponding license.

To install a new license use management (LUM) key:

1. Copy the license management key in ASCII format, and paste it into the *nodelock* directory in the *installRoot* directory.
2. Activate the license through one of the following methods:
 - From the Web Query Setup panel, select license and click refresh. The active licenses will be displayed on the screen.

- Restart IBM DB2 Web Query Tool.
- Wait until IBM DB2 Web Query Tool scans the nodelock directory. The nodelock directory is scanned every twelve hours.

Chapter 2. Installation and Configuration

This chapter contains information about installing and configuring DB2 Web Query Tool.

File Installation

A DB2 Web Query Tool home directory, or “install root”, should be created on the server that will run DB2 Web Query Tool. You can then copy the DB2 Web Query Tool files from the distribution media (CD ROM, compressed file, etc.) to the install root.

Before installing DB2 Web Query Tool, ensure that you have installed the most recent JDBC driver and the most recent version of DB2 including any available patches.

Installing DB2 Web Query Tool files

To install DB2 Web Query Tool, perform the following steps:

1. Decide where you want the install root directory to be located on your system.
The suggested locations for the install root directory are as follows:

Table 1. Recommended installRoot directory locations

Platform	Recommended install root directory path
Windows NT and Windows 2000	C:\IBM\CWQ
UNIX and Linux	/usr/lpp/CWQ
z/OS, OS/390, and MVS	/usr/lpp/CWQ
iSeries and AS/400	/QIBM/UserData/CWQ

You can select one of the recommended locations or create the install root directory elsewhere and indicate the location using the **installRoot** parameter.

Note: The install root directory must be readable and searchable. For instance if you were installing on AIX, the /usr/lpp directory would need to be readable and searchable.

2. Identify the proper IBM DB2 Web Query Tool distribution file for the platform on which you will be installing IBM DB2 Web Query Tool.

Table 2. IBM DB2 Web Query Tool Distribution files

Platform on which DB2 Resides	Platform on which you are installing DB2 Web Query	Distribution file
Windows NT or Windows 2000	Windows NT or Windows 2000	cwq13-mp-win.zip
Windows NT or Windows 2000	iSeries or AS/400	cwq13-mp-iseries.zip
Windows NT or Windows 2000	z/OS or OS/390	cwq13-mp-zos.tar
Windows NT or Windows 2000	UNIX or Linux	cwq13-mp-unix.tar
UNIX or Linux	Windows NT or Windows 2000	cwq13-mp-win.zip

Table 2. IBM DB2 Web Query Tool Distribution files (continued)

Platform on which DB2 Resides	Platform on which you are installing DB2 Web Query	Distribution file
UNIX or Linux	iSeries or AS/400	cwq13-mp-iseries.zip
UNIX or Linux	z/OS or OS/390	cwq13-mp-zos.tar
UNIX or Linux	UNIX or Linux	cwq13-mp-unix.tar
iSeries or AS/400	Windows NT or Windows 2000	cwq13-iseries-win.zip
iSeries or AS/400	iSeries or AS/400	cwq13-iseries-iseries.zip
iSeries or AS/400	z/OS or OS/390	cwq13-iseries-zos.tar
iSeries or AS/400	UNIX or Linux	cwq13-iseries-unix.tar
z/OS or OS/390	Windows NT or Windows 2000	cwq13-zos-win.zip
z/OS or OS/390	iSeries or AS/400	cwq13-zos-iseries.zip
z/OS or OS/390	z/OS or OS/390	cwq13-zos-zos.tar
z/OS or OS/390	UNIX or Linux	cwq13-zos-unix.tar

- When you move the files to the install root directory, you must unzip or untar the files that are delivered on the DB2 Web Query Tool distribution media from within the directory where you want the files to be located. When the files are untarred or unzipped that process will create the correct directory structure.

The instructions below illustrate using the recommended paths:

- If you are installing on Windows, from the C:\IBM\CWQ directory, unzip the appropriate DB2 Web Query Tool .zip file.
- If you are installing on Linux, UNIX, MVS or z/OS (or OS/390), untar the appropriate DB2 Web Query Tool .tar file from within the /usr/lpp directory.
- If you are installing on iSeries or AS/400, untar the appropriate DB2 Web Query Tool .tar file from within the /QIBM/UserData directory.

This creates the DB2 Web Query Tool directory tree on your server. You can find all DB2 Web Query Tool files in this directory tree.

- Install the DB2 Web Query Tool Catalogs. This step is optional. For more information on installing the DB2 Web Query Tool catalogs, see “Creating and Installing the DB2 Web Query Tool Catalog” on page 28.

Configuration

DB2 Web Query Tool is configured differently depending on the operating system and the version of WebSphere Application Server that you are running.

Parameter list

Each DB2 Web Query Tool configuration parameter is listed with its definition. If the parameter has a default value or recommended value, it is shown in the table after the parameter definition.

appRoot

This parameter indicates the URL path to the DB2 Web Query Tool Servlet. This should match the URL that you specified in your WebSphere configuration. This parameter is mandatory, information must be entered for this parameter.

Table 3. *appRoot* parameter recommended values

Platform	Recommended Values
Windows NT and Windows 2000	/DB2Tools/WebQuery
UNIX and Linux	/DB2Tools/WebQuery
iSeries or AS 400®	/DB2Tools/WebQuery
z/OS or OS/390 using WebSphere Application Server Version 3.5.5 and 4.0.3	/DB2Tools/WebQuery

daysSaved

Query results not saved to the DB2 Web Query Tool Catalog are kept on the server file system for the specified number of days.

Table 4. *daysSaved* parameter defaults

Platform	Default
Windows NT and Windows 2000	7
UNIX and Linux	7
iSeries or AS 400	7
z/OS or OS/390 using WebSphere Application Server Version 3.5.5	7
z/OS or OS/390 using WebSphere Application Server Version 4.0.3	7

db2TableEditorArchive

When accessing an Informix database, ifxjdbc.jar and db2java.zip must be in the DB2 Table Editor directory.

Table 5. *db2TableEditorArchive* parameter recommended values

Database	Recommended Values
DB2	db2forms.jar db2java.zip
Informix	db2forms.jar db2java.zip ifxjdbc.jar

db2TableEditorForm

The display mode for the DB2 Table Editor form. You can specify to have DB2 Table Editor forms displayed in grid mode, form mode or wizard mode. For more information on DB2 Table Editor, see the *DB2 Table Editor User's Guide*.

db2TableEditorPort

This is the port that the DB2 JDBC applet server runs on. This parameter must be set in order for DB2 Table Editor to work with DB2 Web Query Tool. For more information on DB2 Table Editor, see the *DB2 Table Editor User's Guide*.

Table 6. *db2TableEditorPort* parameter recommended values

Platform	Recommended Values
Windows NT and Windows 2000	6789

Table 6. *db2TableEditorPort* parameter recommended values (continued)

Platform	Recommended Values
UNIX and Linux	6789

db2TableEditorUrl

The URL that points to the location of DB2 Table Editor on your web server. For more information on DB2 Table Editor, see the *DB2 Table Editor User's Guide*.

dbDriver

This is the full name of the JDBC driver that is used for the database to which you want to connect. You must specify the **dbDriver** parameter so that DB2 Web Query Tool will be able to make connections.

The **dbDriver** parameter can be followed by a numeric suffix to allow multiple drivers to be installed. For example: auxDriverName1. The numeric suffix should be ordered sequentially starting from 1. The entry for the **dbDriver** parameter should be in the form of a | separated list as follows:

`dbDriver#=<name>|<jdbc driver>|<url prefix>|<connection pool>|<aux>`

Where:

- *name* is a descriptive name given by the administrator (for example, DB2). It is shown in the combo on the DB2 Web Query Tool login page.
- *jdbc driver* is the jdbc driver class name
- *url prefix* is the jdbc url without the location
- *connection pool* is the connection pool that is used to connect to DB2. This is only used on the OS/390 or z/OS platform. On other platforms this variable is ignored. In IBM WebSphere Application Server Version 3.5.5, the connection pool name is the JNDI data source name that was given to the defined connection pool in the file *was.conf*.
- *aux* is the string of additional URL parameters needed to connect. If you specify the auxiliary parameter, then you must specify a connection pool parameter. If no connection pool is needed then a space is used for the connection pool parameter

The recommended values in the table are split for formatting purposes only. You must enter the values as a single string without spaces.

Table 7. *dbDriver* parameter recommended values

Platform	Recommended Values
Windows NT and Windows 2000	db2NT COM.ibm.db2.jdbc.app. DB2Driver jdbc:db2:
UNIX and Linux	Select an AIX or Linux value for your environment: <ul style="list-style-type: none"> • DB26000 COM.ibm.db2.jdbc. app.DB2Driver jdbc:db2: • db2Linux COM.ibm.db2.jdbc. app.DB2Driver jdbc:db2:
iSeries or AS 400	<ul style="list-style-type: none"> • db2400-TB com.ibm.as400.access.AS400JDBCdriver jdbc:as400: • db2400 com.ibm.db2.jdbc.app. DB2Driver jdbc:db2:
z/OS or OS/390 using WebSphere Application Server Version 3.5	db2390v3 COM.ibm.db2os390. sqlj.jdbc.DB2SQLJDriver jdbc:db2os390: jdbc/db2wqt

Table 7. dbDriver parameter recommended values (continued)

Platform	Recommended Values
z/OS or OS/390 using WebSphere Application Server Version 4.0.3	db2390v4 COM.ibm.db2os390.sqlj.jdbc.DB2SQLJDriver jdbc:db2os390: jdbc/db2wqt
Informix	Informix com.informix.jdbc.IfxDriver jdbc:informix-sqli://informix:1526/ :INFORMIXSERVER= ol_informix

Note: More than one value can be defined for the **dbDriver** parameter if you are using more than one operating system or database location (on OS/390). In this case, the first **dbDriver** parameter would be dbDriver1 and the second would be dbDriver2 and so on.

emailHost

This is the server which runs the POP/SMTP services for the system. This parameter enables DB2 Web Query Tool to send e-mail. This parameter must be configured if you want to receive query results via e-mail.

hostName

This is the name of the host which runs DB2 WebQuery. This parameter is mandatory.

initialContextfactory

This is the initial context used to find the CwqManagerEJB parameter.

Table 8. initialContextfactory parameter recommended values

WebSphere Application Server Version	Recommended Values
WebSphere Application Server Version 3.5.5	com.ibm.ejs.ns.jndi.CNInitialContextFactory
WebSphere Application Server Version 4.0.3	com.ibm.websphere.naming.WsnInitialContextFactory

installRoot

This parameter indicates the physical location where DB2 Web Query Tool is installed. This parameter is mandatory, information must be entered for this parameter.

jndiProviderURL

The URL that is used to obtain access to the CwqManagerEJB

Table 9. jndiProviderURL parameter recommended values

WebSphere Application Server Version	Recommended Values
WebSphere Application Server Version 3.5.5 and Version 4.0.3	iiop:///

managerDatasource

The name of the manager data source.

Table 10. *managerDatasource* parameter recommended values

WebSphere Application Server Version	Recommended Values
WebSphere Application Server Version 3.5.5	jdbc/cwqManagerDB
WebSphere Application Server Version 4.0.3	java:comp/env/jdbc/cwqManagerD

managerEJBLookup

The name given to the CwqManagerEJB.

Table 11. *managerEJBLookup* parameter recommended values

WebSphere Application Server Version	Recommended Values
WebSphere Application Server Version 3.5.5 and Version 4.0.3	ejb/com/ibm/db2/cwq/catalog/manager/CwqManagerHome

queryRowLimit

This is the maximum number of rows to return when returning large query results. The default of 0 indicates no limit.

Table 12. *queryRowLimit* parameter defaults

Platform	Default
Windows NT and Windows 2000	0
UNIX and Linux	0
iSeries or AS 400	0
z/OS or OS/390 using WebSphere Application Server Version 3.5.5	0
z/OS or OS/390 using WebSphere Application Server Version 4.0.3	0

queryTimeout

This is the number of seconds to time-out when returning large query results.

Table 13. *queryTimeout* parameter defaults

Platform	Default
Windows NT and Windows 2000	60
UNIX and Linux	60
iSeries or AS 400	60
z/OS or OS/390 using WebSphere Application Server Version 3.5.5	60
z/OS or OS/390 using WebSphere Application Server Version 4.0.3	60

smtpPort

This is the port to which the DB2 Web Query Tool SMTP server binds. This parameter allows DB2 Web Query to receive e-mail and is used to enable the DB2 Web Query Tool e-mail interface. Omitting this parameter will disable the DB2 Web Query Tool e-mail interface. Additional network configuration may be necessary to assign a port other than port 25 as the

smtpPort parameter value. Consult your network administrator for information on configuring your network.

Table 14. smtpPort parameter defaults

Platform	Default
Windows NT and Windows 2000	25
UNIX and Linux	25
iSeries or AS 400	25
z/OS or OS/390 using WebSphere Application Server Version 3.5.5	25
z/OS or OS/390 using WebSphere Application Server Version 4.0.3	25

soapUserPass

This parameter specifies the password needed to access DB2 Web Query using SOAP. This parameter must be set in order to run queries using SOAP devices. The password is encrypted in the configuration file.

soapUserId

This parameter specifies the user ID needed to access DB2 Web Query using SOAP. This parameter must be set in order to run queries using SOAP devices.

webRoot

This is the sub-directory of the web server Document Root which contains the DB2 Web Query Tool HTML documents. It indicates the URL path to the DB2 Web Query Tool directory. This parameter should always begin with the character “/” and should not end with a space. This parameter is mandatory, information must be entered for this parameter.

Table 15. webRoot parameter recommended values

Platform	Recommended Values
Windows NT and Windows 2000	/DB2Tools
UNIX and Linux	/DB2Tools
iSeries or AS 400	/DB2Tools
z/OS or OS/390 using WebSphere Application Server Version 3.5.5 and 4.0.3	/DB2Tools

wqt_nodeName

The case sensitive node name of the IBM WebSphere Application Server. This is the node where DB2 Web Query Tool will be installed. This parameter is used when configuring DB2 Web Query for automatic installation. For more information on automatic installation, see “To configure IBM WebSphere Application Server automatically for Multiplatforms and iSeries:” on page 21.

wqt_rootURI

The prefix of the URL that you use to access DB2 Web Query Tool. For example the URL would be composed as follows:

http://<hostname>/<wqt_rootURI>/WebQuery

This parameter is used when configuring DB2 Web Query for automatic installation. For more information on automatic installation, see “To

configure IBM WebSphere Application Server automatically for Multiplatforms and iSeries.” on page 21.

wqt_wasRoot

The directory where IBM WebSphere Application Server is installed. This parameter is used when configuring DB2 Web Query for automatic installation. For more information on automatic installation, see “To configure IBM WebSphere Application Server automatically for Multiplatforms and iSeries.” on page 21.

wqUserId

This is the user ID that is used to access the DB2 Web Query Tool catalog tables. (This user ID must have DBADM authority.) It will be used to control access to the DB2 Web Query Tool catalog. If nothing is specified for this parameter, access to the DB2 Web Query Tool catalog will be disabled. The DB2 Web Query Tool Catalogs are necessary for such functions as saving queries.

wqUserPass

This is the password that is used to access the DB2 Web Query Tool catalog tables. (This user ID must have DBADM authority.). It will be used to control access to the DB2 Web Query Tool catalog. This parameter is optional. If nothing is specified for this parameter, access to the DB2 Web Query Tool catalog will be disabled.

Configuring DB2 Web Query Tool for z/OS and OS/390 using WebSphere Application Server Version 3.5.5

The following details how to configure WebSphere Application Server Version 3.5.5 for OS/390 or z/OS to work with DB2 Web Query Tool. Before completing the configuration, you need to have successfully installed and configured JDBC and performed the basic DB2 Web Query Tool installation, customization and configuration of the IBM HTTP Server and WebSphere Application Server and successfully run the sample application.

To configure WebSphere Application Server version 3.5.5

1. In your WebSphere Application Server installation directory, locate and open the file named *was.conf*.

Note: If the suggested directory structure was used during install, the file will be located in the following path: */usr/lpp/WebSphere/AppServer/properties*.

2. In the file *was.conf*, set *session.cookies.enable* to true to enable WebSphere session tracking.
3. In the file *was.conf*, adjust the default session time-out parameter to your system preferences by adjusting the value associated with the **session.invalidationtime** parameter. The default is 1800000 ms or 30 minutes.

Note: The values for the **idleconnectiontimeoutmilliseconds** and **inuseconnectiontimeoutmilliseconds** parameters should be set to the same value as the **session.invalidationtime** parameter.

4. Add the following text to *was.conf*: *<installRoot>*


```
# ===== #
# BEGIN DB2 Web Query Tool
# ===== #

deployedwebapp.DB2WebQuery.description=IBM DB2 Web Query Tool
deployedwebapp.DB2WebQuery.host=default_host
deployedwebapp.DB2WebQuery.rooturi=/DB2Tools
deployedwebapp.DB2WebQuery.documentroot=<installRoot>/web
deployedwebapp.DB2WebQuery.classpath=<installRoot>/servlet
deployedwebapp.DB2WebQuery.autoreloadinterval=0
webapp.DB2WebQuery.filemapping=/
webapp.DB2WebQuery.jspmapping=*.jsp
webapp.DB2WebQuery.jsplevel=0.91
webapp.DB2WebQuery.servlet.WebQuery.servletmapping=/WebQuery
webapp.DB2WebQuery.servlet.WebQuery.code=com.ibm.db2.WebQueryTool.WebQuery
webapp.DB2WebQuery.servlet.WebQuery.initargs=installRoot=
<installRoot>,webRoot=/DB2Tools/DB2WebQuery,appRoot=
/DB2Tools/WebQuery,wqUserId=<user>,wqUserPass=
<password>,emailHost=<mail.company.com>,
hostName=<wqhost.company.com>,dbDriver<n>=<name>|<jdbc driver Name>
|<jdbc url root>|<connection pool name>
webapp.DB2WebQuery.servlet.WebQuery.autostart=true

# ===== #
# END DB2 Web Query Tool
# ===== #
```

Note: Some of the lines in the above are split for printing purposes, however when entered in *was.conf*, they should be entered as one line. Each line should either begin with *webapp* or *deployedwebapp*.

The following is an example of values that can be used in the *initargs* section of the above: *webapp.DB2WebQuery.servlet.WebQuery.initargs=installRoot=/usr/lpp/DB2WebQuery,webRoot=/DB2Tools/DB2WebQuery,appRoot=/DB2Tools/WebQuery,wqUserId=xxxxxx,wqUserPass=xxxxxx,emailHost=172.16.37.17,hostName=rs11.rocketsoftware.com,SMTPPort=25,queryTimeout=0,queryRowLimit=0,daysSaved=7, dbDriver1=0S390DB2V6|COM.ibm.db2os390.sqlj.jdbc.DB2SQLJDriver|jdbc:db2os390:|jdbc/db2wqt*

5. In the text that you just added to *was.conf*:
 - a. Replace *installRoot* with the path where DB2 Web Query Tool was installed. For information and recommended settings for the **installRoot** parameter, see the **installRoot** section on page 11.
 - b. Replace *user* with the user ID that is used to access the DB2 Web Query Tool catalog tables. This is the user ID that was entered for the **wqUserId** parameter. For more information on this parameter, see the **wqUserId** section on page 14.
 - c. Replace *password* with the password that is used to access the DB2 Web Query Tool catalog tables. This is the password that you entered for the **wqUserPass** parameter. For information and recommended settings for the **wqUserPass** parameter, see the **wqUserPass** section on page 14.
 - d. Replace *mail.company.com* with the name of your SMTP/POP e-mail server. This is the value for the **emailHost** parameter. For information and recommended settings for the **emailHost** parameter, see the **emailHost** section on page 11.

- e. Replace *wqhost.company.com* with the name of the host that runs DB2 Web Query Tool. This is the value for the **hostName** parameter. For information and recommended settings for the **hostName** parameter, see the **hostName** section on page 11.
- f. *Optional:* If you do not want DB2 Web Query Tool to load when you start IMWEBSRV (the web server process that runs on OS/390 or z/OS), set `webapp.DB2WebQuery.servlet.WebQuery.autostart` to false. In this case, IBM DB2 Web Query Tool will load the first time that it is called.
- g. Set the following parameters as appropriate for your system.

```
jdbcconnpool.DB2WebQuery.waitforconnectiontimeoutmilliseconds=30000
jdbcconnpool.DB2WebQuery.idleconnectiontimeoutmilliseconds=1800000
jdbcconnpool.DB2WebQuery.inuseconnectiontimeoutmilliseconds=1800000
jdbcconnpool.DB2WebQuery.jdbcdriver=ibm.sql.DB2Driver
jdbcconnpool.DB2WebQuery.databaseurl=jdbc:db2os390:<database name>
jdbcconnpool.DB2WebQuery.datasourcename=jdbc/db2wqt
jdbcconnpool.DB2WebQuery.databaseurl=jdbc:db2os390:<database name>
```

- h. Set any DB2 Web Query Tool parameters necessary on the following line in *was.conf*:

```
webapp.DB2WebQuery.servlet.WebQuery.initargs=installRoot=<installRoot>,
webRoot=/DB2Tools/DB2WebQuery,appRoot=/DB2Tools/WebQuery,wqUserId=
user,wqUserPass=password,emailHost=mail.company.com,hostName=
wqhost.company.com,dbDriver1=OS390-DB2-V6|COM.ibm.
db2os390.sqlj.jdbc.DB2SQLJDriver|jdbc:db2os390:|jdbc/db2wqt
```

Information on the DB2 Web Query Tool parameters is available from the "Parameter list" on page 8.

Note: The above line has been broken for printing purposes, but it should be entered as one line in *was.conf*.

6. In your WebSphere Application Server installation directory, locate and open the file named *httpd.conf*

Note: If the suggested directory structure was used during install, the file will be located in the following path: */etc*.

7. Add the following line to *httpd.conf*:

- If you are using WebSphere Application server 3.02:

```
Service /DB2Tools/* /usr/lpp/WebSphere/AppServer/bin/
was302plugin.so:service_exit
```
- If you are using WebSphere Application server 3.5:

```
Service /DB2Tools/* /usr/lpp/WebSphere/AppServer/bin/
was350plugin.so:service_exit
```

Note: The previous lines have been broken for readability. When you add the appropriate line to your file it should be added as one line.

8. Ensure that IMWEBSRV has read and search access to the install root directory and its contents (including subdirectories and files).
9. Ensure that IMWEBSRV has read/write access to the following directories:
 - *<installroot>/logs*
 - *<installroot>/users*
 - *<installroot>/web*
10. From the SDSF (System Display and Search Facility) prompt, stop and start the IMWEBSRV service.

Configuration Summary for Configuring with IBM WebSphere Version 3.5.5 for Multiplatform or iSeries

You can configure DB2 Web Query Tool to work with IBM's WebSphere Application Server Version 3.5.5 using the Administrative Console. The following is the information that you will need to configure IBM WebSphere Application Server to work with IBM DB2 Web Query Tool using the WebSphere Administrative Console.

Types of resources page:

Information Type	Value
Enterprise Beans	Clear this check box
Web Applications	Check this check box

Application server information - General Tab:

Information Type	Value
Application Server Name	DB2 Tools Server
Working Directory	<installRoot>
Standard Output	<installRoot>\logs\stdout.log
Standard Error	<installRoot>\logs\stderr.log
Maximum startup attempts	2

Application Server Start Option:

Information Type	Value
Do not start the server automatically after creating it	Select this radio button

Select Virtual Host:

Information Type	Value
Virtual Host Name	default_host

Servlet engine information - General Tab:

Information Type	Value
Servlet Engine Name	servletEngine

Web application information - General Tab:

Information Type	Value
Web Application Name	DB2 Web Query Tool WebApp
Description	IBM DB2 Web Query Tool Application
Virtual Host	default_host

Information Type	Value
Web application Web Path	/DB2Tools

Web application information - Advanced Tab:

Information Type	Value
Document root	<installRoot>\web
Classpath	<installRoot>\servlet plus additional .zip and or .jar files

Note: Be sure that there is not a space following the value in the **Document Root** field.

Specify System Servlets:

Information Type	Value
Enable File Servlet	Check this check box
Serve Servlets by Class Name	Check this check box
Enable JSP .91	Select this radio button

File serving enabler information - General Tab:

Information Type	Value
Servlet Web Path List	default_host/DB2Tools/

JSP .91 Processor information - General Tab:

Information Type	Value
Servlet Web Path List	default_host/DB2Tools/*.jsp

JSP .91 Processor information - Advanced Tab:

Information Type	Value
workingDir	<installRoot>\web

Create servlet - General Tab:

Information Type	Value
Servlet Name	Web Query
Description	IBM DB2 Web Query Tool
Servlet Class Name	com.ibm.db2.WebQueryTool.WebQuery
Servlet Web Path List	default_host/DB2Tools/WebQuery

Web Query information - Advanced Tab:

Information Type	Value
init Parameters	<initial parameters> Consult the "Parameter list" on page 8 for information on which parameters are mandatory and the recommended values for each parameter.
load at startup	true

Configuring IBM WebSphere Application Server 3.5.5 to work with DB2 Web Query Tool for Multiplatforms and iSeries

There are two ways to configure IBM WebSphere Application Server to work with DB2 Web Query Tool. You can configure using the IBM WebSphere Administrative Console, or you can configure automatically. Configuring Automatically does not involve using either the IBM WebSphere Administrative Console or Task Wizard.

These instructions assume that you have DB2 for Multiplatforms Enterprise Edition Version 7.x (including DB2 Client Configuration Assistant) installed. You should also be familiar with the IBM WebSphere Application Server's Administrative Console.

To Configure WebSphere Application Server version 3.5.5 using the WebSphere Administrative Console:

1. Stop the WebSphere Administrative Console and the Administration client service if they are started.
2. Navigate to the following file and open it:

WebSphere\AppServer\bin\admin.config

3. Find com.ibm.ejs.sm.adminserver.classpath in admin.config. Append the following to the front of com.ibm.ejs.sm.adminserver.classpath:

```
<installRoot>/servlet/xercesImpl.jar;<installRoot>/servlet/  
xml-apis.jar;<installRoot>/servlet/xalan.jar;
```

Note: If you are working in Windows, the path to the install root must use the following syntax:

```
<drive letter>\:/<directories>
```

For further illustration, see the example below.

For example in Windows:

```
e\:/IBM/CWQ/servlet/xercesImpl.jar;e\:/IBM/CWQ/servlet/  
xml-apis.jar;e\:/IBM/CWQ/servlet/xalan.jar;  
<other stuff as appropriate for your environment>
```

4. Restart the administration client and Administrative Console.
5. Create a table called manager in any database with DB2 Web Query as the owner. Use the following syntax:

```
CREATE TABLE WQ.manager  
(  
  cwqName VARCHAR (40) NOT NULL,  
  catalog VARCHAR (40),  
  PRIMARY KEY (cwqName)  
)
```

Note: This table must be accessible from the system on which DB2 Web Query is running.

If you are working on z/OS or os/390, you must also create a unique or primary index for wq.manager using the following syntax:

```
CREATE UNIQUE INDEX wq.manageridx ON wq.manager  
(  
  cwqname asc  
)
```

6. Navigate to the installRoot on the machine that is running DB2 web Query. For example: CWQ\conf\multiplatform\win\was35x
7. Edit the wqenvset.bat file. In wqenvset.bat, change the following variable values as appropriate for your environment:
 - **wqt_wasRoot** - The directory where WebSphere Application server has been installed.
 - **wqt_installRoot** - The directory where Web Query is installed.
 - **wqt_nodeName** - The name of the WebSphere node that needs to be configured. This variable is case sensitive.
 - **wqt_rootURI** - the prefix of the URL that will be used to access DB2 Web Query.
8. Run wqinstall.bat.
9. Run wqstart.bat.
10. Open the WebSphere Administrative Console. There will now be a "DB2 Tools Server" under Nodes.

Note: If the "DB2 ToolsServer" is not visible, close the console and start it again.

11. Expand DB2 Tools Server under the Node Name.
12. Click **ejbContainer** on Administration Console navigation tree.
13. Click the **DataSource** tab.
14. In the **Userid** box, type the user ID that is used to access the WQ.manager table that you created in the first step.
15. In the **Password** box, type the password that is used to access the WQ.manager table that you created in the first step.
16. Click **Apply**.
17. Click **jdbc/cwqManagerDB** on Administration Console navigation tree. Ensure the driver that it is attached to is a valid DB2 Driver - if it is not, create a new driver and attach jdbc/cwqManagerDB to it (the steps to create a new driver are below). It should also be attached to the database that WQ.manager is under.

To create a new jdbc driver:

- a. Select **Console --> Tasks --> Create Data Source**
- b. Use the WebSphere graphical User Interface to create and install a new JDBC driver.
- c. Name your newly created JDBC driver.
- d. From the **Class Name** drop-down list, select a class name or type a class name in the **Class Name** field. (Typically COM.ibm.db2.jdbc.app.DB2Driver for DB2 on Windows. This one is not in the list) Class names are case sensitive.
- e. Select **Node**.
- f. Specify the location of the db2 driver's file (typically db2java.zip even though it may ask for a .jar file)

- g. Type a data source name in the **Data Source Name** field.
 - h. Type the name of the database where the WQ.manager table is located, in the **Database Name** field.
 - i. Click **Finish**.
18. Open the DB2 Web Query configuration Utility by accessing the following URL:
http://server/DB2Tools/WebQuery/Configure

The initial user id is: cwq. The initial password is: cwq
 19. On the Configuration screen, change the initialContextfactory parameter to:
com.ibm.ejs.ns.jndi.CNInitialContextFactory
 20. In the Configuration Utility, specify the DB2 Web Query initial parameters. For more information on initial parameters, see the “Parameter list” on page 8.
 21. Click **Update**. The Configuration Utility closes.
 22. You can now login to DB2 Web Query.

To configure IBM WebSphere Application Server automatically for Multiplatforms and iSeries:

1. Stop the IBM WebSphere Application Server.
2. Navigate to the directory corresponding to the platform that you are working on as listed in the table below:

Platform	Directory
Windows NT or Windows 2000	<installRoot> \conf\multiplatform\win
UNIX and Linux	<installRoot> \conf\multiplatform\unix
iSeries or OS/400	<installRoot> \conf\iseries

3. In a text editor, open the appropriate environmental settings file for your platform as listed in the table below:

Platform	Install File
Windows NT or Windows 2000	wqenvset.bat
UNIX and Linux	wqenvset.sh
iSeries or OS/400	wqenvset

4. Set values for the parameters that are listed in the file. For more information and the recommended values for these parameters, see the “Parameter list” on page 8. The following three parameters are not listed in the Parameter list:
 - **wqt_wasRoot**, the directory where IBM WebSphere Application Server is installed.
 - **wqt_nodeName**, the case sensitive node name of the IBM WebSphere Application Server. This is the node where DB2 Web Query Tool will be installed.
 - **wqt_rootURI**, the prefix of the URL that you use to access DB2 Web Query Tool. For example the URL would be composed as follows:
http://<hostname>/<wqt_rootURI>/WebQuery
 - **wqt_installRoot**, the physical location where DB2 Web Query is installed.
5. Start the IBM WebSphere Application Server.

6. From the directory corresponding to the platform that you are working on (listed in the table in step 2 on page 21), run the Web Query install file corresponding to your platform as listed in the table below.

Platform	Install File
Windows NT or Windows 2000	wqinstall.bat
UNIX and Linux	wqinstall.sh
iSeries or AS/400	wqinstall

The WebSphere tree structure is created.

Note: When running the install file, it may be necessary to type the entire file path to the install file.

7. Run the WebSphere start file corresponding to your platform as listed in the table below.

Platform	Install File
Windows NT or Windows 2000	wstart.bat
UNIX and Linux	wqstart.sh
iSeries or AS/400	wqstart

The WebSphere Administration server starts.

Note: To stop the WebSphere Administration Server, run the file Web Query stop file corresponding to your platform as listed in the table below.

Platform	Install File
Windows NT or Windows 2000	wstop.bat
UNIX and Linux	wqstop.sh
iSeries or AS/400	wqstop

To launch DB2 Web Query Tool that is using IBM WebSphere Application server version 3.5.5:

1. Start a Web Browser that uses Java 1.1 or later and has Java, Java script and cookies enabled.
2. In the address bar, type the URL used to access DB2 Web Query. If the suggested paths were used the URL will be as follows:
http://<hostname>/DB2Tools/WebQuery where *hostname* is the value entered for the **hostName** parameter. For more information on the **hostName**, see the **hostName** host name section of the Parameter list on page on page 11. The Web Query Login page opens.

Note: For more information on determining the Web Query URL, see "Determining the DB2 Web Query Tool URL" on page 81.

3. Login to DB2 Web Query Tool.
4. Check the DB2 Web Query Tool logs for errors. The logs are located in the following directory: <installRoot>/logs.

Configuring IBM WebSphere Application Server Version 4.0.3 to work with IBM DB2 Web Query on Multiplatforms and iSeries

The following details how to configure WebSphere Application Server Version 4.0 to work with DB2 Web Query Tool on Multiplatforms and iSeries. Before completing the configuration, you need to have successfully installed and configured JDBC and performed the basic DB2 Web Query Tool installation, customization and configuration of the IBM HTTP Server and WebSphere Application Server and successfully run the sample application.

There are basic steps involved in getting DB2 Web Query up and running.

1. Deploy the DB2 Web Query .ear file in the Web Application server.
2. Access DB2 Web Query using your browser.
3. Configure DB2 Web Query.

These basic steps are described in detail in the steps listed below.

To configure IBM WebSphere Application Server Advanced Edition Version 4.0.3 to work with DB2 Web Query on Multiplatforms and iSeries:

1. Navigate to the *installRoot* directory on the machine where DB2 Web Query is installed.
2. Edit the *wqenvset.bat* file. In *wqenvset.bat*, change the following variable values as appropriate for your environment:
 - **wqt_wasRoot** - The directory where WebSphere Application server has been installed.
 - **wqt_installRoot** - The directory where Web Query is installed.
 - **wqt_nodeName** - The name of the WebSphere node to configure. This variable is case sensitive.
 - **wqt_rootURI** - the prefix of the URL to use to access DB2 Web Query.
3. Run *wqinstall.bat*.
4. Run *wqstart.bat*.
5. Open the WebSphere Administrative Console. There will now be a DB2 Tools Server under **Nodes -->NodeName --> Application Servers**.

Tip: If the DB2 Tools Server is not visible, close the IBM WebSphere Application Server console and start it up again.

6. Set up a new data source.
 - a. Create a table called *manager* in any database with DB2 Web Query as the owner. Use the following syntax:

```
CREATE TABLE WQ.manager
(
  cwqName VARCHAR (40) NOT NULL,
  catalog VARCHAR (40),
  PRIMARY KEY (cwqName)
)
```
 - b. From the WebSphere Administrative console, select: **Console-->New-->Data Source**. The Data Source Properties window opens.
 - c. In the **Name** field, type: *cwqManagerDB*.
 - d. In the **JNDI Name** field, type: *jdbc/cwqManagerDB*
 - e. In the **JDBC Provider** field, type: *Sample DB Driver*.
 - f. On the Custom Properties panel, click the **Add** button.

- g. In the **Name** column, type: "databaseName"
- h. In the **Value** column, type the name of the database in which you created the table wq.manager.
- i. On the Custom Properties panel, click the **Add** button again.
- j. In the **Name** column, type: "user"
- k. In the **Value** column, type your user ID.
- l. On the Custom Properties panel, click the **Add** button again.
- m. In the **Name** column, type: "password"
- n. In the **Value** column, type your password.
- o. Click **OK**.
7. In the IBM WebSphere Application Server Administrative Console navigation tree, navigate to the JDBC Providers section: **Resources -->JDBC Providers**
8. On the JDBC Providers page, specify the implementation class name appropriate to your installation. For example: COM.ibm.db2.jdbc.app.DB2driver
9. Navigate to the data source that you just created and click it. It will appear under: **Resources -->JDBC Providers --> Sample DB Driver --> Data Sources** in the Navigation tree.
10. Click the Connection Pooling tab.
11. Check the **Disable AutoConnection Cleanup** checkbox.
12. Click **Apply**.
13. Right-click **Enterprise Applications** on the Administrative Console. A pop-up menu appears.
14. From the pop-up menu, select: **Install Enterprise Application**. The Application Installation Wizard opens.
15. Click the **Browse** button that is next to **Install Application (*.ear)**. The Browse window opens.
16. Navigate to the CWQ\conf directory and select cwq.ear. Click **Open**. The path to cwq.ear is added to the **Path** field.
17. Click **Next**. The Mapping User Roles Screen opens.
18. Click **Next**. The Mapping EJB RunAs Roles to Users Screen opens.
19. Click **Next**. The Binding Enterprise Beans to JNDI Names Screen opens.
20. Click **Next**. The Mapping EJB References to Enterprise Beans Screen opens.
21. Click **Next**. The Mapping Resource References to Resources Screen opens.
22. Click **Select Resource**. A pop-up window opens.
23. Select cwqDBManager and click **OK**.
24. Click **Next**. The Specifying the Default Data source for EJB Modules Screen opens.
25. Click **Next**. The Specifying Data Sources for Individual CMP Beans Screen opens.
26. Click **Next**. The Selecting Virtual Host for Web Modules Screen opens.
27. Click **Next**. The Selecting Application Servers Screen opens.
28. In the **Module** column, click **cwqManager EJB**.
29. Click **Select Server**. A pop-up window opens.
30. Select the DB2 Tools Server. Click **OK**.
31. In the **Module** column, click **cwqWA**.
32. Click **Select Server**. A pop-up window opens.
33. Select the DB2 Tools Server. Click **OK**.

34. Click **Next**. The Completing the Application Installation Wizard opens.
35. Click **Finish**. A message appears asking you if you want to regenerate the code now. Click **Yes**. The Deploy screen opens.
36. Click **OK**. (The deployment may take a couple of minutes). When the deployment is complete, a cwqEA folder will appear under **Enterprise Applications** on the WebSphere Application server Administrative Console.
37. Right click the DB2 Tools Server. A pop-up menu opens.
38. On the WebSphere Administrative Console navigation tree (in the left pane of the window), click the DB2 Tools Server branch.
39. On the right pane of the WebSphere Administrative Console, click the **Custom** tab. The Custom page opens.
40. In the table on the Custom page, ensure that **Automatic Generation of Plugin** is set to true.
41. Select **Stop**. The DB2 Tools server stops.
42. Right click the DB2 Tools Server. A pop-up menu appears. Select **Start**.
43. Open the DB2 Web Query configuration Utility by accessing the following URL: <http://server/DB2Tools/WebQuery/Configure> The initial user id is: cwq. The initial password is: cwq
44. In the Configuration utility, specify the DB2 Web Query initial Parameters. For more information on initial parameters, see the "Parameter list" on page 8.

Configuring IBM WebSphere Application Server Version 4.0.3 to work with IBM DB2 Web Query on z/OS

The following details how to configure WebSphere Application Server Version 4.0 to work with DB2 Web Query Tool on Multiplatforms and iSeries. Before completing the configuration, you need to have successfully installed and configured JDBC and performed the basic DB2 Web Query Tool installation, customization and configuration of the IBM HTTP Server and WebSphere Application Server and successfully run the sample application.

To configure IBM WebSphere Application Server Advanced Edition Version 4.0.3 to work with DB2 Web Query on z/OS:

1. Download the FixPak 2 file from the IBM web site:
<http://www.ibm.com/software/data/db2imstools/support/fixpaks.html>
2. Ensure that WebSphere Application Server Version 4.0.1 is installed and functioning properly.
 - a. Install WebSphere Application Server 4.0.1 for z/OS
 - b. Install WebSphere Service Level 95 and all associated updates for related systems. (For information on the associated updates, check the PSP bucket.)
 - c. Start WebSphere and associated services.
 - d. Verify that the IVP is operational. To check that the IVP is operational, access the following URL:
<http://<host>/webapp/examples/>
3. Stop all WebSphere Web servers. To stop the servers, issue the following cancel commands for the J2EE and HTTPd servers from SDSF:

```
/c bboasr2.bboasr2a
/c httpd1
```
4. Create a table called manager in any database with DB2 Web Query as the owner. Use the following syntax:

```
CREATE TABLE WQ.manager
(
  cwqName VARCHAR (40) NOT NULL,
  PRIMARY KEY (cwqName)
)
```

Note: This table must be accessible from the system on which DB2 Web Query is running.

If you are working on z/OS or os/390, you must also create a unique or primary index for wq.manager using the following syntax:

```
CREATE UNIQUE INDEX wq.manageridx ON wq.manager
(
  cwqname asc
)
```

5. Decompress the DB2 Web Query files into the DB2 Web Query installRoot directory. To determine the appropriate archive to decompress, see “Software Requirements” on page 2.
6. Ensure that you have read and write permission to the DB2 Web Query installRoot directory so that configuration and log files can be created and written.
7. Update the HTTPd configuration. To update the HTTPd configuration, add the following directory to httpd.conf:

```
Service /DB2Tools/*/usr/lpp/WebSphere/WebServerPlugIn/bin/
was400plugin.so:service_exit
```

Note: The above directory should be all on one line it may appear to be on two lines due to printing restrictions.

Ensure that the path to was400plugin.so is correct.

8. Add the following lines to the jvm.properties file:

```
client.encoding.override=UTF-8
com.ibm.db2.cwq.installRoot=<installRoot>
```

Note: The default location is for the jvm.properties file is:

```
/WebSphere390/CB390/controlinfo/envfile/SVSCPLEX/BB0ASR2A/
jvm.properties
```

9. In the webcontainer.conf file, locate the following line:

```
session.invalidatetime=
```

Update its value to your desired timeout. This value is in milliseconds. The default value is 180000 (3 minutes). The recommended value is 3600000 (1 hour) and it may be changed to fit your requirements.

Note: The default location for this file is:

```
/WebSphere390/CB390/controlinfo/envfile/SVSCPLEX/BB0ASR2A/
webcontainer.conf
```

10. Install and start the WebSphere Application Server for z/OS and os/390 Administration client.
11. From the WebSphere Application Server for z/OS and os/390 Administration client, connect to WebSphere.
12. In WebSphere Application Server for z/OS and os/390 Administration client, create a new conversation. To create a new conversation using the WebSphere Administration client for z/OS:

- a. From WebSphere Application Server for z/OS and os/390 Administration client, connect or login to the z/OS or os/390 machine where DB2 Web Query is installed.
 - b. Right click the **Conversation** node in the left side of the screen. From the pop-up menu, select **Add**.
 - c. Type a name for the conversation that is appropriate for your environment in the **Name** field.
 - d. Click **Save**.
13. Identify data locations (subsystems) that you want to access using DB2 Web Query.
 14. Create a new data source for each data location that you want to access using DB2 Web Query. Make note of the name of the new data sources. These data source names will be used during the DB2 Web Query configuration. Data sources are needed in order for DB2 Web Query to connect to any DB2 data location, including the DB2 Web Query manager table.
 15. In WebSphere Application Server for z/OS and os/390 Administration client, install the DB2 Web Query J2EE Application. To install the DB2 Web Query J2EE Application:
 - a. In the WebSphere Application Server for z/OS and os/390 Administration client, expand the navigation tree in the left pane to J2EEApplications: Conversations/<conversation_name>/Sysplexes/<SYSPLEX>/J2EEServers/<SERVER>
 - b. Right click the defined server and select: **Install J2EE application**
 - c. Specify the cwq390.ear file and click **OK**. The Reference and Resource Resolution window opens

Note: cwq390.ear must be located on the machine from which you are running the WebSphere Application Server for z/OS and os/390 Administration client. The default location for this file is the <installRoot>/Conf directory on the machine where DB2 Web Query is installed.

16. In the Reference and Resource Resolution window, expand the following directories in the navigation tree in the left pane of the window:

cwqEA/cwqManagerEJB/CwqManager

Click the **J2EE Resource** tab and select the data source where the DB2 Web Query Manager table is located.

17. In the navigation tree in the left pane of the Reference and Resource Resolution window expand the following directories:

cwqEA/cwqWA_WebApp.jar/cwqWA_WebApp
18. Click the **EJB** tab. The EJB page opens.
19. On the EJB page, click the **Set Default JNDI Path & Name** button.
20. Click the **Reference** tab. The Reference page opens.
21. From the Reference page, select (ejb-link)CwqManager from the **JNDI Name** drop-down list.
22. Click **OK** to finish installing the DB2 Web Query Enterprise Application.
23. Activate the Conversation.
 - a. Right click: **Conversations/cwqEA** A pop-up menu appears. From the pop-up menu, select **Validate**.
 - b. Right click: **Conversations/cwqEA** A pop-up menu appears. From the pop-up menu, select **Commit**.

- c. Right click: **Conversations/cwqEA** A pop-up menu appears. From the pop-up menu, select **Complete --> All Tasks**.
 - d. Right click: **Conversations/cwqEA** A pop-up menu appears. From the pop-up menu, select **Activate**. The cwqEA Conversation is active. A lock symbol with a lightening bolt appears. This may take some time.
24. Start the WebSphere Web servers. To start the WebSphere Web servers, issue the start command for the J2EE and HTTPd servers. To start the J2EE and HTTPd servers using TSO SDSF, issue the following commands:

```
/s bboasr2.bboasr2a
/s httpd1
```

25. Access the DB2 Web Query Configuration Utility by going to the following URL:

```
http://<host>/DB2Tools/WebQuery/Configure
```

26. From the Configuration utility, set the configuration parameters. For more information on the DB2 Web Query Configuration parameters, see the “Parameter list” on page 8.

Note: You must add a database driver entry for each database location that was installed in the WebSphere Application Server for z/OS and os/390 Administration client. You can select from the list of default database drivers or you can create a custom database driver by checking the **Custom** check box and filling in the **Name** and **Connection Pool** fields. You must Click the **Update** button after each database driver that you add.

27. Start DB2 Web Query. Using a Web browser open the following URL:

```
http://<host>/DB2Tools/WebQuery
```

The DB2 Web Query login screen opens.

Creating and Installing the DB2 Web Query Tool Catalog

Steps follow for creating and installing the DB2 Web Query Tool catalog and the common catalog.

Creating the DB2 Web Query Tool Catalog

You create the DB2 Web Query Tool Catalog using the DB2 Web Query Tool Setup page or by following the steps below:

1. In the DB2 Web Query Tool directory tree, navigate to the folder named *conf*.
2. In the *conf* directory, select the folder corresponding to the version of IBM DB2 Web Query Tool that you are using, (Multiplatform, z/OS or iSeries). For more information on the versions of IBM DB2 Web Query Tool, see “Licensing” on page 4.
3. In this folder, locate the file named *catalog.ddl*.
4. Run *catalog.ddl*. The file can be modified to allow integration with your current installation. The DB2 Web Query Tool catalog are installed for the location that you specified.

Tip: You can run *catalog.ddl* from the DB2 Web Query Tool Setup page.

Note: To run *catalog.ddl*, you need to have DBADM authority.

Installing the Common Catalog

The DB2 Web Query Tool uses a common catalog for all database locations. You can install the common catalog. This procedure is optional. You must complete the steps in “Creating the DB2 Web Query Tool Catalog” on page 28 before installing the common catalog.

1. Open the DB2 Web Query Configuration Utility by going to the URL that you use to access DB2 Web Query, then adding /Configure to the end and pressing Enter. For example: `http://<web server>/DB2Tools/WebQuery/Configure`. The Configuration Utility login screen appears.
2. Login to DB2 Web Query Tool Configuration Utility. The default user name is `cwq` and the default password is `cwq`. This may have been changed when DB2 Web Query was installed. The DB2 Web Query Configuration Utility opens.
3. In the **Default** area of the **Database Drivers** section, check the check box next to the desired database driver, if you have not already done this in a previous installation step. If you have done this step previously, go directly to step 6.
4. Click **Update**. The Configuration Utility closes.
5. Log into the DB2 Web Query Configuration Utility again. The database driver that you selected in step 3 appears in the **Current** area of the **Database Drivers** section.
6. In the **Current** area of the **Database Drivers** section, there is a field to the right of the database driver (or drivers) that is listed. In that field, type the name the DB2 Web Query catalog that you created using the following syntax:

`<dbDriver value>:<database name>`

Where `dbDriver value` is the name of the database driver (for more information on the `dbDriver` parameter, see the “Parameter list” on page 8) and `database name` is the name of the database in which you have created the DB2 Web Query Catalog. For example:

`DB2NT:sample`

7. Click **Update**. The Configuration Utility closes. You can now work with DB2 Web Query.

Updating the DB2 Web Query Configuration Parameters

After you have installed and configured DB2 Web Query, there may be a need at some point to change the values that you have set for your configuration parameters. You can do this through the Configuration Utility.

To update the DB2 Web Query configuration parameters:

1. Open the DB2 Web Query Configuration Utility by going to the URL that you use to access DB2 Web Query, then adding /Configure to the end and pressing Enter. For example: `http://<web server>/DB2Tools/WebQuery/Configure`. The Configuration utility login screen appears.
2. Login to DB2 Web Query Tool Configuration Utility. The default user name is `cwq` and the default password is `cwq`. This may have been changed when DB2 Web Query was installed. The DB2 Web Query Configuration Utility opens.
3. From the Configuration Utility, modify any of the parameters that you need to. For information on DB2 Web Query initial parameters, see the “Parameter list” on page 8.
4. In the Database Drivers section, add drivers corresponding to the platform or platforms on which the DB2 Databases that you will be connecting to are

installed. For example, if the DB2 database that you will be connecting to is installed on Linux, you would check the **dbLinux** check box.

5. Click **Update**. The DB2 Web Query login screen appears. You can now login to DB2 Web Query.

Upgrading to a new version of DB2 Web Query Tool

There are some variations to the installation process when you are upgrading to a new version of DB2 Web Query Tool.

To upgrade to a new version of DB2 Web Query Tool when working with WebSphere Application Server Version 3.5.5:

1. Download the FixPak file from the IBM web site:
<http://www.ibm.com/software/data/db2imstools/support/fixpaks.html>
2. Stop your Web server and your application server.
3. Delete the .jar file associated with the previous version of DB2 Web Query Tool.
4. Decompress the source files for the latest version of DB2 Web Query Tool. (Either un-tar or unzip the files from within the install root directory.) Where duplicates exist, overwrite the existing files with the new files.

Note: If you store .jar files in a location other than the install directory, remember to copy the new.jar file to that location.

5. Follow the directions for installing DB2 Web Query Tool, starting with: “Installing DB2 Web Query Tool files” on page 7 and continuing through the appropriate install steps for your platform and version of IBM DB2 WebSphere Application Server.

To upgrade to a new version of DB2 Web Query Tool when working with WebSphere Application Server Version 4.0.3:

1. Download the FixPak file from the IBM web site:
<http://www.ibm.com/software/data/db2imstools/support/fixpaks.html>
2. In the WebSphere Administrative Console, expand the navigation tree in the left pane until you find the Enterprise Applications branch.
3. In the Enterprise Applications branch of the navigation tree, remove the cwqEA application.
4. Navigate to the <installRoot>/servlet directory. Delete the <installRoot>/servlet directory.
5. Decompress the source files that you downloaded for the latest version of DB2 Web Query Tool into your installRoot directory. (Either un-tar or unzip the files from within the installRoot directory.) Where duplicates exist, overwrite the existing files with the new files.
6. In WebSphere Application Server, deploy the CWQ.ear file. For specific instructions on deploying the .ear file on your platform see the instructions specific to that platform:
 - “Configuring IBM WebSphere Application Server Version 4.0.3 to work with IBM DB2 Web Query on Multiplatforms and iSeries” on page 23
 - “Configuring IBM WebSphere Application Server Version 4.0.3 to work with IBM DB2 Web Query on z/OS” on page 25

7. From the WebSphere Administrative Console, start the DB2 Tools Application Server. Alternately you can start the DB2 Tools Application server by running the following script: `wqstart.bat` on Windows platforms or `wqstart.sh` on UNIX platforms.

Configuring DB2 Table Editor and DB2 Web Query Tool to Work Together

You can use DB2 Table Editor to edit tables through DB2 Web Query Tool. For more information on DB2 Table Editor, see the *DB2 Table Editor User's Guide*.

To configure DB2 Table Editor and DB2 Web Query Tool to work together:

1. Ensure that the DB2 JDBC applet server is installed and running on your machine.
2. Install DB2 Table Editor and make it available for web use from the same Web server that is running DB2 Web Query.

Note: If you are using DB2 TableEditor Java Player, the name of the server in the Server Definition file must match the database alias name specified in the Client Configuration Assistant (CCA) for DB2. If these do not match, errors will occur when you attempt to use the DB2 Table Editor function in DB2 Web Query.

3. Create a directory from which you want to be able to access DB2 Table Editor. This directory must be accessible from your Web server. For example, `<document root>\DB2TableEditor` The default document root for the IBM HTTP server is HTDOCS.
4. Copy the following files and directories into the directory that you created in step 3:
 - `db2forms.jar`
 - The license file(s) for DB2 Table Editor
 - `htmlhelp` directory for DB2 Table Editor
 - `db2java.zip`

Note: Ensure that the `db2java.zip` corresponds with the version of DB2 that you have on your machine.

5. Start the DB2 JDBC applet server. The port of this server will be used to setup DB2 Web Query Tool. The port number for this server is usually 6789.
6. Check to see that you can access the DB2 Table Editor URL that you just created. To do this, attempt to access `db2forms.jar`. If you are successful you will get a message asking if you want to open or save `db2forms.jar`.
7. Open the DB2 Web Query Configuration utility by going to the following URL: `<DB2 Web Query URL>\configure`.
8. From the DB2 Web Query Configuration Utility, set the **db2TableEditorUrl** parameter to the URL that is used to access the Table Editor directory from step 4. For Example: `/DB2TableEditor`
9. From the DB2 Web Query Configuration Utility, set the **db2TableEditorPort** parameter to the port that is used by the DB2 JDBC applet server that you specified in step 5.

10. From the DB2 Web Query Configuration Utility, set the **db2TableEditorForm** parameter to specify the display mode for DB2 Table Editor forms. You can have DB2 Table Editor forms displayed in GRID mode, FORM mode or WIZARD mode.
11. Ensure that db2java.zip is not in the classpath on the client machine. This can cause conflicts that will result in a blank DB2 Table Editor screen. This only arises if the client accessing DB2 Web Query and DB2 Table Editor has also DB2 installed on it.
12. In the DB2 Web Query Tool's navigation tree, click a table that you want to edit. A drop-down menu appears. Click **Edit** DB2 Table Editor is invoked.

Configuring IBM WebSphere to Use Secure Socket Layer (SSL) encryption

You can configure IBM WebSphere to encrypt your data during DB2 Web Query sessions using the IBM WebSphere Administration Console.

To configure IBM WebSphere Application Server to use SSL encryption:

1. Obtain a SSL Certificate and ensure that the certificate is properly installed on the server. For more information on doing this, see the IBM WebSphere Documentation.
2. Install the SSL certificate into the httpd. Verify that the home page can be reached via *http://host* and *https://host*, where host is the name of the machine where the certificate is installed. Consult the IBM WebSphere documentation for information on creating a server which responds to normal and SSL requests.
3. Using IBM WebSphere Application server's Administrative Console's task wizard, add a virtual host. When configuring the virtual host make sure to place the all valid host names including the SSL host names with port 443. This will be the secure port. Place all the standard host names with port 80. This will be the normal port. For example, if the host is called Test then the virtual host would have entries for test, test.domain.com, and test.domain.com:443, test:443, and test:80.
4. Associate the virtual host with the DB2 Web Query application server.
 - If you are using WebSphere Application Server Version 3.5.5: In the WebSphere Application server's Administrative Console, select the Web Query Web Application and from the General Tab select the newly created virtual host. Apply the change and then restart the DB2 Tools Application Server. this will associate the virtual host with the DB2 Web Query application server.

Note: By default the installation process for DB2 Web Query associates DB2 Web Query with the default host.

- If you are using WebSphere Application Server Version 4.0.3:
 - a. From WebSphere Application server's Administrative Console, select DB2 Tools Server.
 - b. Click the Services tab and select the Web Container Service.
 - c. Click **Edit Properties**.
 - d. From the Web Container Service page, click the Transport tab and configure the HTTP port.
5. Restart DB2 Web Query.

Configuring the IBM HTTP Server to Use Secure Sockets Layer (SSL) Encryption on z/OS

You can configure the IBM HTTP Server to encrypt your data during DB2 WebQuery sessions by editing the `httpd.conf` and `httpd.envvars` files.

Before attempting this task, you should be familiar with the directives specified in the *z/OS HTTP Server Planning, Installing and Using Book* (order number SC34-4826-00) for Version 5.3 of the IBM HTTP Server. Especially the section titled, "Chapter 8: Setting up a Secure Server."

To configure the IBM HTTP server to use SSL Encryption:

1. Obtain the appropriate server certificate by following the instructions in the document titled, "System Secure Sockets Layer Programming" that are found in *z/OS HTTP Server Planning, Installing and Using Book* (order number SC34-4826-00) for Version 5.3 of the IBM HTTP Server (order # SC24-5901-01).
2. After you have received the certificate, install it along with any certificate that is needed for the CA.
3. Modify the `httpd.envvars` file to include `<HLQ>.SGSKLOAD` in the STEPLIB.
4. Work with your systems programmer to ensure that the `<HLQ>.SGSKLOAD` library is in the linklist and is program controlled.
5. Ensure that the following directives in the `httpd.conf` file are specified as follows:

```
KeyFile /web/httpd1/security/rs04.kdb
- replace this with the path of your keyfile.
SSLMode      on
SSLPort      443
NormalMode    on
```
6. Stop the HTTP Server and start it again. Simply restarting it is insufficient.
7. You can now request web pages by entering for example:
<https://<webserver name>/DB2Tools/WebQuery>

Chapter 3. Using DB2 Web Query Tool

Once you have installed and configured IBM DB2 Web Query Tool, you can begin using DB2 Web Query Tool through any Java-enabled web browser. Both Netscape version 4.7 and higher and Internet Explorer version 5.5 (fixpak 2) and higher meet this requirement.

Launching DB2 Web Query Tool

You can access DB2 Web Query Tool through any Java-enabled web browser. Once you have launched the application, you can log onto DB2 Web Query Tool and connect to the DB2 database you want to work with.

How to launch DB2 Web Query Tool in a browser

To launch DB2 Web Query Tool:

1. Start a Java-enabled web browser. (Both Netscape version 4.7 and later and Internet Explorer version 5.5 (fixpak 2) and higher meet this requirement.)
2. Go to the following URL: `http://<hostname>/<app root>`

Where *hostname* is the name of the host server where DB2 Web Query Tool is installed and *appRoot* is the URL path to the DB2 Web Query Tool Servlet. For more information on the recommended values for the **hostName** and **appRoot** parameters, see the "Parameter list" on page 8.

Note: For more information on determining the Web Query URL, see "Determining the DB2 Web Query Tool URL" on page 81.

The DB2 Web Query Tool Login Page appears.

Logging onto DB2 Web Query Tool

A web browser is used to log onto DB2 Web Query Tool.

To login to DB2 Web Query Tool:

1. In your web browser, navigate to the location on your server where DB2 Web Query Tool is stored, and open the Login page.
2. Enter your user ID and password, select the database type, and enter the name of the database location to which you want to connect. If desired, check **Remember Login**.

Note: The **Remember Login** feature places a cookie on your web browser in order to remember your login information.

3. Click **Login**.

DB2 Web Query Tool logs you in. You are now connected to the database that you specified.

Note: If DB2 Web Query Tool is not licensed properly, an error message will appear.

Note: No objects appear in the DB2 Web Query Tool navigation tree until a filter is applied. For more information on adding a filter, see "To add a filter:" on page 38.

Disconnecting from a DB2 Database

You can close a connection to a current database without logging out of DB2 Web Query Tool. All current database connections appear at the top level of the DB2 Web Query Tool navigation tree.

To disconnect from a DB2 database:

1. In the DB2 Web Query Tool navigation tree, click the connection that you want to close. The Connections drop down menu appears.
2. Click **Disconnect**. A confirmation message appears.
3. Click **OK**. A message appears asking whether you want to save your current settings.
4. Click **OK** or **Cancel**, as desired. DB2 Web Query Tool disconnects you from the selected database, and a confirmation message appears.

Logging off of DB2 Web Query Tool

You can log out of DB2 Web Query Tool. Logging out closes your connection with the server that runs DB2 Web Query Tool and returns you to the DB2 Web Query Tool login page. To disconnect from a single database without logging out, use the Disconnect option.

To log off of DB2 Web Query tool:

1. In DB2 Web Query Tool, click the X icon in the top left corner of the screen. A confirmation message appears.
2. Click **OK**. A message appears asking whether you want to save your current settings.
3. Click **OK** or **Cancel**, as desired. DB2 Web Query Tool logs you out. The DB2 Web Query Tool login page appears.

Using DB2 Web Query Tool

This information describes briefly how to get started with some of the basic tasks you can perform using DB2 Web Query Tool. For more detailed information about DB2 Web Query Tool features and functions, refer to the DB2 Web Query Tool online help facility.

DB2 Web Query Tool is a data management tool that allows you to create and run SQL queries against your DB2 databases, through a web browser. With DB2 Web Query Tool, you can create new queries from scratch and run them against your DB2 tables. Alternately, you can select an available DB2 table and run a new or existing query against it. DB2 Web Query Tool allows you to display query results, or export results to work with them in other applications. You can also save and organize queries and results for later use. DB2 Web Query Tool can compare similar database objects and generate reports tailored to your preferences. You can even access DB2 Web Query Tool by e-mail.

Using DB2 Web Query Tool online help

The extensive online help facility provides step-by-step instructions for performing tasks. Easily locate the topic of your choice using the table of contents, index, or search facility. You can view or print detailed task instructions.

To launch the help facility, click on Connections and select Help.

Using the DB2 Web Query Tool interface

The DB2 Web Query Tool interface contains two main sections, the DB2 Web Query Tool navigation tree, and the main display area.

The navigation tree occupies the left pane of the DB2 Web Query Tool window. The navigation tree allows you to organize and access your tables, queries and results.

The top level of the Navigation Tree shows active connections. All DB2 Web Query Tool objects appear under the database connection on which they are stored. DB2 Tables are organized in the tree according to their DB2 Creator. Queries and results created with DB2 Web Query Tool are organized according to Group. You can assign queries and results to different groups. You can also organize queries and results further into categories. Finally, you can limit or expand the objects displayed in the tree, also called filtering.

Click the + or - sign before a Navigation Tree node to expand or collapse the node. Click the Navigation Tree node icon or text to display a drop-down menu associated with that level of the tree.

Connecting to a DB2 Database

You can use DB2 Web Query Tool to run SQL queries against any table in a DB2 database. However, in order to access a database, you must first connect to it. You can have connections to more than one DB2 database open at once. All current database connections appear at the top level of the DB2 Web Query Tool navigation tree.

To connect to a DB2 Database:

1. In the DB2 Web Query Tool navigation tree, click **Connections**. The Connections drop-down menu appears.
2. From the drop-down menu, select **Connect**. The Database Connect page appears.
3. Type your DB2 Web Query Tool user ID and password, select the database type, and type the name of the DB2 database location to which you want to connect.
4. Click **Connect**. A confirmation message appears. You are now connected to the database that you specified.

Connecting to an Informix Database

You can connect to an Informix V 9.3 database using DB2 Web Query.

To connect to an Informix database:

1. Locate the ifxjdbc.jar file from the Informix JDBC files.
2. Add ifxjdbc.jar to the JVM (Java Virtual Machine) classpath for the DB2 Tools Server.
3. Open the DB2 Web Query Configuration Utility by going to the URL that you use to access DB2 Web Query, then adding /Configure to the end and pressing Enter. For example: http://<web server>/DB2Tools/WebQuery/Configure. The Configuration Utility login screen appears.
4. Login to DB2 Web Query Tool Configuration Utility. The default user name is cwq and the default password is cwq. This may have been changed when DB2 Web Query was installed. The DB2 Web Query Configuration Utility opens.
5. In the **Database Drivers, Default** section, check the Informix check box.

6. Click **Update**. The Configuration Utility closes.
7. Open the `cwq.conf` file and add the address of the Informix server and database to the `dbDriver` line. For example:

```
dbDriver2=InformixIDS|com.informix.jdbc.IfxDriver|
jdbc:informix-sqli://abc.domain.com:1526/| |
:INFORMIXSERVER=demo_tcp|
```

The following is an example of the url syntax for an Informix driver:

```
Driver Name = ifxjdbc.jar
Driver Class Name = com.informix.jdbc.IfxDriver
Database Url
```

Where the URL is constructed using the following syntax, where items contained in brackets are optional:

```
jdbc:informix-sqli://<host>:<port>:informixserver=<informix-server-name>
```

For example:

```
jdbc:informix-sqli://myhost:1533:informixserver=myserver
```

If the Informix database to which you are connecting is on your computer, use `localhost` as the host name, otherwise use the IP address or domain name of the server where the database resides. If you do not know what your port number is you may not need to specify a port number as many installations use default ports.

Working With Filters

In order to view objects in the DB2 Web Query navigation tree, you must apply a filter. Using a filter you can limit or expand the objects that are displayed in the DB2 Web Query navigation tree. You can filter the tree by object group or object name. Filters apply to all current connections. You can delete unwanted filters using the Filtering page. Filters apply to all current connections.

To add a filter:

1. Click any item in the DB2 Web Query Tool Navigation Tree. A drop-down menu appears.
2. From the drop-down menu, select **Filter**. The Filters page opens. Any active filters are shown in the filters **List** list.
3. Select the desired creator from the **Creator** box. Alternately, type the creator name in the **Creator** field and type the group name in the **Name** field.

Tip: You can use the wildcard character `'%'` in either or both fields to return all matching objects.

4. Click **Add**. The filters that you typed are added to the active filter list and appear in the filter **List**.
5. Click **Update**.

Note: DB2 Web Query Tool filters the tree according to the criteria that you specified. All objects that match any of the active filters appear in the navigation tree. An object matching only one of several active filters is still displayed.

To delete a filter:

1. Click any item in the DB2 Web Query Tool Navigation Tree. A drop-down menu appears.

2. From the drop-down menu, select **Filter**. The Filters page opens. Any active filters are shown in the list **List**.
3. From the list **List**, select the filter that you want to delete.
4. Click **Delete**. The filter is removed from the list **List**.
5. Click **Update**. DB2 Web Query Tool filters the navigation tree according to the new filtering criteria.

Note: All objects that match any of the active filters appear in the navigation tree. An object matching only one of several active filters is still displayed.

Working with Queries

You can do the following thing with queries using the DB2 Web Query Tool:

- Create a new query
- Create a query using the SQL Assistant
- Create a query that calls stored procedures (for more information on stored procedures, see “Creating a Query that Calls Stored Procedures” on page 70)
- Open and run a query
- Run a query using default options
- Use variables and comments in a query
- View query results
- Save a query
- Set query properties
- Edit a query

Creating a new query

You can write and run a new SQL query with DB2 Web Query Tool. You can query a DB2 Table or a DB2 View.

To create a new query:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **SQL Queries**. The SQL Queries menu appears.
2. From the drop-down menu, select **New**. The Edit Query page opens.
3. In the **Enter an SQL Statement** field, type the SQL statement that you want to use to create your query. You can include multiple statements in a single query, as well as comments and variables. You can also use lookup variables, which refer to other, saved, queries or result sets to produce a drop-down menu of substitution values.

DB2 Web Query Tool supports the following comment formats: `--comment`, `//comment`.

DB2 Web Query Tool supports the following variable formats: `[variable]`, `:variable`, `?`, and `&variable`.

Tip: Use a semi colon to separate multiple statements in a query.

4. Click **Next**. The Query Options screen opens.
5. In the **Result Name** field, type the name of the result set.

Note: DB2 Web Query Tool provides a default result set name. You can replace this name with one that you prefer.

6. In the **Max Rows** field, type the maximum number of rows to return in the result set.

Note: To return all rows to the result set, enter “0” in the **Max Rows** field.

7. In the **Timeout** field, type a time-out limit.
 8. From the **Action** drop down list, select an action to perform when a LOB is encountered. The options are as follows:
 - Select **Omit** to omit the LOB from the result set.
 - Select **Retrieve** to have LOBs retrievable from the result set. When you select **Retrieve**, LOBs will appear as links in the result set. You can click the link to view a particular LOB and DB2 Web Query will retrieve that LOB for you from the DB2 table and show it in a viewer.
 - Select **Embed** to have the LOB data embedded in the result set. LOBs in the result set will be viewable by clicking on a link. The LOB will appear in a viewer.
 9. In the **Limit** field, type the maximum size of a LOB that will be available in the result set.
 10. From the **Type** drop down list, specify the type of LOBs present in the data.
 - Select **Static** and specify the file extension in the **Ext./Column** field to indicate the type of LOBs that will be shown.
 - Select **Column** and type the name of the column, without the alias identifiers, that contains the information on the type of LOBS that will be shown.
- If you do not specify **Static** or **Column**, the LOB data will be sent to your browser in binary format and DB2 Web Query will rely on the browser to determine the type of data.
11. If you have SQL\PA installed on your system and your query has not been analyzed by SQL\PA, “Not Analyzed” will appear next to SQL\PA in the SQL\PA section. To analyze your query with SQL\PA, click Analyze in the SQL\PA section of the Settings section. SQL\PA analyzes one statement at a time. Therefore, if you have more than one SQL statement embedded in your query, you will see results in a cumulative format. To set your SQL\PA analysis options, click **Analyze options**.

Note: If you do not have SQL\PA installed, “Not Installed” will appear next to SQL\PA in the SQL\PA section.

12. In the Parsed Query area, specify the values for any variables in your SQL statement.
13. *Optional:* Click **Save** to save the query. Specify the query properties on the Query Properties page.
14. To run the query click **Run**

Creating a Query Using the SQL Assistant

You can use the SQL Assistant to help you create a query to run with DB2 Web Query. Using the SQL Assistant you can create a select, delete or update statement.

The SQL Assistant helps you find the tables and columns that you want to use in your query, assign working names to columns for use in the query, sort column contents in ascending or descending order, add row conditions to your query, and join tables and add join conditions.

To Create a query using the SQL Assistant:

1. Open the SQL Assistant window. (From the Edit Query Window, click **SQL Assist**).

2. From the drop-down list, select the type of SQL statement that you want to create. You can create a select statement, a delete statement, or an update statement.
3. Click the **Tables** button. The Table Selection section appears.
4. In the **Creator** list, highlight the creator of the table that you want to select from, delete from or update. The tables that are associated with the selected creator, appear in the **Tables** list.
5. In the **Tables** list, highlight the table from which you want to select, delete or that you want to update. Click **Add**. The selected table appears in the Query Workspace.
6. Repeat steps 3-5 for all of the tables that you want to use in your SQL statement.
7. Click **Columns**. The columns in the selected table or tables appear in the Query Workspace.
8. From the list of columns for each table. Highlight the column or columns that you want to use in your query. Click **Add(+)**. The selected columns appear in the Columns area.
9. In the Columns area, assign the name by which you want to refer to each column in the **As** field.
10. From the **Action** list, select the action that you want to perform on that column. You can select:
 - **None** - To have no actions performed on the row
 - **Sort Ascending** - To have the row sorted in ascending order
 - **Sort Descending** - To have the row sorted in descending order
11. *Optional:* Move a column up or down in the list by checking the Select check box for that column and using the up or down arrows.
12. *Optional:* in the Columns area, click **Add(+)** to add a custom column. A column is added to the list. Specify the column name in the **Column** field. The name by which the column will be called in the query in the **As** field and the action to be performed on the column in from the **Action** list. If your custom column calls a function that creates numeric values, you can select the group by radio button to have your results grouped by the custom column.
13. Check the **Select** check box for each column that you want to use in your SQL statement.
14. Click **Conditions**. The Row Conditions area appears.
15. In the **Query Workspace**, highlight the rows to which you want to add row conditions and click the **Add(+)** icon.
16. In the Row Conditions area, specify the row conditions for each row that you selected using the equation provided. Use the And (&) icon to create an AND condition between two rows, use the OR (|) icon to create an OR row condition between two rows.

Note: You can also use the icons in the Row Conditions area to move row conditions up and down in the list, Add new row conditions, duplicate existing row conditions, and delete existing row conditions.
17. Check the **Select** check box for each column that you want to use in your SQL statement.
18. Click **Joins**. The Joins area appears.
19. In the Query Workspace, check the check boxes on the two tables that you want to use in your join.

20. In the Query Workspace, highlight one row in each of the tables that you selected to use in the join.
21. Click the icon corresponding to the type of join that you want to do. You must highlight rows from different tables. The types of joins that are available are:
 - Left outer join
 - Inner join
 - Right outer join
 - Full outer join

The join appears in the Joins area.

22. In the Joins area, select the desired join condition from the **Condition** list.

Note: If you need to switch the order of the joined columns that you have selected, select the join that you need to swap and click the Swap button.

23. Check the **Select** check box for each join that you want to use in your SQL statement.
24. Click **Create query**. Your SQL statement is created.

Opening and Running a query

In DB2 Web Query Tool, you can open and run an existing query. For information on creating a query, see the following section: “Creating a new query” on page 39.

To open and run a query:

1. In the **SQL Queries** branch of the desired connection in the DB2 Web Query Tool navigation tree, click the query that you want to run. a drop down menu appears.
2. From the drop-down menu, select **Open**. The Prepare Query page opens, and the SQL statement is shown.

Note: If you do not have read permission for the selected query, DB2 Web Query Tool will attempt to run the query rather than open it if you have run permission.

3. In the Settings section, select your **Auto-Commit** preference.
 - Select **Off** to prevent your changes from being automatically committed to the database. When this option is selected, commits must be made to the database manually.

Note: If you select not to have your changes automatically committed, your database will be left in an uncommitted state. This can cause problems.

- Select **When Finished** to have your changes committed to the database after all SQL statements have been run.
 - Select **After Each Statement** to have your changes committed to the database after each SQL statement is run.
4. In the **Name** field, type the name that you want to use for the result set.

Tip: DB2 Web Query Tool provides a default result set name. You can replace this name with one that you prefer.

5. In the **Max Rows** field, type the maximum number of rows to return in the result set.

Tip: To return all rows to the result set, type “0” in the Max Rows field.

6. In the **Timeout** field, type a timeout limit.
7. From the **Action** drop down list, select an action to perform when a LOB is encountered.
 - Select **Omit** to omit the LOB from the result set.
 - Select **Retrieve** to have LOBs retrievable from the result set. When you select **Retrieve**, LOBs will appear as links in the result set. You can click the link to view a particular LOB and DB2 Web Query will retrieve that LOB for you from the DB2 table and show it in a viewer.
 - Select **Embed** to have the LOB data embedded in the result set. LOBs in the result set will be viewable by clicking on a link. The LOB will appear in a viewer.
8. In the **Limit** field, type the maximum size of a LOB, in kilobytes, that will be available in the result set.
9. From the **Type** drop down list, select the type of LOBs to be included.
 - Select **Static** and specify the file extension in the **Ext./Column** field to indicate that only LOBs with the specified extension will be shown.
 - Select **Column** and type the name of the column, without the alias identifiers, that contains the information on the type of LOBs that will be shown in the **Ext./Column** field to indicate that only LOBs of the type specified in the specified column will be shown.
10. If you have SQL/PA installed on your system and your query has not been analyzed by SQL/PA, "Not Analyzed" will appear next to SQL/PA in the **SQL/PA** section. To analyze your query with SQL/PA, click **Analyze** in the SQL/PA section of the **Settings** section. SQL/PA analyzes one statement at a time. Therefore, if you have more than one SQL statement embedded in your query, you will see results in a cumulative format. To set your SQL/PA analysis options, click **Analyze options**.

Note: If you do not have SQL/PA installed, "Not Installed" will appear next to SQL/PA in the SQL/PA section.

11. *Optional:* Click **Edit** to edit the SQL query.
12. If the query contains variables, click each variable that is displayed in the **Parsed Query** section to define its value.
13. Type the value of the variable or select a value from the drop-down menu, if available.
 - Select **Use** to substitute the value specified for only that instance of the variable name.
 - Select **All References** to substitute the value specified for every instance of that variable name in the query.
 - Select **Ignore** to treat the variable as a string.

Tip: When you click a lookup variable, a drop-down menu appears from which you can select a value for the variable. If the variable has multiple selection defined for it, you may be able to select multiple values for the variable by holding down the Control key.

14. To run the query, click **Next**.

Note: DB2 Web Query Tool does not validate SQL. Be certain to use correct SQL syntax, table names, and column names when writing your query. DB2 Web Query Tool runs the query, and displays the Query Data page. You can now view the message page, and specify how to display or export the query results.

Running a query using default options

You can run a query automatically using the default options for the query.

To run a query using default options:

1. In the DB2 Web Query Tool navigation tree, click the query that you want to run.
a pop-up menu opens.
2. From the menu, select **Run**.
A confirmation message appears.
3. Click **OK**.
DB2 Web Query Tool runs the query using the default options and returns the results in your browser window.

Using Variables and Comments in a Query

You can include variables and comments in an SQL query. You can also use lookup variables, which refer to other, saved, queries or result sets to produce a drop-down menu of substitution values.

To create a query using lookup variables and comments:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **SQL Queries**. A pop-up menu opens.
2. From the pop-up menu, select **New**. The Query page opens.
3. In the **Enter an SQL Statement(s)** field, type an SQL Query.
4. *Optional:* To include lookup variables in your query, use one of the following formats:
 - [q.groupname.queryname]
 - [r.groupname.resultname]
 - [qm.groupname.queryname]
 - [rm.groupname.resultname]

Use the name of the saved query or saved result set from which you want to draw the drop-down menu. Lookup variables beginning with "qm." or "rm." allow you to select multiple values for the variable. Lookup variables beginning with "q." or "r." allow you to select one value.

To define a variable in a query, use one of the following syntax methods.

- ?
- :variable
- [variable]
- &variable

For example, in the following SQL statement, &userid is a variable:

```
select * from table.sample where user=&userid
```

You can also use any of the following system variables:

- *wqsys.time* - Substitutes the current time.
 - *wqsys.date* - Substitutes the current date.
 - *wqsys.timestamp* - Substitutes the current timestamp.
 - *wqsys.user* - Substitutes the user name under which you are logged in.
 - *wqsys.sqlid* - Substitutes the SQL ID under which you are logged in.
 - *wqsys.database* - Substitutes the name of the database you are accessing.
5. *Optional:* To include comments in your query, use one of the following formats:

- -- comment
- // comment

Note: Only the text following the comment symbols is treated as a comment. Any text preceding the comment symbols on the same line is treated as part of the SQL statement.

6. Click **Next**. The Prepare Query screen opens.
7. In the Settings section, select your **Auto-Commit** preference.
 - Select **Off** to prevent your changes from being automatically committed to the database. When this option is selected, commits must be made to the database manually.

Note: If you select not to have your changes automatically committed, your database will be left in an uncommitted state. This can cause problems.

- Select **When Finished** to have your changes committed to the database after all SQL statements have been run.
 - Select **After Each Statement** to have your changes committed to the database after each SQL statement is run.
8. In the **Result Name** field, type the name that you want to use for the result set.

Tip: DB2 Web Query Tool provides a default result set name. You can replace this name with one that you prefer.

9. In the **Max Rows** field, type the maximum number of rows to return in the result set.

Tip: To return all rows to the result set, type "0" in the Max Rows field.

10. From the **Action** drop down list, select an action to perform when a LOB is encountered.
 - Select **Omit** to omit the LOB from the result set.
 - Select **Retrieve** to have LOBs retrievable from the result set. When you select **Retrieve**, LOBs will appear as links in the result set. You can click the link to view a particular LOB and DB2 Web Query will retrieve that LOB for you from the DB2 table and show it in a viewer.
 - Select **Embed** to have the LOB data embedded in the result set. LOBs in the result set will be viewable by clicking on a link. The LOB will appear in a viewer.
11. In the **Limit** field, type the maximum size of a LOB that will be available in the result set.
12. From the **Type** drop down list, select the type of LOBs to be included.
 - Select **Static** and specify the file extension in the **Ext./Column** field to indicate that only LOBs with the specified extension will be shown.
 - Select **Column** and type the name of the column, without the alias identifiers, that contains the information on the type of LOBs that will be shown in the **Ext./Column** field to indicate that only LOBs of the type specified in the specified column will be shown.
13. In the **Timeout** field, type a timeout limit.
14. If you have SQL/PA installed on your system and your query has not been analyzed by SQL/PA, "Not Analyzed" will appear next to SQL/PA in the **SQL/PA** section. To analyze your query with SQL/PA, click **Analyze** in the

SQL/PA section of the **Settings** section. SQL/PA analyzes one statement at a time. Therefore, if you have more than one SQL statement embedded in your query, you will see results in a cumulative format. To set your SQL/PA analysis options, click **Analyze options**.

Note: If you do not have SQL/PA installed, "Not Installed" will appear next to SQL/PA in the SQL/PA section.

15. *Optional:* Click **Edit** to edit the SQL query.
16. Click each lookup variable that is displayed in the **Parsed Query** section and define its value.
17. Type the value of the variable or select a value from the drop down menu, if available.
 - Select **Use** to substitute the value specified for only that instance of the variable name.
 - Select **All References** to substitute the value specified for every instance of that variable name in the query.
 - Select **Ignore** to treat the variable as a string.

Tip: When you click a lookup variable, a drop down menu appears from which you can select a value for the variable. If the variable has multiple selection defined for it, you may be able to select multiple values for the variable by holding down the Control key.

18. Run or save the query. To run the query, click **Run**.

Note: DB2 Web Query Tool does not validate SQL. Be certain to use correct SQL syntax, table names, and column names when writing your query. DB2 Web Query Tool runs the query, and displays the Query Data page. You can now view the message page, and specify how to display or export the query results. For more information on running a query see "Opening and Running a query" on page 42. For information on saving a query, see "Saving a Query" on page 49.

Writing an SQL Query Using Lookup Variables: You can use lookup variables in a query to present the user with a drop-down menu of possible substitution values for the variable at run time. Lookup variables create a drop-down menu from the saved query or result set that you use in the variable name. In the Query or result, the lookup variable will be the first column returned and it will be separated by a space from the other columns if there are any. Depending on the data type, it will be quoted automatically. Lookup variables only work with saved queries or results.

To write an SQL query using lookup variables:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **SQL Queries**. A pop-up menu appears.
2. From the pop-up menu, select **New**. The Edit Query page opens.
3. In the **Enter an SQL Statement** field, type an SQL statement. To include lookup variables in your query, use one of the following formats:
 - [q.groupname.queryname.n]
 - [r.groupname.resultname]
 - [qm.groupname.queryname.n]
 - [rm.groupname.resultname]

Where n is the query number. By specifying a query number, you can link a query to multiple result sets. If no number is specified the default, result set 1, will be used.

Use the name of the query or result set from which you want to draw the drop-down menu. DB2 Web Query Tool uses the first column as the list of possible substitution values for the variable. DB2 Web Query Tool concatenates all columns after the first into display values in the drop-down menu and uses the corresponding values in the first column as the substitution values.

Lookup variables beginning with "qm." or "rm." allow you to select multiple values for the variable. Lookup variables beginning with "q." or "r." only allow you to select one value. The target for multiple select lookup variables is an IN clause.

Tip: Query lookup variables (q. or qm.) fetch their values from the database every time the query is loaded. Result lookup variables (r. or rm.) draw their values from a static result set file.

Note: When referencing a look-up variable that resolves to a non-numeric value in a query, IBM DB2 Web Query Tool will enclose the value in single quotes. For example: WHERE A.NAME='joe'

4. Click **Next**.
5. In the Settings section, select your **Auto-Commit** preference.
 - Select **Off** to prevent your changes from being automatically committed to the database. When this option is selected, commits must be made to the database manually.

Note: If you select not to have your changes automatically committed, your database will be left in an uncommitted state. This can cause problems.

- Select **When Finished** to have your changes committed to the database after all SQL statements have been run.
 - Select **After Each Statement** to have your changes committed to the database after each SQL statement is run.
6. In the **Name** field, type the name that you want to use for the result set.

Tip: DB2 Web Query Tool provides a default result set name. You can replace this name with one that you prefer.

7. In the **Max Rows** field, type the maximum number of rows to return in the result set.

Tip: To return all rows to the result set, type "0" in the Max Rows field.

8. In the **Timeout** field, type a timeout limit.
9. From the **Action** drop down list, select an action to perform when a LOB is encountered.
 - Select **Omit** to omit the LOB from the result set.
 - Select **Retrieve** to have LOBs retrievable from the result set. When you select **Retrieve**, LOBs will appear as links in the result set. You can click the link to view a particular LOB and DB2 Web Query will retrieve that LOB for you from the DB2 table and show it in a viewer.

- Select **Embed** to have the LOB data embedded in the result set. LOBs in the result set will be viewable by clicking on a link. The LOB will appear in a viewer.
10. In the **Limit** field, type the maximum size of a LOB that will be available in the result set.
 11. From the **Type** drop down list, select the type of LOBs to be included.
 - Select **Static** and specify the file extension in the **Ext./Column** field to indicate that only LOBs with the specified extension will be shown.
 - Select **Column** and type the name of the column, without the alias identifiers, that contains the information on the type of LOBs that will be shown in the **Ext./Column** field to indicate that only LOBs of the type specified in the specified column will be shown.
 12. If you have SQL/PA installed on your system and your query has not been analyzed by SQL/PA, "Not Analyzed" will appear next to SQL/PA in the **SQL/PA** section. To analyze your query with SQL/PA, click **Analyze** in the SQL/PA section of the **Settings** section. SQL/PA analyzes one statement at a time. Therefore, if you have more than one SQL statement embedded in your query, you will see results in a cumulative format. To set your SQL/PA analysis options, click **Analyze options**.

Note: If you do not have SQL/PA installed, "Not Installed" will appear next to SQL/PA in the SQL/PA section.

Viewing query results

DB2 Web Query Tool allows you to export your query results to a separate file, so you can open, view and work with results in a variety of formats. Export options include: XML Document, XSL Document, Text Document, Delimited Text, HTML Document, DB2 Table, and Microsoft Excel.

To view query results:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, expand the data branch until you see the result set that you want to view.
2. Click the desired result set. A drop-down menu appears.
3. From the drop-down menu, select **Open**. The Select Output page appears.
4. Select the file format in which you want to open your results.

Note: If you export your query results to XML, you can format the resulting document with an XML style sheet, also called an XSL document. To do so, click **XSL Workbench** and create an XSL style sheet or select one by choosing Recent or Saved from the Export To drop down then selecting the desired XSL document from the Transforms box.

You can select **Default**, **Excel**, to have your results saved in Microsoft Excel format, or **DB2 Table** to have your results exported to a DB2 Table. If you select **Default**, there are five available options:

- **Fixed Width Text**- To have your results exported to text format, select **Fixed Width Text**.
- **Formatted Text**- To have your results exported as formatted text, select **Formatted Text**
- **Spreadsheet**- To have your results exported to delimited text format, select **Spreadsheet**.
- **XML**- To have your results exported to XML format, select **XML**
- **HMTL**- To have your results exported to HTML format, select **HMTL**.

5. *Optional:* customize the export options for your results, such as adding column headers or a page title by clicking **Options**.
6. Select an action to apply to your result set. Select:
 - **Display** to view your results in your web browser
 - **Download** to save your results to a local or network drive
 - **e-Mail** to send your results to an e-mail address.
7. Click **Process**. DB2 Web Query Tool exports your query results according to the export options that you specified.

Saving a Query

You can save a new query for later use.

Note: In order to save a query, you must create the DB2 Web Query Tool catalog tables. For more information on the DB2 Web Query Tool catalogs, see “Creating and Installing the DB2 Web Query Tool Catalog” on page 28.

To save a query:

1. Create a new query. For information on creating a query, see “Creating a new query” on page 39.
2. On the Query Options page, click **Save**.
3. The Query Properties page opens.
4. Specify the query properties that you want, and click **Save**.
5. DB2 Web Query Tool saves the query, and displays the Edit Query page. You can now run the query. For information on running a query see “Opening and Running a query” on page 42.

Setting Query Properties

You can set properties, such as read, write, and execute authority, for a query.

To set query properties:

1. In the **SQL Queries** branch of the desired connection in the DB2 Web Query Tool navigation tree, click the query for which you want to set properties. a pop-up menu appears.
2. From the drop-down menu, select **Properties**. The Query Properties page appears.
3. Select a group for the query. To add a new group, type the name of the group and click **Add**.

Note: Because each group is associated with an SQL ID, your DB2 administrator must add the desired group to your DB2 installation before you can add the group to DB2 Web Query Tool.

4. *Optional:* Edit the name of the query.
5. Select a category for the query. To add a new category, type the name of the category and click **Add**.
6. *Optional:* Type a description of the query.
7. Set permissions for the query. You can set Read, Write, and Execute permissions for the query. By default, the creator of the query has Read, Write, and Execute permissions. You can specify permissions for other users in the group specified for the query, as well as permissions for all users:
 - Read permission allows the user to view the query and the SQL source.
 - Write permission allows the user to modify or delete the query.
 - Execute permission allows the user can run the query.

8. Click **Save**. DB2 Web Query Tool saves the query, and displays a confirmation message.

Editing a Query

You can edit a saved query.

To edit a saved query:

1. In the **Queries** branch of the desired connection in the DB2 Web Query Tool navigation tree, click the query that you want to edit. a pop-up menu appears.
2. From the drop-down menu, click **Open**. The Edit Query page opens, and the SQL statement is shown.

Note: If you do not have read permission for the selected query, DB2 Web Query Tool attempts to run the query rather than open it if you have run permissions.

3. Click **Edit**.
4. Edit the SQL query.

Retrieving an SQL Query

Use the Retrieve Query screen to retrieve an SQL query through FTP or through a URL.

To retrieve an SQL query:

1. Click **SQL Queries** on the DB2 Web Query navigation tree. A drop down menu appears.
2. On the drop-down menu, click **New**. The Edit Query screen opens.
3. On the Edit Query screen click **FTP** or **HTTP**. To retrieve a query using FTP, click **FTP**; to retrieve a query using a URL, click **HTTP**. The Retrieve query screen opens.
4. Identify the location from which you want to retrieve the query:
 - If you selected **FTP**, specify the user name and password used to login to the FTP server in the Login and Password fields. In the Host field, specify the FTP host name and in the File Path field, specify the location of the query on the FTP server.
 - If you selected **HTTP**, in the URL field, type the URL where your query is located.
5. Click **Retrieve**. The Edit Query window opens. The query that you retrieved appears in the **Enter an SQL Statement(s)** box.

Working with Result Sets

You can open, view, save, and delete result sets.

Opening Result Sets:

You can view result sets in the following formats:

- XML Document
- Delimited Text
- HTML Document
- Text Document
- MS Excel
- DB2 Table

For more information on these formats, see the DB2 Web Query Tool online help.

To open a result set:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Data**. The Data branch expands, listing temporary and saved result sets.
2. Expand the navigation tree until you see the result set that you want to open.
3. Click the desired result set. A drop-down menu appears.
4. From the drop-down menu, select **Open**. The Select Output page appears.
5. Select the file format in which you want to open your results.

Note: If you export your query results to XML, you can format the resulting document with an XML style sheet, also called an XSL document. To do so, click **XSL Workbench** and create an XSL style sheet or select one by choosing Recent or Saved from the Export To drop down then selecting the desired XSL document from the Transforms box.

You can select **Default**, **Excel**, to have your results saved in Microsoft Excel format, or **DB2 Table** to have your results exported to a DB2 Table . If you select **Default**, there are five available options:

- **Fixed Width Text**- To have your results exported to text format, select **Fixed Width Text**.
 - **Formatted Text**- To have your results exported as formatted text, select **Formatted Text**
 - **Spreadsheet** To have your results exported to delimited text format, select **Spreadsheet**.
 - **XML**- To have your results exported to XML format, select **XML**
 - **HMTL**- To have your results exported to HTML format, select **HMTL**.
6. Select an action to apply to your result set.
 - Select **Display** to view your results in your web browser
 - Select **Download** to save your results to a local or network drive
 - Select **E-mail** to send your results to an e-mail address.

Note: In order for DB2 Web Query to send your results in an e-mail you must set up the **emailHost** parameter. For more information on the **emailHost** parameter see "Parameter list" on page 8.

7. Click **Options**. The Export Options page opens.
8. Select formatting for dates, times, and numbers in your result set.
 - a. Select either ISO format or a specific Locale to determine how dates, times, timestamps, and numbers appear in the exported document.
 - b. Select a Style to determine how much information is included in dates and times in your exported result set.
9. Set the options specific to the export format that you selected for your result set. For more information on setting specific options, see the DB2 Web Query Online Help.
10. Click **Save**. The Select Output page opens.
11. Click **Next**. DB2 Web Query Tool exports your query results according to the export options that you specified.

Opening Result Sets in a New or Existing DB2 Table

DB2 Web Query Tool allows you to export your query results to a DB2 table, so you can work with your results in your DB2 database. You can add your query results to an existing DB2 table, or you can create a new DB2 table containing your results.

To open a result set in an existing DB2 table:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Data**. The Data branch expands, listing temporary and saved result sets.
2. Click the result set that you want to open. A drop-down menu opens.
3. From the drop-down menu, select **Open**. The Select Output page opens.
4. Select the **DB2 Table** radio button, and click **Options**. The Export Options page opens.
5. From the list of existing tables, select the table to which you want to add the result set, and click **Select**. The Table Definition page opens and displays the following column information for the existing table:
 - **Key** - specifies whether or not the column is a primary key
 - **Name** - Specifies the name of the column.
 - **Type** - Specifies the type of data which populates the column, such as integer or decimal.
 - **L,P** - Specifies the maximum allowable length and precision of the data in the column, where applicable. The length indicates how many integer places the data may have; the precision indicates how many decimal places the data may have. For example, a length and precision specified as 10,2 results in a maximum number of 10 integer places, and 2 decimal places.
 - **Bit Data** - specifies whether the column contains bit data
 - **Nullable** - specifies whether the column is nullable
 - **From** - allows you to match the result set column to the column in the existing table.
6. In the **Commit Scope** field, type the commit scope. The commit scope is the number of actions that are performed on the table before the changes to the table are committed to the database. For example, if you specify a commit scope of 50, after 50 actions are performed on the table, all changes are committed to the database.
7. Select an import action. To add your result set to the data in the table, select **Append**. To replace the current data in the table, select **Replace** (The current data in the table is removed, then the new data is inserted into the table). To update the existing records in a table, select **Update**, then specify the appropriate keys in the **Key** column.
8. *Optional:* Check the **Assume Current Date/Time** check box to specify that if a timestamp, date or time field is blank the current date and time will be filled in. If you do not check this check box, midnight January first of the current year will be filled in.
9. Indicate the appropriate action to take if an error is encountered. Select the **Skip** radio button to skip the error and continue, or select the **Stop** radio button to have the process stop if an error is encountered.
10. In the **From** column, match the result set column with the column in the existing table to which you want to export your data.
11. Click **Create**. DB2 Web Query Tool adds the result set to the existing table, using the options that you specified, and displays a confirmation message.

To open a result set in a new DB2 table:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Data**. The Data branch expands, listing temporary and saved result sets.
2. Select the result set that you want to open. A drop-down menu opens.
3. From the drop-down menu, select **Open**. The Select Output page opens.
4. Select the **DB2 Table** radio button, and click **Process**. The Tables page opens.

5. From the list of existing tables, select **New Table**, and click **Select**. The Table Definition page appears, and displays a default table configuration based on the columns and rows of the result set that you specified.
6. In the **Creator** field, type the name of the table creator.
7. In the **Name** field, type the name of the new table.
8. In the **Commit Scope** field, type the commit scope. The commit scope is the number of actions that are performed on the table before the changes are committed to the database. For example, if you specify a commit scope of 50, after 50 actions are performed on the table, all changes are committed to the database.
9. In the **Create Table In** field, type the name of the table space in which you want to create the table.
10. Check the **Data Capture for Propagation** check box to have extra information regarding SQL changes to this table written to the log. This extra information is required if this table will be replicated using DB2. This check box must be selected if you plan to use this table as a source for replication in DB2.
11. Indicate the appropriate action to take if an error is encountered. Select the **Skip** radio button to skip the error and continue, or select the **Stop** radio button to have the process stop if an error is encountered.
12. *Optional:* Add a column to the table by clicking **Add Column**.
13. *Optional:* Delete a column from the table by clicking the **Select** button next to the column that you want to delete, then clicking **Delete Column**.
14. *Optional:* To move a column up or down in the table, click the **Select** radio button next to the column that you want to move, then click **Up** (to move the column up one) or **Down** (to move the column down one).
15. In the **Name** field, specify the name of the column. By default, the column names match the result set column names.
16. In the **Type** field, specify the type of data, that will populate the column, such as integer or decimal.
17. In the **L,P** field, specify the maximum allowable length and precision of the data in the column, where applicable. The length indicates how many integer places the data can have; the precision indicates how many decimal places the data can have. For example, a length and precision specified as 10,2 results in a maximum number of 10 integer places, and 2 decimal places.
18. Check the **Bit Data** check box to specify that bit data is allowable in the column.
19. Check the **Nullable** check box to specify that a value of null is allowed in the column.
20. In the **From** field, match the column in the result set to the column in the new table. By default, the columns in the result set are matched to the columns of the same name in the new table.
21. 13. Click **Create**. DB2 Web Query Tool creates the new table containing the result set that you specified, using the options that you specified, and displays a confirmation message.

Saving Result Sets

When you run an SQL query, DB2 Web Query Tool temporarily stores a file containing the query results on the server to which you are connected. You can save each set of query results, or allow it to remain in temporary storage on the server. If you do not save a result set within a set number of days, DB2 Web Query Tool automatically deletes it.

Note: When installing DB2 Web Query Tool, your network administrator specifies the number of days that elapse before DB2 Web Query Tool automatically deletes temporary result sets. If you are unsure how long your temporary result sets remain on the server before being deleted, consult with your network administrator.

To save a recently created result set:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, expand the **Data** branch. The **Data** branch expands, to show the **Temporary** and **Saved** branches. Expand the **Temporary** branch until you see the result set that you want to save.

Tip: Temporary results are those that are located in temporary storage on the server; Saved results are stored permanently in the DB2 Web Query Tool Catalog.

2. Click the result set that you want to save. A pop-up menu opens.
3. On the pop-up menu, click **Save**. The Object Properties page opens.
4. On the Object Properties page, specify the properties for the result set that you want to save.
5. From the **Group** list, select the group to which the creator of the query belongs from the drop down, or add a new group by typing the group name in the **Group** field and clicking Add.
6. In the **Name** field, type the name for the query.
7. *Optional:* From the **Category** drop-down list, select the category to which you want the query assigned or, type the name of a new category in the Category field and click **Add**.
8. The Type field indicates the type of object for which you are setting properties.
9. *Optional:* In the Description box, type a description of the query in the Description box.
10. Select the permissions to be assigned to the query by checking the appropriate check box in the **Permissions** section. You can give read, write and execute permissions to, the creator, the entire group, or another ID. You can assign all permissions or any combination of the three to the creator, the entire group or another ID. You can also assign Read or Execute permissions for SOAP access and HTTP access.
11. Click **Save**. The result set is saved.

Setting Result Set Properties

You can specify properties, such as read, write, and execute authority, for a result set. You can only specify properties for a saved result set.

To set result set properties:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, expand the **Data** branch. The **Data** branch expands, to show the **Temporary** and **Saved** branches. Expand the **Temporary** branch until you see the result set that you want to save.

Tip: Temporary results are those that are located in temporary storage on the server; Saved results are stored permanently in the DB2 Web Query Tool Catalog.

2. Click the desired result set. A pop-up menu opens.
3. From the pop-up menu, select **Properties**. The Result Properties page opens.

4. Select a group for the result set. To add a new group, type the name of the group and click **Add**.

Note: Because each group is associated with an SQL ID, your DB2 administrator must add the desired group to your DB2 installation before you can add the group to DB2 Web Query Tool.

5. *Optional:* Edit the name of the result set.
6. Select a category for the result set. To add a new category, type the name of the category and click **Add**.
7. *Optional:* Type a description of the result set.
8. Set permissions for the result set. You can set Read, Write, and Execute permissions for the result set. By default, the creator of the result set has Read, Write, and Execute permissions. You can specify permissions for other users in the group specified for the result set, as well as permissions for all users. Read permission allows the user to view the result set. Write permission allows the user to modify or delete the result set. Execute permission allows the user to export the result set. You can also assign Read or Execute permissions for SOAP access and HTTP access.
9. Click **Save**. DB2 Web Query Tool saves the result set, and displays a confirmation message.

Graphing a Result Set

You can use DB2 Web Query to graph numerical columns (columns where all values are numerical) from a result set, using the chart screen. You can create column charts, line graphs and pie charts. By default, each column is a group of data-points that are plotted as a set of columns of the same color, a line or a pie. If you plot more than one data column, columns of different colors, multiple lines, or nested pies will result. There are many options available for customizing your graph or chart. While you are setting the options for your graph or chart, you can view a preview of it. You can update the preview to reflect the options that you have chosen at any time by pressing the **Update** button.

You can use the defaults that DB2 Web Query supplies for many of the field choices in the task below, or you can modify them as appropriate for your environment. If you decide to use the defaults that are supplied by DB2 Web Query you can click Generate from the Chart screen without specifying any of the options mentioned in steps below.

To graph a result set:

1. Open the Select Output window by clicking the result set that you want to open in the DB2 Web Query navigation pane and selecting open or by clicking **Next** from the Query Data Screen.
2. Click the **Chart** button in the top right corner of the screen. The Chart screen opens.

Tip: At any point after this step you can click **Generate** to create your graph. The steps listed below allow you to customize your graph.

3. *Optional:* From the **Type** list, select the type of graph that you want to create.
 - Select **Column** to create a column chart
 - Select **Pie** to create a pie chart
 - Select **Line** to create a line graph
4. *Optional:* From the **Style** list, select the style that you want to use in your graph. If you selected **Column** or **Line** from the Type list:

- Select **Normal** to plot each group of data separately.
 - Select **Stacked** to add each group of data to the previous groups, resulting in a cumulative type graph.
 - Select **Percent** to plot each group as a percentage of the total of all groups.
 - If you selected **Pie** from the **Type** list, select:
 - Select **Normal** to plot a pie chart. Plotting multiple columns results in the creation of multiple pies that will be nested inside each other.
 - Select **Extract** to offset the first slice from the rest of the pie.
 - Select **Exploded** to separate all the slices from each other by moving them away from the center of the pie leaving space around each slice.
5. *Optional:* From the **Orientation** list, select the way in which you want to group your data, by columns or rows. The default is columns. In column grouping, each row represents one line of data (or pie, or column set), and each column contains the data points within those groups. In column and line charts, data in any one group is drawn using the same color. In pie charts, data in a group is put into one pie and drawn using different colors for each slice.
 6. *Optional:* Check the **Use the first column as row labels** check box to have the first column that you specified used as column headings on your graph.
 7. *Optional:* Type a title for your graph in the **Chart Title** field.
 8. *Optional:* In the **Chart Size** field, indicate the chart size in pixels.
 9. *Optional:* Click the **Axis** button.
 10. *Optional:* Check the **Display the X-axis** check box to have the x-axis displayed.
 11. *Optional:* Type a label for the x-axis in the **Label** field.
 12. *Optional:* In the **Grid Lines** field, specify how far apart you want the grid lines to appear.
 13. *Optional:* In the **Maximum** field, type the maximum units on the scale that is on the x-axis on the graph.
 14. *Optional:* In the **Minimum** field, type the minimum units on the scale that is on the x-axis on the graph.
 15. *Optional:* Check the **Display the Y-axis** check box to have the y-axis displayed.
 16. *Optional:* Type a label for the y-axis in the **Label** field.
 17. *Optional:* In the **Grid Lines** field, specify how far apart you want the grid lines to appear.
 18. *Optional:* In the **Maximum** field, type the maximum units on the scale that is on the y-axis on the graph.
 19. *Optional:* In the **Minimum** field, type the minimum units on the scale that is on the y-axis on the graph.
 20. *Optional:* Click the **Options** button.
 21. *Optional:* In the **Title** section, select the font in which you want the title of the graph to appear, from the **Font Face** list.
 22. *Optional:* In the **Title** section, select the color in which you want your title to appear from the **Font Color** list.
 23. *Optional:* In the **Background** section, select the background color for your graph from the **Color** list.
 24. *Optional:* In the **X-Axis** section, select the font in which you want the labels on the x-axis of the graph to appear, from the **Font Face** list.

25. *Optional:* In the **X-Axis** section, select the color in which you want the labels on the x-axis of the graph to appear from the **Font Color** list.
26. *Optional:* In the **Y-Axis** section, select the font in which you want the labels on the y-axis of the graph to appear, from the **Font Face** list.
27. *Optional:* In the **Y-Axis** section, select the color in which you want the labels on the y-axis of the graph to appear from the **Font Color** list.
28. Click the **Generate** button. Your graph appears in a new browser window.

Deleting a Result Set

You can delete temporary or saved result sets using DB2 Web Query Tool.

To delete a result set:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, expand the **Data** branch. The **Data** branch expands, to show the **Temporary** and **Saved** branches. Expand the **desired** branch until you see the result set that you want to delete.

Tip: Temporary results are those that are located in temporary storage on the server; Saved results are stored permanently in the DB2 Web Query Tool Catalog.

2. Click the result set that you want to delete. A pop-up menu appears.
3. From the popup menu, select **Delete**. A warning message appears, asking you to confirm that you want to delete this result set.
4. Click **OK**. DB2 Web Query Tool deletes the result set that you specified, and displays a confirmation message.

Importing a New Result Set

You can import new result sets from XML and HTML tables, as well as text files. You can import data from a local file, as well as from a URL.

To import a new result set:

1. In the **Data** branch of the desired connection in the DB2 Web Query Tool navigation tree, click any item. A pop-up menu appears.
2. From the popup menu, select **New**. The New Result Set page appears.
3. Select the type of file from which you want to import the result set. You can import data in the following formats:
 - XML
 - Text with comma separated variables
 - Text with a fixed width
 - HTML
4. Specify the location of the file from which you want to import the result set. You can specify either a local file on your computer, or a URL.
5. Click **Load**. The Import Options page for the file type that you selected opens.
6. Specify the import options for the file type from which you want to import the result set. For more information on the specific options for the file type from which you are importing, see the DB2 Web Query Online help.
7. Click **Import**. DB2 Web Query Tool imports the result set, and displays a confirmation message.

Working with Categories

You can create categories to organize your queries and results in the DB2 Web Query Tool navigation tree. Categories further organize the items in a group; all categories fall under a group in the navigation tree.

Creating a Category

Before you can create a new category, you must first select an object to assign to this category. You can not create a category that contains no objects. In addition, you can not create a category for a table.

To create a category:

1. In the DB2 Web Query Tool navigation tree, click the query or saved result set that you want to assign to a new category. A pop-up menu appears.
2. From the pop-up menu, select **Properties**. The Properties page appears, and displays a table containing the query or result set properties.
3. On the **Category** line in the table, type the name of the new category that you want to create.
4. Click **Add**. The category that you specified appears, and is automatically selected, in the **Category** drop-down list.
5. Click **Save**. DB2 Web Query Tool adds the new category to the navigation tree, under the appropriate group. The result set or query that you selected is assigned to the new category.

Assigning an Object to a Category

You can organize queries and result sets, also called DB2 Web Query Tool objects, into categories in the DB2 Web Query Tool navigation tree. Categories further organize the items in a group; all categories fall under a group in the navigation tree.

To assign an object to a category:

1. In the DB2 Web Query Tool navigation tree, click the query or saved result set that you want to assign to a category. A drop-down menu appears.
2. From the drop-down menu, select **Properties**. The Properties page appears, and displays a table containing the query or result set properties.
3. In the **Category** line in the table, select the category to which you want to add the query or result set.
4. Click **Save**. DB2 Web Query Tool adds the query or result set to the category in the navigation tree, under the appropriate group.

Deleting a Category

You can delete categories from the DB2 Web Query Tool navigation tree by deleting all items in the category.

To delete a category:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click an item that is in the category that you want to delete. A drop-down list appears.
2. From the drop-down list, select **Delete**. A warning message appears, asking you to confirm that you want to delete this item.
3. Click **OK**. DB2 Web Query Tool deletes the item, and displays a confirmation message.
4. Repeat steps one to three until all items in the category that you want to delete have been deleted.

5. When all items in the category have been deleted, DB2 Web Query Tool automatically deletes the category.

Working with Groups

You can organize queries and result sets, also called DB2 Web Query Tool objects, into groups in the DB2 Web Query Tool navigation tree. Groups are associated with an SQL ID, a group must be added to your DB2 installation before you can add the group to DB2 Web Query Tool. When you create queries and result sets, these objects are added to a default group. However, you can assign an object to a different group. You cannot create a group for tables. In order to create a group, you must first select an object to be a part of that group.

To Create a group:

1. In the DB2 Web Query Tool navigation tree, click the query or saved result set that you want to assign to a new group. A drop-down menu appears.
2. From the drop-down menu, select **Properties**. The Properties page appears, and displays a table containing the query or result set properties.
3. On the **Group** line in the table, type the name of the new group that you want to create. Click **Add**. The group that you specified appears, and is automatically selected, in the **Group** drop-down list.
4. Click **Save**. DB2 Web Query Tool adds the new group to the navigation tree. The result set or query that you selected is assigned to the new group.

To assign objects to a group:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click the query or saved result set that you want to assign to a different group. A drop-down menu appears.
2. From the drop-down menu, select **Properties**. The Properties page appears, and displays a table containing the query or result set properties.
3. On the **Group** line in the table, select the group to which you want to assign the query or result set.
4. Click **Save**. DB2 Web Query Tool adds the query or result set to the group that you specified in the navigation tree.

Working with SQL IDs

You can switch to a different SQL ID from DB2 Web Query Tool.

To change to a different SQL ID:

1. Click any item in the DB2 Web Query Tool Navigation Tree. A drop-down menu appears.
2. From the drop-down menu, select **Change SQL ID**. The Change Current SQL ID dialog box appears.
3. From the drop-down list, select the SQL ID that you want to change to, or, type a new SQL ID.

Note: The SQL ID must be added to your DB2 installation before you can add the new ID to DB2 Web Query Tool.

4. Click **OK**. DB2 Web Query Tool changes to the SQL ID that you specified.

Working with DB2 Tables

You can use DB2 Web Query tool to do the following with DB2 Tables:

- Create similar tables

- Set table properties
- Edit a table
- Empty a table
- Delete a table
- Renaming a table

Setting Table Properties

You can set properties, such as DB2 permissions, for a table.

To set table properties:

1. In the **Table Data** branch of the DB2 Web Query Tool navigation tree, click the table for which you want to set properties. A pop-up menu appears.
2. From the tables drop-down menu, select **Properties**. The Table/View Properties page opens.
3. *Optional:* Type a description of the table in the **Description** box.
4. Select the permission that you want to grant from the **Privileges** list. The existing grantees for each privilege appear in the **Grantees** list.
5. Select the SQL ID to which you want to grant permissions from the drop-down menu.

Tip: To add an ID to the drop-down menu, type the ID that you want to add in the New ID field and click Add.

6. *Optional:* select the **With Grant Option** box. This option gives the selected ID the power to grant the selected permission to other users.
7. Click **Grant To**. The selected SQL ID appears in the Grantees list for that privilege. If you have selected the **With Grant Option** box, a (G) appears after the ID.

Note: To revoke permissions, select the desired privilege from the **Privileges** list and the desired ID from the **Grantees** list. Click **Revoke**. A confirmation message appears.

8. Click **Update**. DB2 Web Query Tool updates the table properties in the database. The message page opens, displaying a confirmation message.

Creating a Table

You can create a new DB2 table against which to run a query.

To create a Table:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The Tables menu appears.
2. From the drop-down menu, select **New**. The Table Definition page opens.
3. In the **Creator** field, type the name of the table creator.
4. In the **Name** field, type the name of the table.
5. In the **Create Table In** field, type the name of the database and table space in which you want to create the table. Use the following syntax: <database name>.<Table space name>
6. To add a column to the table, click **Add**. DB2 Web Query Tool adds a new column to the table.

Tip: To delete a column from the table, click the **Select** button next to the column that you want to delete, and click **Delete Column**.

7. In the **Name** field, specify the name of the column.

8. In the **Type** field, specify the type of data which will populate the column, such as integer or decimal.
9. In the **L,P** field, specify the maximum allowable length and precision of the data, where applicable. The length indicates how many integer places the data may have; the precision indicates how many decimal places the data may have. For example, a length and precision specified as 10,2 results in a maximum number of 10 integer places, and 2 decimal places.
10. Click **Create**. DB2 Web Query Tool creates a DB2 table using the options you specified, and displays a confirmation message.

Creating Similar DB2 Tables

You can select an existing DB2 table, and create a new DB2 table based on it.

To create a similar table:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing the available DB2 tables.
2. Click the table on which you want to base the new table. A drop-down menu appears.
3. From the drop-down menu, select **Create Like**. The Table Definition page appears, and displays the column information for the table that you selected.
4. In the **Creator** field, type the name of the table creator.
5. In the **Name** field, type the name of the new table.
6. In the **Create Table In** field, type the name of the database and table space in which you want to create the table. Use the following syntax: <database name>.<Table space name>
7. *Optional:* Add a column to the table, click **Add**. DB2 Web Query Tool adds a new column to the table.
8. *Optional:* Delete a column from the table, click the **Select** button next to the column that you want to delete, and click **Delete Column**. DB2 Web Query Tool deletes the column from the table.
9. *Optional:* Edit the column options for the new table:
 - **Name** - Specify the name of the column
 - **Type** - Specify the type of data which will populate the column, such as integer or decimal.
 - **L,P** - Specify the maximum allowable length and precision of the data, where applicable. The length indicates how many integer places the data can have; the precision indicates how many decimal places the data can have. For example, a length and precision specified as 10,2 results in a maximum number of 10 integer places, and 2 decimal places.
10. Click **Create**. DB2 Web Query Tool creates a new DB2 table using the options that you specified, and displays a confirmation message. You can now select this table and perform a variety of actions against it.

Editing a Saved Table

You can edit a saved table using the DB2 Table Editor page in DB2 Web Query. In order to do this you must have already configured DB2 Web Query Tool to work with DB2 Table Editor. For more information on configuring DB2 Web Query to work with DB2 Table Editor, see “Configuring DB2 Table Editor and DB2 Web Query Tool to Work Together” on page 31.

To edit a saved table using the DB2 Table Editor interface:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing two options: **Table** and **View**.
2. Expand the **Table** branch. The creators of the tables in the database to which you are connected are listed.
3. Expand the desired creator branch. The creator branch expands showing the available DB2 tables.
4. Click the table that you want to edit. A drop-down menu appears.
5. From the drop-down menu, select **Edit**. The DB2 Table Editor page appears.

Note: If the DB2 TableEditor does not load, remove db2java.zip from your classpath and load the page again.

6. To display the selected table in grid format, select **Full Screen**. To display the table as a form, select **Form View**.

Note: If you want to change the table that you are viewing, for instance, you can change which columns are displayed, click the **Edit Wizard** button. The DB2 Table Editor Edit Table Wizard opens. For information on using the DB2 Table Editor Edit Table wizard, see the DB2 Table Editor online help.

7. When you have completed editing the table, exit the DB2 Table Editor page.

To edit a saved Informix table:

1. Ensure that the latest version of DB2 Table Editor is installed on your machine.
2. Copy the Informix JDBC driver to the DB2TableEditorUrl directory. For more information on the **DB2TableEditorUrl** parameter, see “Parameter list” on page 8.
3. Open the DB2 Web Query Configuration Utility by going to the URL that you use to access DB2 Web Query, then adding /Configure to the end of it and pressing Enter. For example: http://<web server>/DB2Tools/WebQuery/Configure. The Configuration Utility login screen appears.
4. Login to DB2 Web Query Tool Configuration Utility. The default user name is cwq and the default password is cwq. This may have been changed when DB2 Web Query was installed. The DB2 Web Query Configuration Utility opens.
5. In the DB2 Web Query Configuration Utility, add the Informix JDBC driver .jar file to the **DB2TableEditorArchive** parameter. For more information on the **DB2TableEditorArchive** parameter, see “Parameter list” on page 8.
6. Change the Java configuration of your Web browser to enable applets to work outside of the Java Virtual Machine sandbox.
7. Edit your Informix table. For more information on editing tables, see “To edit a saved query” on page 50.

Emptying a Table

You can empty the contents of an existing DB2 table.

To empty a table:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing two options: **Table** and **View**.
2. Expand the **Table** branch. The creators of the tables in the database to which you are connected are listed.

3. Expand the desired creator branch. The creator branch expands showing the available DB2 tables.
4. In the navigation tree, click the table that you want to empty. A drop-down menu appears.
5. From the drop-down menu, select **Empty**. A confirmation message appears.
6. Click **OK** to empty the table. DB2 Web Query Tool removes the contents of the table, and displays a confirmation message.

Deleting a Table

You can delete an existing DB2 table.

To delete a DB2 Table:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing two options: **Table** and **View**.
2. Expand the **Table** branch. The creators of the tables in the database to which you are connected are listed.
3. Expand the desired **Creator** branch. The creator branch expands showing the available DB2 tables.
4. Expand the **Table** branch until you see the table that you want to delete.
5. Click the table you want to delete. A drop-down menu appears.
6. From the drop-down menu, select **Drop**. A confirmation message appears.
7. Click **OK** to delete the table. DB2 Web Query Tool deletes the table, and displays a confirmation message.

Renaming a Table

You can rename an existing DB2 table using DB2 Web Query Tool.

To rename a table:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing two options: **Table** and **View**.
2. Expand the **Table** branch. The creators of the tables in the database to which you are connected are listed.
3. Expand the desired creator branch. The creator branch expands showing the available DB2 tables.
4. Click the table that you want to rename. A drop-down menu appears.
5. From the drop-down menu, click **Rename**. The Rename Table page appears.
6. Type the new table name.
7. Click **Rename**. DB2 Web Query Tool changes the table name and displays a confirmation message.

Working with Views

In DB2 Web Query you can work with views in a variety of ways. You can:

- Query a view. For information on querying a view, see “Creating a new query” on page 39.
- View the properties of a view. For information on viewing the properties of a view, see “To view the properties of a view:” on page 64.
- Edit a view. For more information on editing a view, see “To edit a view:” on page 64.

- Compare views. For information on comparing views, see “Comparing Two Objects” on page 65.
- Drop a view. For information in dropping a view, see “To drop a view:”.

To view the properties of a view:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing two options: **Table** and **View**.
2. Expand the **View** branch. The **View** branch expands, listing the creators of the views in the database to which you are connected.
3. Expand the desired creator branch. The corresponding creator branch expands showing the available DB2 views.
4. Click the view for which you want to view the properties. A drop-down menu appears.
5. From the drop-down menu, select **Properties**. The Table/View Properties screen opens.
6. From the Table/View Properties screen you can see and update the properties of your view. To update the properties, make the necessary changes on the Table/View Properties screen and click **Update**.

To edit a view:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing two options: **Table** and **View**.
2. Expand the **View** branch. The **View** branch expands, listing the creators of the views in the database to which you are connected.
3. Expand the desired creator branch. The corresponding creator branch expands showing the available DB2 views.
4. Click the view that you want to edit. A drop-down menu appears.
5. From the drop-down menu, select **Edit**. The DB2 Table Editor page appears.

Note: If the DB2 TableEditor does not load, remove db2java.zip from your classpath and load the page again.

6. To display the selected view in grid format, select **Full Screen**. To display the table as a form, select **Form View**.

Note: If you want to change the format that you are using to look at the view click the **Edit Wizard** button. You can, for instance, change which columns are displayed. The DB2 Table Editor Edit Table Wizard opens. For information on using the DB2 Table Editor Edit Table wizard, see the DB2 Table Editor online help.

7. When you have completed editing the view, exit the DB2 Table Editor page.

To drop a view:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, click **Table Data**. The **Table Data** branch expands, listing two options: **Table** and **view**.
2. Expand the **View** branch. The **View** branch expands, listing the creators of the views in the database to which you are connected.
3. Expand the desired creator branch. The corresponding creator branch expands showing the available DB2 views.
4. Click the view that you want to drop. A drop-down menu appears.

5. From the drop-down menu, select **Drop**. A confirmation message appears asking you to confirm that you want to drop the view.
6. Click **Yes**. The view is dropped.

Working with DB2 Table Editor Forms

You can view forms created in DB2 Table Editor using the DB2 Web Query Tool interface.

Note: In order to view a form created in DB2 Table Editor, you must have already configured DB2 Web Query Tool to work with DB2 Table Editor. For more information on configuring DB2 Web Query to work with DB2 Table Editor, see “Configuring DB2 Table Editor and DB2 Web Query Tool to Work Together” on page 31

Tip: In order to view any objects in the DB2 Web Query Tool Navigation tree, you must first apply a filter. For more information on applying a filter see “Working With Filters” on page 38.

To view a DB2 Table Editor form:

1. Expand the **Table Editor Forms** section of the DB2 Web Query Tool navigation tree until you can see the form that you want to view.
2. Click the form that you want to view. A drop-down menu appears.
3. Click **Open** on the drop-down menu. The Forms page opens showing the form that you selected.

Working with Compare Sessions

You can run a Compare session between similar Web Query objects such as tables, views, queries, and results. DB2 Web Query Tool generates a tailored report providing detailed information on differences between the two objects. You can compare information on:

- Structure - This includes keys, data type, nullable, order, length and precision.
- Data - to compare differences in values with options for extended comparison of number, date, time, and string values.
- Permissions - to compare DB2 permissions for tables.
- Index - to compare differences in column name, type, order and uniqueness.

You can view the generated Compare report in either text or HTML format.

You can:

- Run a compare report
- Set compare session properties
- Set compare session options

Comparing Two Objects

You can run a Compare session between similar Web Query objects such as tables, queries, views, and results. You can include sections in your Compare report on Permissions, Structure, Data, and Index. You can view the generated Compare report in either text or HTML format.

To run a compare report:

1. In the DB2 Web Query Tool navigation tree, click one of the objects that you want to compare (for example a table or a view). The Associated drop-down menu appears.

2. Click **Compare**. The Compare: Setup page opens. The object that you selected appears in the **Source Objects** list.
3. In the DB2 Web Query Tool navigation tree, click the object that you want to compare the first object to, and select **Compare** from the drop-down menu. The second object appears in the **Source Objects** list.
4. Select the two objects that you want to compare by holding down the Control key and clicking the desired objects in the **Source Objects** list.
5. Click **Add**. The object pair appears in the **Object To Be Compared**.

Tip: If the **Show Unpaired Sources** check box is checked, the objects that you have paired to create a session are removed from the **Source Objects** list. If you uncheck the **Show Unpaired Sources** check box, the objects that you have paired to create a session appear in both lists.

6. In the **Object To Be Compared** list, select the desired object pair and click **Properties**. The Compare: Properties page opens.
7. Specify the session properties. For information on comparing session properties, see "Setting Compare Session Properties".
8. Click **Update**. DB2 Web Query Tool saves the session properties.

Tip: To save these properties as the default for all other sessions, click **Default**.

9. Click **Options**. The Compare: Options page opens.
10. Specify the session options and click **Update**. DB2 Web Query Tool saves the session options. For information on specifying the session options, see "Setting Compare Session Options" on page 67.

Tip: To save these options as the default for all other sessions, click **Default**.

11. Click **Report**. DB2 Web Query Tool runs the Compare report. The Compare: Report page opens.
12. Select the session that you want to view.
13. Select an Output Format and select which sections to include in the report.
14. *Optional:* Specify an e-mail address to which the report will be forwarded.
15. Click **Generate**. DB2 Web Query Tool displays the Compare report in your browser.

Setting Compare Session Properties

To run a compare session report, you must set the session properties. You can select a range of rows to compare, set a limit to the number of difference rows to return, and determine how to match the columns for comparison.

To set compare session properties:

1. In the DB2 Web Query Tool navigation tree, click one of the objects that you want to compare (for example a table or a view). The Associated drop-down menu appears.
2. Click **Compare**. The Compare: Setup page opens. The object that you selected appears in the **Source Objects** list.
3. In the DB2 Web Query Tool navigation tree, click the object that you want to compare the first object to, and select **Compare** from the drop-down menu. The second object appears in the **Source Objects** list.
4. Select the two objects that you want to compare by holding down the Control key and clicking the desired objects in the **Source Objects** list.
5. Click **Add**. The object pair appears in the **Object To Be Compared**.

Tip: If the **Show Unpaired Sources** check box is checked, the objects that you have paired to create a session are removed from the **Source Objects** list. If you uncheck the **Show Unpaired Sources** check box, the objects that you have paired to create a session appear in both lists.

6. In the **Object To Be Compared** list, select the desired object pair and click **Properties**. The Compare: Properties page opens.
7. *Optional:* Type a range of rows to compare for each object.
8. Type a difference row limit. The default setting of "0" indicates no limit to the number of difference rows that will be returned.
9. In the **Column Match By** field, specify how to match the columns. If you selected **Manual**, from the **Column Match By** drop down, specify a match for each column in the source object table from the columns in the target object in the **Match** column. For example, if you specify the match for the DEPTNUMB column as 560, then only rows where the DEPTNUMB=560 will be compared. By specifying a match in the **Match** column you are in effect, filtering the rows to be compared. The match can apply to the source or the target.

Tip: To switch the Source and Target objects, click **Swap**.

10. Click **Update**. DB2 Web Query Tool saves the session properties.

Tip: To remember these options as the default for all other sessions, click **Default**.

Setting Compare Session Options

To run a compare session report, you must set the session options. You can select which types of structure, data, and permissions comparisons you want to run.

To set compare session options:

1. In the DB2 Web Query Tool navigation tree, click one of the objects that you want to compare (for example a table or a view). The Associated drop-down menu appears.
2. Click **Compare**. The Compare: Setup page opens. The object that you selected appears in the **Source Objects** list.
3. In the DB2 Web Query Tool navigation tree, click the object that you want to compare the first object to, and select **Compare** from the drop-down menu. The second object appears in the **Source Objects** list.
4. Select the two objects that you want to compare by holding down the Control key and clicking the desired objects in the **Source Objects** list.
5. Click **Add**. The object pair appears in the **Object To Be Compared**.

Tip: If the **Show Unpaired Sources** check box is checked, the objects that you have paired to create a session are removed from the **Source Objects** list. If you uncheck the **Show Unpaired Sources** check box, the objects that you have paired to create a session appear in both lists.

6. In the **Object To Be Compared** list, select the desired object pair and click **Options**. The Compare: Options page opens.
7. Check the boxes beside the options that you want to use, and clear the boxes beside unwanted options. The options are as follows:
 - Check **Data Type** to return a report on differences in data type between matched columns.
 - Check **Length-or-Precision** to return a report on differences in length or precision between matched columns.

- Check **Keys** to return a report on differences between the keys in the two tables.
- Check **Nullable** to return a report on differences in whether matched columns are nullable.
- Check **Order** to return a report on differences in column order between the paired objects.
- Check **Number-Relative** to return a difference report on which number value in a matched value pair is larger or smaller.
- Check **String-Length** to return a report on differences in string length between matching values.
- Check **Date Time-Difference** to return a report on differences in date and/or time between matched columns. If both fields are in date format, the difference is returned in days. Otherwise, the difference is returned in days, hours, minutes, and seconds.

Note: If you compare a date to a time or timestamp, you must check the Date-Assumetime option for a report in days, hours, minutes, and seconds. Otherwise, the report returns a difference for every pair of matched values.

- Check **Number-Difference** to return a report on the difference in value between number values in matched columns.
 - Check **String-Case** to return a report on differences in case between string values in matched columns.
 - Check **Number-ABS** to return a report on absolute value differences (positive or negative signs) between number values in matched columns.
 - Check **Date Time-Assumetime** to compare a date to a time or timestamp. DB2 Web Query Tool will assume a default time of 12:00 AM for all date values, enabling a comparison. Otherwise, the report returns a difference for every pair of matched values.
 - Check **Date Time-Relative** to return a report on which value in a matched date or time pair is earlier or later.
 - Check **Permissions Options** to return a report on differences in the selected permissions between the paired objects. The Permissions Options that are available depend on the type of objects you are comparing.
 - Check **Type** to return a report on differences in the data type between the indexes of the two tables.
 - Check **Uniqueness** to return a report on differences in the uniqueness of the indexes between the two tables.
 - Check **Order** to return a report on differences between the column order the indexes of the two tables.
 - Check **Column Name** to return a report on differences in the column names the indexes of the two tables.
8. Click **Update**. DB2 Web Query Tool saves the session properties.

Tip: To remember these options as the default for all other sessions, click **Default**.

Setting Up Catalog Objects

In order to save queries and results, you must first create the Web Query Catalog Objects. The Web Query Catalog Objects consist of three tables: WQ.INDEX_TABLE, WQ.STORE_TABLE, and WQ.SMTP.

To set up catalog objects:

1. In the DB2 Web Query Tool navigation tree, click any connection. The **Connections** drop-down menu appears.
2. Click **Setup**. The Setup Authenticate page appears.
3. Type the DB2 Web Query Tool user ID and password that you want to use to access the Setup Utility and click **Login**.
4. Click **Catalog**. The Setup: Catalog page opens with the necessary DDL (data definition language) to create the tables that are listed.
5. *Optional:* Modify the SQL to change where or how the DB2 Web Query Tool Catalog Objects are stored.

Warning: Do not change the structure or names of the Web Query Catalog Objects.

6. Click **Create**. DB2 Web Query Tool creates the Web Query Catalog Objects.

Tip: You can also issue the DDL to create the Web Query Catalog Objects from another tool, such as SPUFI, by copying and pasting the SQL that appears in the setup window.

Working With Log Files

You can view and delete the IBM DB2 Web Query Tool log files from the Log panel.

To view a log file:

1. Click the desired database connection on the tree in the left pane of the IBM DB2 Web Query Tool window. A drop-down menu appears.
2. On the drop-down menu, click **Setup**. The Setup panel opens.
3. On the setup panel, type your user ID and password and click **Login**. The Setup page opens.
4. Click **Logs**. The Setup: Logs page opens.
5. From the **Log** list, select the log that you want to view. The contents of the selected log appear in the **Contents** box.

Note: You can also access the IBM DB2 Web Query Tool logs by navigating to the following directory: <installRoot>/logs

To delete a log file:

1. Click the desired database connection on the tree in the left pane of the IBM DB2 Web Query Tool window. A drop-down menu appears.
2. On the drop-down menu, click **Setup**. The Setup panel opens.
3. On the setup panel, type your user ID and password and click **Login**. The Setup page opens.
4. Click **Logs**. The Logs page opens.
5. From the **Log** list, select the log that you want to delete. The contents of the selected log appear in the contents box.

Note: The current log cannot be deleted

6. Click **Delete**. The selected log is deleted.

Tip: To delete all logs except the current log, click **Delete All**.

Note: You can also access the IBM DB2 Web Query Tool logs by navigating to the following directory: <installRoot>/logs

Working with the SQL Performance Analyzer

SQL Performance Analyzer (SQL/PA) is an optional feature that is used to analyze your SQL statements. If you have IBM DB2 SQL Performance Analyzer installed on your machine, DB2 Web Query will detect it and make the IBM DB2 SQL Performance Analyzer functionality available.

IBM DB2 SQL Performance Analyzer provides you with an extensive analysis of SQL queries without executing them. This analysis aids you in tuning your queries to achieve maximum performance. DB2 SQL Performance Analyzer makes it easier to reduce the escalating costs of database queries by estimating their cost prior to execution. It can be used within DB2 Web Query if the SQL Performance Analyzer, including the Stored Procedure interface is installed. The SQL Performance Analyzer (SQL/PA) analyzes your SQL statements and can return information on the following:

- Version
- Reports
- Storage
- CPU class
- Precision
- BufferPool hit ratio
- HipperPool hit ratio
- Attach method
- Name qualifier
- Parallel degrees
- Overhead

Changing the Parameters Used for Analysis

You can specify what the analysis parameters will be for the SQL analysis using the SQL/PA Options screen.

To change the parameters used for analysis:

1. From the Prepare Query Screen, click **Analyze Options**. The SQL/PA Options screen opens.
2. From SQL/PA Options screen, specify the values for the options that you want to be analyzed. For more information on SQL Performance Analyzer, see the SQL Performance Analyzer documentation at <http://www-3.ibm.com/software/data/db2imstools/db2tools/db2sqlpa.html>.

Working With Stored Procedures

You can use Stored Procedures in DB2 Web Query. You can use the SQL Assistant to help you generate the SQL used to call a Stored procedure in your query.

Creating a Query that Calls Stored Procedures

You can write a new SQL query with DB2 Web Query Tool. You can then save or run the query.

To create a query that calls stored procedures:

1. In the desired connection branch of the DB2 Web Query Tool navigation tree, expand the **Stored Procedures** section until you find the stored procedure that you want to use in your query.
2. Click the desired stored procedure. A pop up menu opens.
3. From the pop-up menu, select **Open**. The Query Options page opens.

4. In the **Result Name** field, type the name of the result set.

Note: DB2 Web Query Tool provides a default result set name. You can replace this name with one that you prefer.

5. In the **Max Rows** field, type the maximum number of rows to return in the result set.

Note: To return all rows to the result set, enter "0" in the **Max Rows** field.

6. In the **Timeout** field, type a time-out limit.
7. From the **Action** drop down list, select an action to perform when a LOB is encountered. Select **Omit** to omit the LOB from the result set. Select **Retrieve** to have LOBs retrievable from the result set. When you select **Retrieve**, LOBs will appear as links in the result set. You can click the link to view a particular LOB and DB2 Web Query will retrieve that LOB for you from the DB2 table and show it in a viewer. Select **Embed** to have the LOB data embedded in the result set. LOBs in the result set will be viewable by clicking on a link. The LOB will appear in a viewer.
8. In the **Limit** field, type the maximum size of a LOB that will be available in the result set.
9. From the **Type** drop down list, select the type of LOBs to be included. Select **Static** and specify the file extension in the **Ext./Column** field to indicate that only LOBs with the specified extension will be shown. Select **Column** and type the name of the column, without the alias identifiers, that contains the information on the type of LOBs that will be shown in the **Ext./Column** field to indicate that only LOBs of the type specified in the specified column will be shown.
10. If you have SQL/PA installed on your system and your query has not been analyzed by SQL/PA, "Not Analyzed" will appear next to SQL/PA in the SQL/PA section. To analyze your query with SQL/PA, click Analyze in the SQL/PA section of the Settings section. SQL/PA analyzes one statement at a time. Therefore, if you have more than one SQL statement embedded in your query, you will see results in a cumulative format. To set your SQL/PA analysis options, click **Analyze options**.

Note: If you do not have SQL/PA installed, "Not Installed" will appear next to SQL/PA in the SQL/PA section.

11. In the Parsed Query area, specify the values for any variables in the stored procedure that you are using.
12. Click **Edit SQL**. The Edit Query page opens displaying the SQL used to call the stored procedure that you selected.
13. In the **Enter an SQL Statement** field, type the rest of the SQL statement that you want to use to create your query. You can include multiple statements in a single query, as well as comments and variables. You can also use lookup variables, which refer to other, saved, queries or result sets to produce a drop-down menu of substitution values.

DB2 Web Query Tool supports the following comment formats: --comment, //comment.

DB2 Web Query Tool supports the following variable formats: [variable], :variable, ?, and &variable.

Tip: Use a semi colon to separate multiple statements in a query.

14. *Optional:* Click **Save** to save the query. Specify the query properties on the Query Properties page.

15. To run the query click **Run**.

Wireless Access Protocol (WAP) Support

DB2 Web Query Tool supports Wireless Access Protocol (WAP). You can access DB2 Web Query Tool through a WAP browser on your cellular phone or personal digital assistant (PDA). To access DB2 Web Query Tool simply go to the DB2 Web Query Tool URL that you would use to access DB2 Web Query Tool from your desktop. From your WAP browser you can:

- Apply filters
- Navigate through the DB2 Web Query Tool tree
- Query DB2 Tables
- Run SQL statements
- View result sets
- Transform and send result sets to others via e-mail
- Access existing queries and specify variables for those queries

Using the DB2 Web Query Tool RIM Client

You can access DB2 Web Query Tool via the e-mail interface using a RIM device (such as a Blackberry). After you install the DB2 Web Query Tool RIM software, you can use a simplified interface to run SQL, run queries, and convert results using DB2 Web Query Tool.

Note: For help on installing RIM software, see your Blackberry software installation help.

You can access the DB2 Web Query Tool RIM Client through the DB2 Web Query Tool icon on your home screen. You can store Web Query database connection e-mail addresses in your address book. (Type the connection name for the first name and DB2WEBQUERY for the last name.) The DB2 Web Query Tool Client recognizes these entries as database connections and adds them to the list that appears when you select Connect from the DB2 Web Query Tool menu.

You can run SQL, run queries, or convert results using the Web Query Client. Select a connection from the Web Query menu, then select the desired action and fill in the requested information. The Web Query Client automatically generates the appropriate command e-mail and sends it to the server that you selected. You can view results in your RIM inbox. For information on accessing DB2 Web Query Tool via e-mail, see “Using DB2 Web Query Tool through your e-mail application”.

Using DB2 Web Query Tool through your e-mail application

You can connect to DB2 Web Query Tool through your e-mail application. You can also view results in a variety of formats or send them to a different e-mail address. Before you can access DB2 Web Query Tool through e-mail, you must set up DB2 Web Query Tool to recognize your e-mail address.

The e-mail address for DB2 Web Query Tool will be as follows:

webquery.<JDBC_URL>@<machine_running_DB2_Web_Query>

Where:

- <JDBC_URL> is the JDBC URL that you are connecting to with the colons (:) in the URL replaced by dots (.). This is taken from the **dbDriver** parameter. For more information on the **dbDriver** parameter, see the “Parameter list” on page 8.
- <machine_running_DB2_Web_Query> is the machine where Web Query is running.

Replace the colons in the JDBC URL with periods. For example, if your JDBC URL is `jdbc:db2:mydatabase`, and the URL of the host running DB2 Web Query Tool is `myserver.myhost.com`, the address with which you access DB2 Web Query Tool is `jdbc.db2.mydatabase@myserver.myhost.com`.

You must authorize e-mail users before they can access DB2 Web Query Tool by e-mail.

Through e-mail you can:

- Run a saved query
- Create and run a new query
- Convert a result set
- Access DB2 Web Query Tool using a RIM device

Setting up DB2 Web Query Tool for e-mail access

1. Ensure that the **smtpPort** parameter has been set during DB2 Web Query Tool installation. For more information on the **smtpPort** parameter, see the “Parameter list” on page 8.
2. Ensure that the **emailHost** parameter has been set during DB2 Web Query Tool installation. For more information on the **emailHost** parameter, see the “Parameter list” on page 8.
3. Send an e-mail to DB2 Web Query Tool using the e-mail address with which you want to connect to DB2 Web Query Tool. Leave the subject line and the contents of the e-mail blank. You will get an e-mail back indicating that you have been denied access to DB2 Web Query Tool.

The e-mail address for DB2 Web Query Tool will be as follows:

`webquery.<JDBC_URL>@<machine_running_DB2_Web_Query>` Where:

- <JDBC_URL> is the JDBC URL that you are connecting to with the colons (:) in the URL replaced by dots (.). This is taken from the **dbDriver** parameter. For more information on the **dbDriver** parameter, see the “Parameter list” on page 8.
 - <machine_running_DB2_Web_Query> is the machine where Web Query is running.
4. Go to the setup screen in DB2 Web Query Tool by clicking the DB2 Database in the Web Query tree and selecting **Setup**. The Setup screen opens.
 5. Click **Email**. The **Email Users** box appears on the Setup screen.
 6. In the list box, highlight the e-mail address with which you want to associate a user name and password.
 7. In the **Username** field, type the user name that you want to associate with the e-mail address that you typed in the **Address** field.
 8. In the **Password** field, type the password that you want to associate with the e-mail address that you typed in the **Address** field.
 9. Click **Accept**. The e-mail address is associated with the user name and password that you specified. DB2 Web Query Tool can now be accessed using the specified e-mail address.

Authorizing an E-mail User

You can authorize e-mail addresses so that users can access DB2 Web Query Tool via e-mail. Users must send an e-mail to DB2 Web Query Tool before they can be authorized. You can later reject an e-mail user that you have authorized.

To authorize an e-mail user:

1. In the DB2 Web Query Tool navigation tree, click the database to which you want to authorize the e-mail user to connect. The **Connections** drop-down menu appears.
2. Click **Setup**. The Setup Authenticate page appears.
3. Type the Web Query user ID and password you want to use to access the Setup Utility.
4. Click **Login**. The DB2 Web Query Tool Setup page appears.
5. Click **E-mail**. The Setup: E-Mail page opens. A list of all e-mail addresses that have tried to access DB2 Web Query Tool via the selected database appears. Unauthorized user addresses are followed by "(NOT AUTH)".
6. Select the e-mail address that you want to authorize.
7. Type a valid username and password for that user.
8. Click **Accept**. DB2 Web Query Tool authorizes the e-mail user.

Rejecting an E-mail User

You can reject an e-mail user who has attempted to access DB2 Web Query Tool via e-mail. Rejected users remain on the e-mail user list, followed by "(NOT AUTH)". You can later authorize or delete an e-mail user you have rejected

To reject an e-mail user:

1. In the DB2 Web Query Tool navigation tree, click the database from which you want to reject the e-mail user. The **Connections** drop-down menu appears.
2. Click **Setup**. The Setup page opens.
3. Type the Web Query user ID and password that you want to use to access the Setup Utility.
4. Click **Login**. The DB2 Web Query Tool Setup page appears.
5. Click **E-mail**. The Setup: E-mail page opens. A list of all e-mail addresses that have tried to access DB2 Web Query Tool via the selected database appears. Unauthorized user addresses are followed by "(NOT AUTH)".
6. Select an e-mail address and click **Reject**. DB2 Web Query Tool removes the e-mail user's authorization.

Deleting an e-mail user

You can delete an e-mail user from the E-mail User list on the DB2 Web Query Tool Setup page. You can also reject an e-mail user without deleting their address from the E-mail User list.

To delete an e-mail user:

1. In the DB2 Web Query Tool navigation tree, click the database from which you want to delete the e-mail user. The **Connections** drop-down menu appears.
2. Click **Setup**. The Setup page opens.
3. Type the Web Query user ID and password you want to use to access the Setup Utility. Click **Login**. The DB2 Web Query Tool Setup page appears.

4. Click **E-mail**. The Setup: E-mail page opens. A list of all e-mail addresses that have tried to access DB2 Web Query Tool via the selected database appears. Unauthorized user addresses are followed by "(NOT AUTH)".
5. Select an e-mail address and click **Delete**. DB2 Web Query Tool deletes the E-mail user from the list.

Commands for accessing DB2 Web Query Tool through e-mail

There are four commands that can be used with DB2 Web Query Tool via e-mail. They are as follows:

- **Run Query**

```
cmd{run query [format:[html|csv|fixed_text|formatted_text|xml]]
[rowlimit:<limit>] [email:<address>] <query name>}
```

Where:

- *format* is the format in which you want the results of your query displayed. This parameter is optional.
- *rowlimit* is the maximum number of rows you want returned in your result set. This parameter is optional.
- *email* is the e-mail address where you want the results to be sent. This parameter is optional.
- *query name* is the name of the query that you want to run. Query names are case sensitive.

- **Run SQL**

```
cmd{run sql [format:[html|csv|fixed_text|formatted_text|xml]]
[rowlimit:<limit>] [email:<address>] <sql text>}
```

Where:

- *format* is the format in which you want the results of your query displayed. This parameter is optional.
- *rowlimit* is the maximum number of rows you want returned in your result set. This parameter is optional.
- *email* is the e-mail address where you want the results to be sent. This parameter is optional.
- *sql text* is the SQL statement that you want to run

- **Convert Result**

```
cmd{convert result [format:[html|csv|fixed_text|formatted_text|xml]]
[rowlimit:<limit>] [email:<address>] <results name>}
```

Where:

- *format* is the format to which you want the result set converted. This parameter is optional.
- *rowlimit* is the maximum number of rows you want returned in your result set. This parameter is optional.
- *email* is the e-mail address where you want the results to be sent
- *results name* the name of the result set that you want to convert. This parameter is optional. result set names are case sensitive.

- **Help**

```
cmd{help}
```

Note: The variables shown in square brackets are optional.

Creating a Query with the E-mail Interface

You can create and run an SQL query using the DB2 Web Query Tool e-mail interface. Before you can use the e-mail interface, your system administrator must authorize you as an e-mail user for the database that you want to access.

To create a query with the e-mail interface:

1. E-mail DB2 Web Query Tool at the database that you want to access. DB2 Web Query Tool replies with the subject "DB2 Web Query Tool SMTP Server."
2. Reply to the e-mail. Between the { }, following "cmd" at the end of the e-mail, type "help", then send the reply. For example: cmd {help}.
3. DB2 Web Query Tool replies with an e-mail containing a list of possible commands. For more information on the commands that can be used with the e-mail interface, see "Commands for accessing DB2 Web Query Tool through e-mail" on page 75.
4. Reply to the e-mail. Between the { }, following "cmd" at the end of the e-mail, type "run sql". For example: cmd {run sql}.
5. *Optional:* Type a format preference, such as "format:html", and a row limit, such as "rowlimit:50". You can also specify an alternate e-mail address to send the query results to, such as "email:you@youraddress.com". For example: cmd {run sql format:html rowlimit:50 email:you@youraddress.com}
6. Type the SQL statement that you want to run. For example, if you want to view all rows from the table GROUP.TABLE, e-mail the results to you@youraddress.com, and view the results in HTML format, the last line in your reply might look like this:

```
cmd {run sql format:html email:you@youraddress.com  
SELECT * FROM GROUP.TABLE}
```
7. Send the e-mail. DB2 Web Query Tool runs the query and returns the results according to your specifications.

Running a Query with the E-mail Interface:

You can run a saved query using the DB2 Web Query Tool e-mail interface. Before you can use the e-mail interface, your system administrator must authorize you as an e-mail user for the database that you want to access.

To run a query with the e-mail interface:

1. E-mail DB2 Web Query Tool at the database that you want to access. DB2 Web Query Tool replies with the subject "DB2 Web Query Tool SMTP Server."
2. Reply to the e-mail. Between the { }, following "cmd" at the end of the e-mail, type "help", then send the reply. For example: cmd {help}.
3. DB2 Web Query Tool replies with an e-mail containing a list of possible commands. For more information on the commands that can be used with the e-mail interface, see "Commands for accessing DB2 Web Query Tool through e-mail" on page 75.
4. Reply to the e-mail. Between the { }, following "cmd" at the end of the e-mail, type "run query". For example: cmd {run query}.
5. *Optional:* Type a format preference, such as "format:html", and a row limit, such as "rowlimit:50". You can also specify an alternate e-mail address to send the query results to, such as "email:you@youraddress.com". For example: cmd {run query format:html rowlimit:50 email:you@youraddress.com}

6. Type the name of the query that you want to run. For example, if you want to run the query GROUP.QUERY with a row limit of 50, e-mail the results to you@youraddress.com, and view the results in HTML format, the last line in your reply might look like this:

```
cmd {run query format:html rowlimit:50
email:you@youraddress.com GROUP.QUERY}
```

7. Send the e-mail. DB2 Web Query Tool runs the query and returns the results according to your specifications.

Note: If the query contains variables, you will receive an additional e-mail asking you to fill out the variables before DB2 Web Query Tool runs the query.

8. DB2 Web Query Tool sends the results of your query to the e-mail address that you specified. If no e-mail address was specified, the results will be sent to the e-mail address that you used to send the query.

Converting Results with the E-mail Interface

You can convert and view a saved result set using the DB2 Web Query Tool e-mail interface. Before you can use the e-mail interface, your system administrator must authorize you as an e-mail user for the database that you want to access.

To convert results with the e-mail interface:

1. E-mail DB2 Web Query Tool at the database that you want to access. DB2 Web Query Tool replies with the subject "DB2 Web Query Tool SMTP Server."
2. Reply to the e-mail. Between the { }, following "cmd" at the end of the e-mail, type "help", then send the reply. For example: cmd {help}.
3. DB2 Web Query Tool replies with an e-mail containing a list of possible commands. For more information on the commands that can be used with the e-mail interface, see "Commands for accessing DB2 Web Query Tool through e-mail" on page 75.
4. Reply to the e-mail. Between the { }, following "cmd" at the end of the e-mail, type "convert result". For example: cmd {convert result}.
5. *Optional:* Type a format preference, such as "format:html", and a row limit, such as "rowlimit:50". You can also specify an alternate e-mail address to send the query results to, such as "email:you@youraddress.com". For example: cmd {convert result format:html rowlimit:50 email:you@youraddress.com}
6. Type the name of the result set that you want to convert. For example, if you want to convert the result set GROUP.RESULT to HTML, with a row limit of 50, and e-mail the results to you@youraddress.com, the last line in your reply might look like this:

```
cmd {convert result format:html rowlimit:50
email:you@youraddress.com GROUP.RESULT}
```

7. Send the e-mail. DB2 Web Query Tool converts the result set according to your specifications.

Accessing DB2 Web Query using SOAP Protocol

You can use the SOAP protocol to access queries, result sets and other objects saved using DB2 Web Query. There is a SOAP client built into DB2 Web Query. You can use the DB2 Web Query SOAP client or any other SOAP client to access DB2 Web Query.

In order to access objects in DB2 Web Query through a SOAP client the objects must be saved (not temporary) and they must have SOAP permissions set for them. To set permissions:

1. In the DB2 Web Query navigation tree, locate the object for which you want to set the permissions and click it.
2. Select **Properties** from the drop-down menu. The Object Properties screen opens.
3. From the Object Properties screen specify the permissions for SOAP access to the object on the **SOAP** row. You can specify READ and EXECUTE properties for the object.

Note: In order to run a query using a SOAP client, the query must have EXECUTE permission granted under SOAP.

To access the DB2 Web Query SOAP client, go to the following URL:

`http://<hostname>/<Web_Application_Web_Path>/soap/request`

Where hostname is the fully qualified host name of your system and the Web Application Web Path parameter is the prefix of the Universal Resource Identifier (URI) to all Web Query resources. For example:

`http://host/DB2Tools/soap/request/`

The DB2 Web Query SOAP client contains four options. They are as follows:

- **Test** - Use the **Test** link to test the functionality of your SOAP services.
- **Query** - Use the **Query** link to run a saved query for which SOAP EXECUTE permission has been granted, or view a saved query for which SOAP READ permission has been granted.
- **Transform** - Use the **Transform** link to view saved query results for which SOAP READ permission has been granted.
- **Retrieve** - Use the **Retrieve** link to view any other saved object for which SOAP READ permission has been granted.

Accessing Saved Objects Using the DB2 Web Query SOAP Client

You can use the DB2 Web Query Soap Client to access queries, result sets and other DB2 Web Query objects.

To access saved objects using the DB2 Web Query SOAP client:

1. In DB2 Web Query, grant SOAP READ or EXECUTE permissions for all objects that you want to access through the SOAP client.

To set SOAP permissions:

- a. In the DB2 Web Query navigation tree, locate the object for which you want to set the permissions and click it.
- b. Select **Properties** from the drop-down menu. The Object Properties screen opens.
- c. From the Object Properties screen specify the permissions for SOAP access to the object on the **SOAP** row. You can specify READ and EXECUTE properties for the object.

Note: In order to run a query using a SOAP client, the query must have EXECUTE permission granted under SOAP.

2. Go to the following URL:

`http://<hostname>/<Web_Application_Web_Path>/soap/request`

Where hostname is the fully qualified host name of your system and the Web Application Web Path parameter is the prefix of the Universal Resource Identifier (URI) to all Web Query resources. For example:

`http://host/DB2Tools/soap/request/`

The DB2 Web Query SOAP Client opens.

3. *Optional:* Test the function of your SOAP connection by clicking the **Test** link. If you connection is functioning properly you will receive the following message: "SOAP Service OK"
4. Select which type of object you want to view.
 - To view or run a query, click the **Query** link. You can run a saved query for which SOAP EXECUTE permission has been granted, or you can view a saved query for which SOAP READ permission has been granted.
 - To view a result set, click the **Transform** link. You can view saved query results for which SOAP READ permission has been granted.
 - To view any other object, click the **Retrieve** link. You can view any other saved object for which SOAP READ permission has been granted.
5. Once you have specified the type of object that you want to open, specify the specific information about the object that you want to open.
6. In the **Catalog** field, specify the catalog name to which you want to connect. That catalog should be specified in the following format: <driver>:<database name> This field is case sensitive.
7. In the **Creator** field, specify the name of the creator of the object that you want to view or the query that you want to run. This field is case sensitive.
8. In the **Name** field, specify the name of the object that you want to view or the query that you want to run. This field is case sensitive.
9. For queries and result sets, from the **Format** list, select the format in which you want your query results or result set displayed.
 - Select **HTML** to view a saved HTML object.
 - **Delimited** - to view a delimited text object, such as a Comma-Separated Value (CSV) file.
 - Select **Chart** - to view a saved chart object that was created using the Chart Workbench.
 - Select **Text** - to view a saved text object.
 - Select **XML** - to view a saved XML object.
 - Select **XSL** - to view a saved XSL object.
10. For DB2 Web Query objects other than queries and result sets, from the **Type** list, select the type of object that you want to view.
 - **HTML** - Select **HTML** to show your query results in an HTML table.
 - **Formatted Text** - Select **Formatted Text** to show your data formatted using XSL.
 - **Fixed Width** - Select **Fixed Width** to have your data shown in columns of a fixed width.
 - **Delimited** - Select **Delimited** option to create a delimited text file, such as a Comma-Separated Value (CSV) file, containing your query results.
 - **XML** - Select **XML** to have view your data shown in XML format.
11. Click **Invoke**. The object that you specified is shown. If you selected **query**, the results form your query (if the query had the SOAP EXECUTE permission enabled) or the query text (if the query has SOAP READ permission enabled)

are shown. If you selected **transform**, the result set that you selected is shown. If you selected **retrieve**, the contents of the DB2 Web Query object is shown.

Accessing DB2 Web Query Using other Soap Implementations

You can use any SOAP configuration to access DB2 Web Query. To setup other SOAP implementations you will need the following information:

- The WSDL file is accessible from the **CWQ WSDL File** link from the DB2 Web Query SOAP Client.
- The Endpoint for the SOAP service for your installation of DB2 Web Query is available from the DB2 Web Query SOAP Client page.

Appendix A. Troubleshooting

General Troubleshooting

If you are having trouble running DB2 Web Query Tool, use the following check list to trouble shoot common problems:

- Ensure that you have the current compatible fix levels for DB2, JDBC, JDK, WebSphere Application Server, and HTTPD.
- Ensure that you have specified all of the necessary initial parameters when you configured IBM WebSphere to work with DB2 Web Query Tool. For more information on initial parameters, see “Parameter list” on page 8.
- Ensure that the browser that you are using supports Java 1.1.x and that cookies and Java script are enabled.

Note: If you are using Microsoft Internet Explorer version 5.5, ensure that fixpack 2 is installed.

- If errors are returned when you attempt to view an XML data file with an XSL transformation through Microsoft Internet Explorer, upgrade your XML parser level to MSXML Version 3. You can download the upgrade from Microsoft's Web page.
- If you are using IDB instead of DB2, ensure that db2java.zip has been added to your classpath.
- Ensure that the userID that you have specified for the wqUserId parameter has DBADM authority. for more information on the wqUserId parameter, see the “Parameter list” on page 8.
- Ensure that your DB2 database is created and available.
- Ensure that your JDBC driver is setup properly
- Ensure that HTTPD documents are being served correctly
- Ensure that the IBM WebSphere Application Server sample application is working properly
- Ensure that your JSP compiler is functioning properly and that session management is available
- If you are using DB2 Table Editor to edit your tables through DB2 Web Query tool and your table editor screen appears blank, ensure that db2java.zip is not in the classpath on the client machine. This can cause conflicts that will result in a blank DB2 Table Editor screen. This only arises if the client accessing DB2 Web Query and DB2 Table Editor has also DB2 installed on it.

Viewing Objects in the Tree

To view objects in the DB2 Web Query Tool tree, you must first apply a filter. For information on applying a filter, see the DB2 Web Query Tool online help.

Determining the DB2 Web Query Tool URL

The main URL to initiate a Web Query session can vary from installation to installation depending on the values entered for parameters during installation and configuration.

Web Query is installed into the application server. Part of the installation in any application server is to associate a Universal Resource Identifier (URI) with the application. In WebSphere this is done by combining the following:

- The fully qualified host name of your system.
- The Web Application Web Path parameter. This is the prefix of the URI to all Web Query resources. In WebSphere Application Server V3.5.5, this can be identified by selecting the DB2 Web Query Tool WebApp node in the administrative console. For information on the recommended value for this parameter, see the Web application information - General tab section on page 17.
- The Servlet Web Path parameter. This is the URI used to access the Web Query servlet. This may be obtained by referencing the Web Query Servlet node in the WebSphere administrative console. For information on the recommended value for this parameter, see the File serving enabler information - General tab section on page 18.

The above are combined to produce the URL as follows:

`http://<hostname>/<Web_Application_Web_Path>/<Servlet_Web_Path>`

For example:

`http://myhost.domain.tld/DB2Tools/WebQuery`

Viewing Error Messages

If an error occurs when you are using DB2 Web Query Tool, the message indicator circle in the top right corner of the DB2 Web Query Tool contents pane will flash red and green. It is solid green when there is no message to be viewed, and it will flash red and green when there is a message. Click the message indicator to view the message.

Correcting a Blank Login Page

If DB2 Web Query tool does not initialize properly when you request it via your browser, for example, you get a blank login screen, ensure that the IBM WebSphere Server's PATH and CLASSPATH variables do not include any Java Virtual Machines (JVMs) other than the WebSphere JVM or any classes that are associated with other JVMs.

Viewing DBCS characters

If DBCS (double byte character set) characters appear garbled in your web browser, ensure that you have not selected the option that specifies that your browser will use the font type specified in the web site in your web browser settings.

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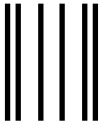


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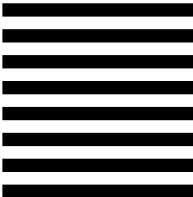
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