DB2 Query Management Facility

# DB2 QMF Visionary Getting Started Guide

*Version 8 Release 1*

GC18-9092-00

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**Note:**

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

**First Edition (January 2004)**

This edition applies to IBM DB2 QMF for Windows and IBM DB2 for WebSphere, Version 8, Release 1, a feature of QMF Distributed Edition Version 8.1, 5724-E86, and a feature of the QMF Family with Version 8.1 of DB2 Server for z/OS, 5625-DB2, and to all subsequent releases and modifications until otherwise indicated in new editions.

# Contents

# About this book

This book summarizes key QMF™ Visionary concepts, provides procedures and screens shots for common QMF Visionary development tasks, and provides a list of keyboard shortcut keys.

## Who should read this book

This book is indended for QMF Visionary world developers.

## How this book is organized

This book includes the following chapters.

- Chapter 1, "QMF Visionary overview," on page 1, provides a brief overview of QMF Visionary concepts and summarizes QMF Visionary world development.
- Chapter 2, "Building worlds with QMF Visionary Studio," on page 5, provides procedures for creating QMF Visionary worlds and screen shots describing QMF Visionary Studio.
- Chapter 3, "QMF Visionary Studio shortcut keys," on page 39, provides a list of shortcut keys for QMF Visionary Studio menu commands and a list of shortcut keys for moving around the Visionary Studio interface.

## Major components of QMF Visionary

QMF Visionary is a set of products for building, deploying, and viewing dynamic, data-driven applications that integrate structured and unstructured data in a visual display of information. These applications are called QMF Visionary worlds and consist of graphical scenes of text, graphics, charts, and other rich content that content that can be stored in one or more databases.

The QMF Visionary product set provides the following application:

- **QMF Visionary Studio**. The development environment for building worlds.
- **QMF Visionary World Server**. A server that interacts with a Web server for deploying QMF Visionary worlds across the Internet for the following types of Web servers:
  - Microsoft® Internet Information Services (IIS)
  - Java™ Web Servers
- **QMF Visionary Administrator**. An application for administering QMF Visionary World Server and editing the access properties of worlds published to the Internet.

- **QMF Visionary WorldView**. An application to view published worlds:
  - For worlds deployed in a client/server environment, it communicates with the database server through ODBC, QMF, or both.
  - For worlds deployed to the Internet, it acts as a browser.
- **QMF Visionary Viewer**. Three versions for viewing published worlds:
  - An ActiveX control for use in Microsoft Internet Explorer or other applications that support ActiveX controls, such as Microsoft PowerPoint, Microsoft Excel, or a Visual Basic application.
  - A Netscape Navigator browser plug-ins for viewing worlds deployed to the Internet.
  - A Java applet for viewing worlds in any browser and on any platform that supports Java.

QMF Visionary products are supplied in the following packages:

- **QMF Visionary Developer**. Provides the tools to build, test, and publish a QMF Visionary world. Includes QMF Visionary Studio, QMF Visionary WorldView, and QMF Visionary Viewer. See the DB2 QMF Visionary Developer's Guide for more information.
- **QMF Visionary World Server**. Provides the components to enable Web servers to deliver QMF Visionary worlds to Web users both inside and outside a firewall on Microsoft IIS and Java Web servers. Includes QMF Visionary World Server for Microsoft IIS, QMF Visionary World Server for Java, QMF Visionary Administrator for Microsoft IIS, QMF Visionary Administrator for Java, and the QMF Visionary End User package. See the *DB2 QMF Visionary Administrator's Guide* for more information.
- **QMF Visionary End User**. Provides the components to browse and interact with a published world deployed to the Internet, using HTTP or HTTPS. Includes QMF Visionary WorldView and QMF Visionary Viewer. See the *DB2 QMF Visionary Administrator's Guide* for more information.

## System requirements and software dependencies

The *ReadMe* file has a complete list of the system requirements, software dependencies, and database server dependencies.

The system requirements and software dependencies depend on the QMF Visionary package.

## Conventions used in this book

This book uses the following highlighting conventions:

- **Boldface type** indicates user interface controls such as name of fields, icons, or menu choices.

- `Monospaced type` indicates system messages, command syntax, and examples of text that you enter exactly as shown.
- *Italic type* indicates variables that you should replace with a value. It is also used to indicate book titles and to emphasize significant words.

## Additional documentation

QMF Visionary documentation is provided in a variety of formats:

- **Documentation**. The documentation set for QMF Visionary includes the following documents, in addition to this book:
  - *DB2 QMF Visionary Developer's Guide*
  - *DB2 QMF Visionary Administrator's Guide*
  - *DB2 QMF Visionary Getting Started Guide*
  - *DB2 QMF Visionary Studio Quick Reference*
  - *DB2 QMF Visionary Viewer Quick Reference*
- **DB2 QMF Visionary Tutorial**. This tutorial is available from the Visionary Studio help menu.
- **Online help**. This facility provides both general and context-sensitive help.
- **ReadMe file**. This file is located in the directory where the product is installed.

  Examine this file because it contains vital information about application and performance issues.

## How to order DB2® QMF books

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## How to send comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book, go to http://www.ibm.com/software/data/qmf/support.html, and click on Feedback.

# Chapter 1. QMF Visionary overview

This chapter provides a brief overview of QMF Visionary concepts and summaries QMF Visionary world development.

In this chapter:

- What is QMF Visionary
- Developing a QMF Visionary world

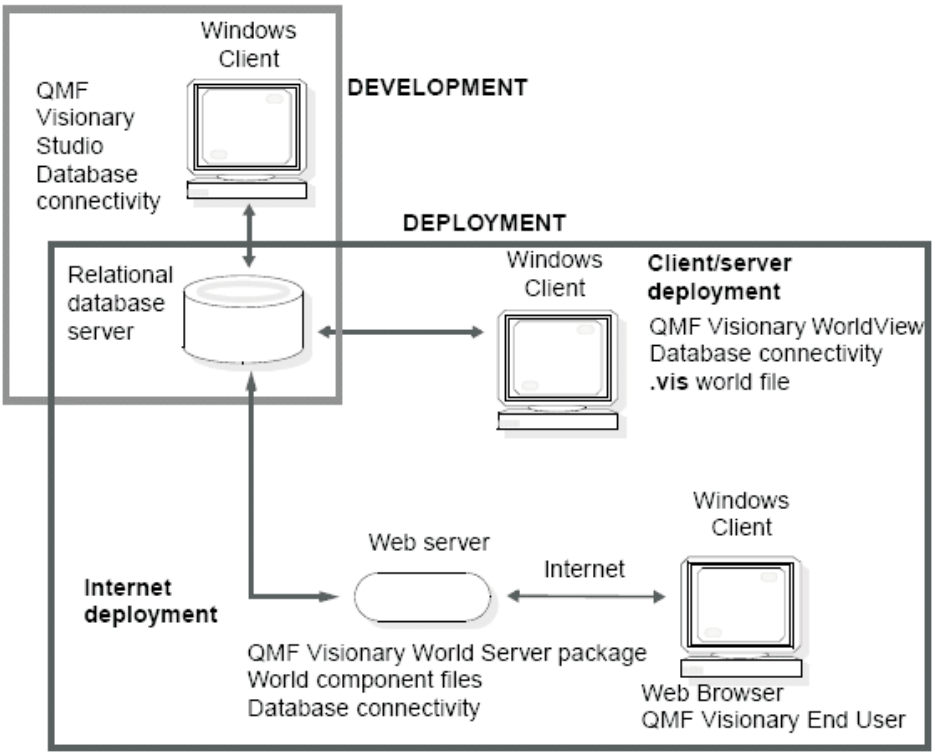
## What is QMF Visionary

The QMF Visionary suite of products allows you to build and deploy an application, called a QMF Visionary *world*, that displays data dynamically. A QMF Visionary world is a series of pages (scenes) displaying your business data in charts and graphs. As the end user navigates from scene to scene, data displays can change according to context and user input.

QMF Visionary worlds can display data from relational databases.

The following diagram illustrates QMF Visionary products in both development and deployment configurations and lists the required software

for each computer.




To develop a QMF Visionary world, you need:

- A computer running one of the Microsoft Windows operating systems listed in the *ReadMe* file.
- QMF Visionary Studio
- ODBC, JDBC, or QMF for Windows
- A relational database server

To deploy a QMF Visionary world in a client/server architecture, you install QMF Visionary WorldView and the appropriate database connectivity on each Microsoft Windows client computer. You can install the world project file (.vis) on each client computer or on a networked drive.

To deploy a QMF Visionary world to the Internet, you install QMF Visionary World Server, QMF Visionary Administrator, the appropriate database connectivity, and the world component files on the Web server computer. When end-users enter the URL for the QMF Visionary world, they are prompted to download QMF Visionary End User for their browser.

## QMF Visionary world elements

The basic elements of a QMF Visionary world include queries, scenes, layouts, navigation, and parameters. The following sections give a brief description of each element.

### Queries

To generate data, you compose SQL *queries*. QMF Visionary provides a variety of query tools to choose from, including query wizards, a text editor for writing SQL statements, and a design tool (similar to Microsoft Access) that enables you to graphically create joins and lay out your columns in a grid.

You use these queries when you make layouts and controls that display database data.

### Scenes

A world is composed of multiple *scenes*. A scene is a visual display of information similar to a Web page, except that the data displayed in the scene is retrieved from a database and changes dynamically as that data changes.

The scenes in your QMF Visionary world can be linked together using a variety of navigation features. You can design your QMF Visionary scenes to include data displays, graphics, jumps, and many other features.

### Layouts

To display the data generated by your queries, you use *layouts*. Layouts are formatting objects that enable you to present data visually and analytically. They include bar charts, pie charts, spiral patterns, tables matrixes, an other formats. You can customize layouts to different degrees, depending on the type of layout.

### Navigation

To give users ways to get from one scene to another, to trigger specific actions based on user interaction, and to provide a way for to ″drill-down″ to more detail, you can add navigation features to your scenes. Navigation features include *jumps*, *wormholes*, *levels of detail*, *event actions*, and *viewpoints*.

### Parameters

To create context for navigation actions and to provide your user with display options, you create and use *parameters*. You can create parameters for use throughout your world (global parameters), only within a single scene (scene parameters), or only in queries (query parameters).

## Developing a QMF Visionary world

QMF Visionary Studio allows you to share a QMF Visionary world's files across a development team for the concurrent development of a QMF Visionary world. QMF Visionary Studio integrates with any commercially available source-control system. For more information on concurrent development, see the *DB2 QMF Visionary Developer's Guide*.

Developing a QMF Visionary world typically involves the following basic steps:

1. Plan your world by identifying the business questions it should answer and then create a storyboard that visually plots the answers.
2. Create a data model that answers your business questions, and then gather the necessary data into the model.
3. Define a data source for the database containing the data for the world.
4. Start QMF Visionary Studio and connect to the data source.
5. Create a query using one of the following tools:
   - Simple Query wizard, for SQL queries using a single table
   - Advanced Query wizard, for complex SQL queries using one or more tables
   - Query Diagram view, for complex SQL queries, displayed in a grid control
   - Text view, for direct SQL entry
6. Create scenes using the Scene Editor, the Palette Manager, the Layout wizard, and the Object Inspector.
7. Test your world in runtime mode of the Scene Editor.
8. Publish your world with the Publish wizard, specifying a deployment configuration.
9. Deploy your world:
   - **Client/server deployment**. Install the published world file (.vis), the appropriate database connectivity, and QMF Visionary WorldView on client computers.
   - **Internet deployment**. Install QMF Visionary World Server, the published world component files, and the appropriate database connection driver on your Web server. Configure QMF Visionary World Server with QMF Visionary Administrator. Client computers automatically download the appropriate QMF Visionary Viewer for the Web browser accessing the QMF Visionary world URL.

# Chapter 2. Building worlds with QMF Visionary Studio

This chapter provides procedures for creating QMF Visionary worlds and screen shots describing QMF Visionary Studio.

In this chapter

- QMF Visionary Studio basics
- Managing your data, connections, and worlds
- Creating queries
- Creating scenes
- Customizing your workspace

## QMF Visionary Studio basics

The following diagram provides a visual overview of QMF Visionary Studio and its components, each of which are discussed in detail in other sections of this chapter.

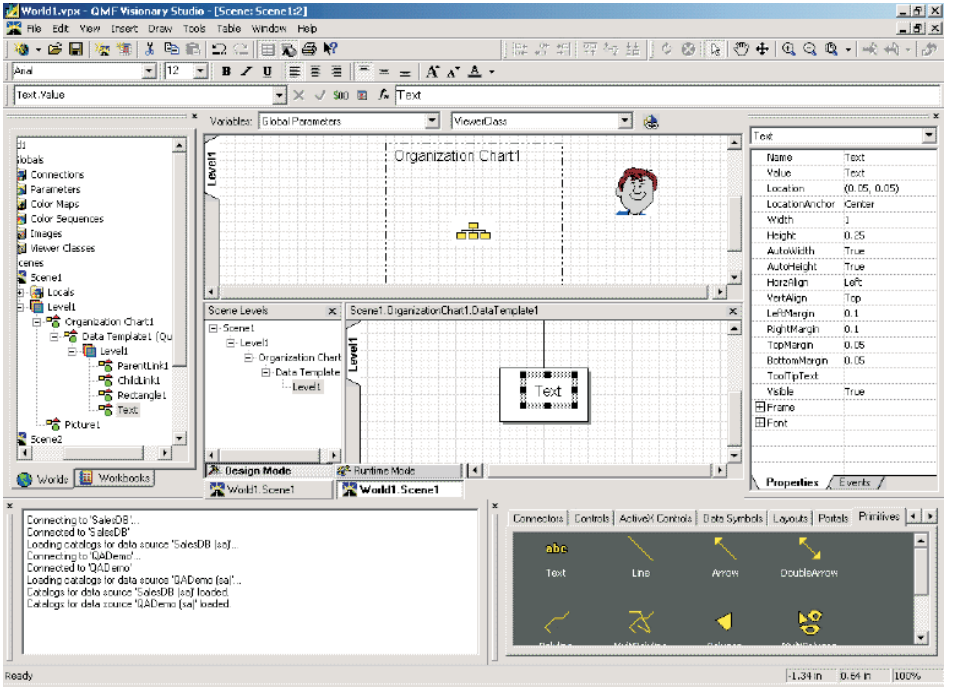


*Figure 1. QMF Visionary Studio*

## Using QMF Visionary Studio online help

The QMF Visionary Studio online help thoroughly documents how to use QMF Visionary Studio. The online help includes information not covered in other QMF Visionary manuals, such as:

- Detailed information about each interface element
- Procedures for performing tasks (some of which appear in this or other manuals)
- Reference information about:
  - Object properties
  - Event actions
  - Query functions
  - Data types
  - API functions

There are three ways to access online help in QMF Visionary Studio:

- Click **Help —> Topics** to view all online help topics and to search the online help.
- Click the **What's This** icon and then click an interface element to see a description.
- Place the cursor over an interface element and press F1 to display the corresponding online help topic.

## Opening and closing worlds and workbooks

When you start a session, QMF Visionary Studio automatically opens the worlds you had open in the previous session, unless you disable that option (click **Tools —> QMF Visionary Options** and then clear the **Reload previous worlds at startup** check box).

To open a particular world or workbook, click **File —> Open** to display the Open dialog box.

To close a world or workbook, right-click it in the World Manager and click **Close**.

## Saving worlds and workbooks

To save a world or workbook, right-click it in the World Manager and click **Save**.

If you are participating in concurrent development of a world, you should save only those components on which you are working. To save a scene,

query, or image in a world, right-click it in the World Manager and click **Save *objectname***. See the *DB2 QMF Visionary Developer's Guide* for more information.

### Connecting to and disconnecting from data sources

QMF Visionary Studio prompts you to connect to a data source at startup, unless you disable that option (click **Tools —> QMF Visionary Options** and clear the **Show the Select Data Source dialog when the application starts** check box).

To connect to a data source:

1. Click **File —> Connect**.
2. Select a data source in the Select Data Source dialog box and click **OK**.
3. Complete the Login dialog box and click **OK**.

The connection appears in the Connections folder of the current world on the Worlds page of the World Manager.

You can connect to multiple data sources, each of which appears in the Connections folder for the current world. A world can include a combination of data sources.

To disconnect from a data source, click **File —> Disconnect**. If you are connected to more than one data source, the Connection Selection dialog box appears; select which data source to disconnect and click **OK**.

## Managing your data, connections, and worlds

This section describes how to use the World Manager to manage data, connections, and worlds.

### Managing your data with workbooks

A workbook is a metadata repository for database schema information. You customize workbooks so that they contain only the objects you need for your QMF Visionary world.

A dynamic workbook is one that has an active connection to a database. When you close a dynamic workbook, you also close its connection.

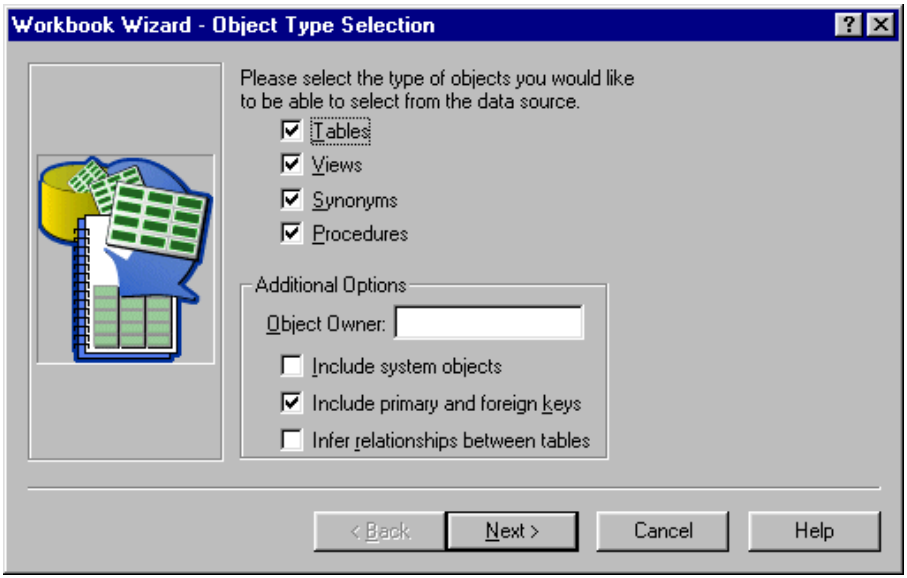
### Creating and using a workbook

To create a workbook, you use the Workbook wizard.

To create a workbook:

1. Click **File —> New Workbook** and click **OK**.
2. Click **Next** on the Welcome page.

3. Select a data source and click **Next**.




4. Select database objects to customize your workbook.
5. Type the owner name in the **Object Owner** field to restrict the objects to those belonging to a single owner.
6. Select table relationships.
   - Select **Include primary and foreign keys** to import a relationship between two tables that have an explicit join between a primary and foreign key.
   - Select **Infer relationships between tables** to import a relationship between a table with a primary key and another table with a column of the same name and data type.

   Click **Next**.
7. Select types of functions and click **Next**.
8. Select tables, views, and synonyms and click **Next**.
9. Select procedures and click **Finish**.

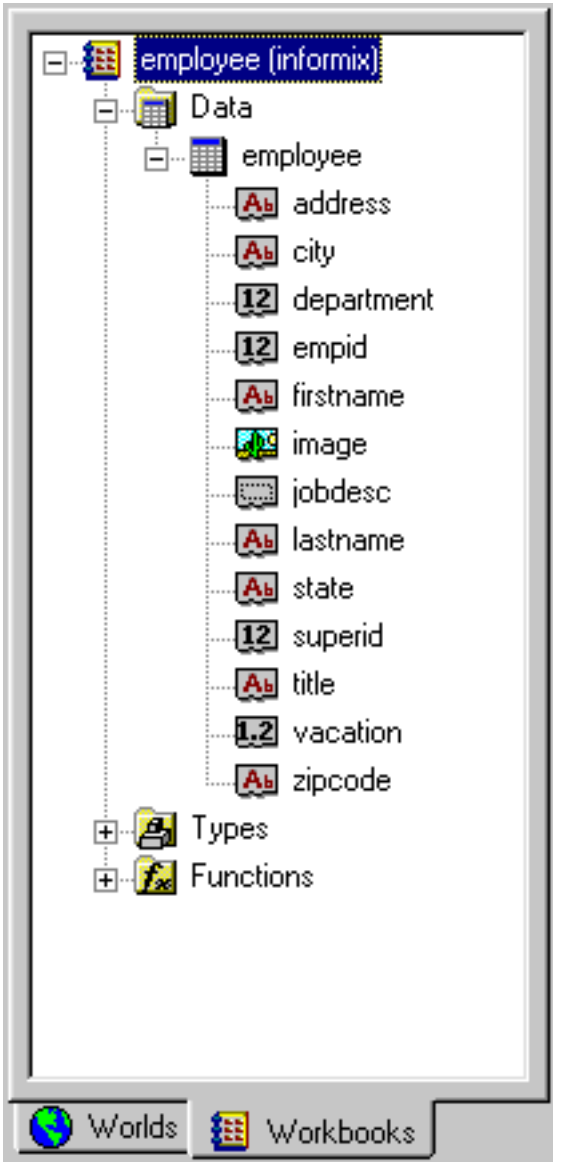
To delete a workbook, delete its file (workbook.vwb) from your file system or select it in the Open dialog box and press **Delete**.

In a workbook, you can use the Workbooks page of the World Manager to perform the following tasks:

- Remove objects from your workbook (right-click the object and click **Delete**.
- Save or rename your workbook (right-click it and click **Save** or **Save As**).

- Refresh or import other objects into your workbook (right-click the workbook and click **Refresh** or **Import**).
- Close the workbook (right-click it and click **Close**).
- Copy the workbook and change its data source (right-click the workbook and click **Duplicate**).
- Modify workbook display options (right-click it and click **Options**).
- View and modify properties for tables and columns (right-click the object and click **Properties**).
- Manage table relationships (right-click the table, click **Properties**, and then click the **Relationships** tab).

The following figure shows the World Manager displaying a workbook.




The Data folder contains tables, views, and synonyms in the workbook. You can right-click the Data folder and click **Remove this node but show contents** to remove the folder, but not its contents, from the workbook.

The Table folder contains columns. You can right-click a table or column and click **Delete** to remove it from the workbook or **Properties** to view properties and, for tables, to edit table relationships.

The Types folder contains data types and the Functions folder contains the functions in the workbook. You can right-click the Types or Functions folders and click **Don't Display This Item** to hide it or **Delete** to remove it from the workbook.

The QMF Queries folder (not shown) contains QMF queries.

## Managing connections

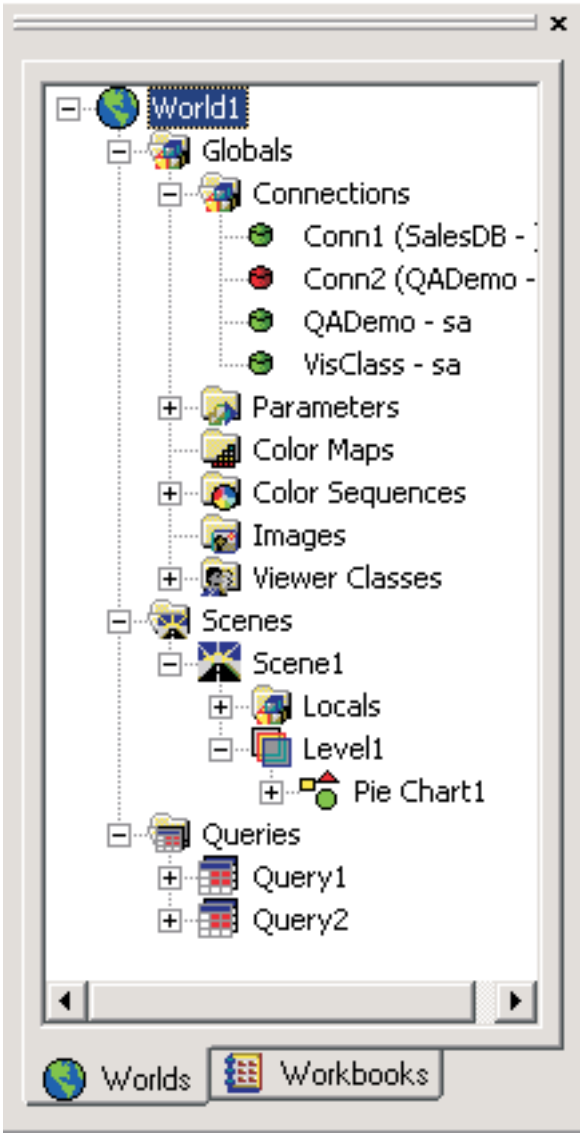
Database connections are associated with worlds. The connections that QMF Visionary associates with a particular world include:

- All currently open connections
- Any connection that is opened while the world is open in QMF Visionary Studio
- Any connection that has previously been open while the world was open

When you open a world, QMF Visionary Studio prompts you to connect to all of that world's connections. Typically, the connections for a world are those that the world actively uses with queries.

Connections for a world are shown in the World Manager, in the Connections folder, under the Globals folder.

The following figure shows the Connections folder under the Globals folder.




If a connection is open, its connection icon is green. If a connection is closed, its connection icon is red. You should delete unused connections.

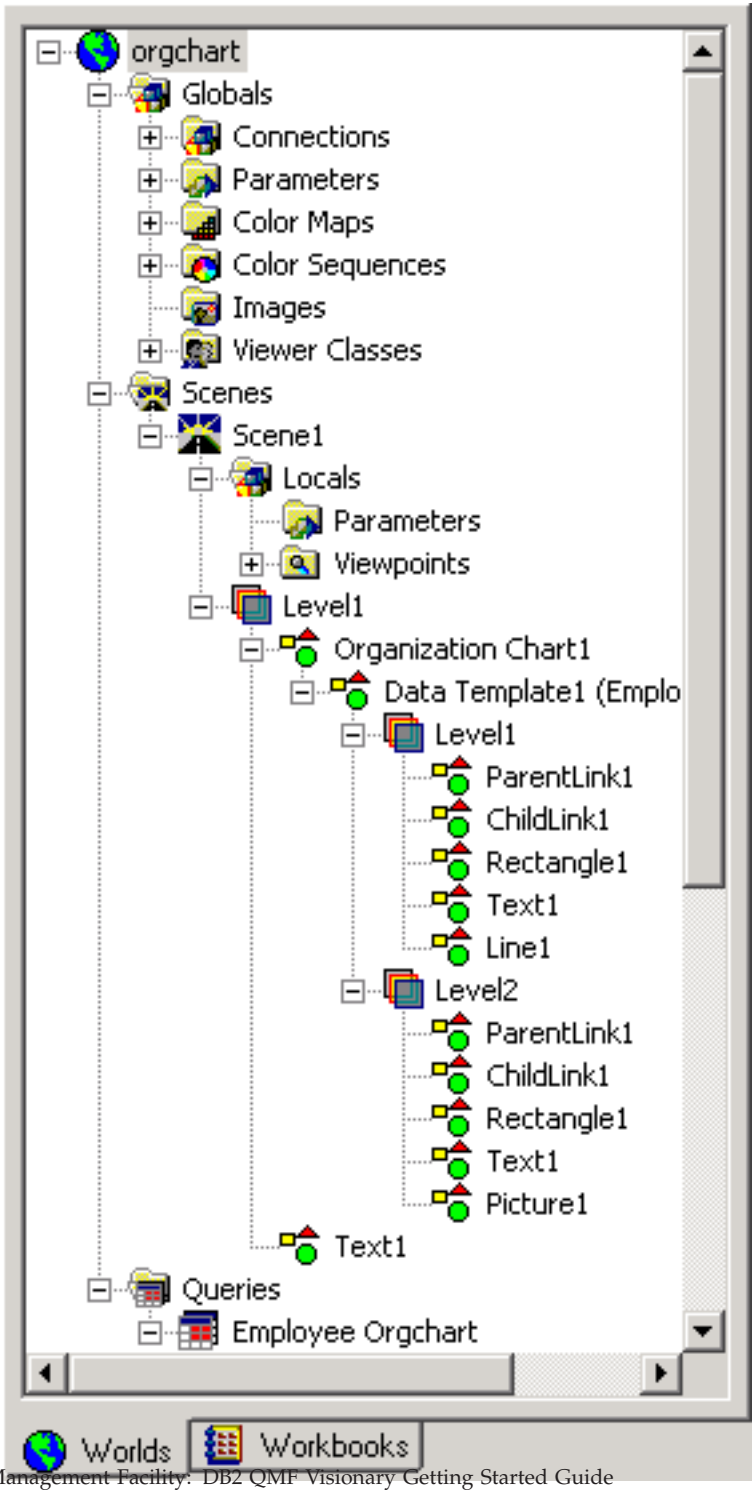
## Managing Worlds with the World Manager

You can use the Worlds page of the World Manager to perform the following actions on worlds and their objects, using context menus:

- Open an object's Properties dialog box or its associated editor (double-click the object).

- Select an object so that it is active in the Object Inspector (double-click the object).
- Cut, copy, or paste objects (right-click the object and click **Cut**, **Copy**, or **Paste**).
- Save a world, scene, query, or image (right-click it and click **Save** ***objectname***).
- Remove objects (right-click the object and click **Delete**).
- Rename objects (right-click the object and click **Rename**).
- Change the precedence of objects during scene execution by rearranging them (drag an object to another location within the same level).
- Change the workbook with which a query is associated (right-click the query and click **Association Workbook**).
- Insert an additional axis or data template (right-click the layout name and click **Insert Axis** or **Insert Data Template**).
- Edit a level transition to change the minimum zoom level at which a subsequent level of detail is displayed (right-click the scene, level, or data template and click **Edit Level Transition**).
- Insert a level of detail into a scene or data template (right-click it and click **Insert Level of Detail**).
- Change the query associated with a data template (right-click the data template and click **Change Query**).
- Insert global parameters, color maps, color sequences, images, or viewer classes (right-click the Globals folder and click **Insert** ***objectname***).
- Insert scene parameters (right-click the Locals folder and click **Insert Parameter**).

The following figure shows the World Manager displaying a world.



## Creating queries

QMF Visionary Studio provides the following query tools:

- **Query wizards**. Leads you through the query creation process.
- **Query diagram view**. Allows you to create queries using graphical elements.
- **Text view**. Allows you to directly enter query text.

For a complete description of QMF Visionary query tools, see the *DB2 QMF Visionary Developer's Guide*.

To create a new query:

1. Right-click the Queries folder in the world Manager Worlds page and select **New Query**. The New Query dialog box appears.
2. Select a workbook and a query tool, or select a workbook and the **Select Query from QMF list** option.
3. Click **OK**.

For information on which SQL options you can create with which QMF Visionary query tools, see the *DB2 QMF Visionary Developer's Guide*.

### Creating SQL queries with Query wizards

The Simple and Advanced Query wizards guide you through the SQL query creation process.

When you use the Simple Query wizard to create a query, you perform the following tasks:

1. Select a table and one or more of its columns.
2. Optionally summarize records.
3. Specify the query name and output options.

When you use the Advanced Query wizard to create a query, you perform the following tasks:

1. Select a table and one or more of its columns.
2. Optionally, select other tables and columns.
3. Optionally, specify table relationships.
4. Optionally, specify filter criteria.
5. Optionally, summarize records.
6. Specify the query name and output options.

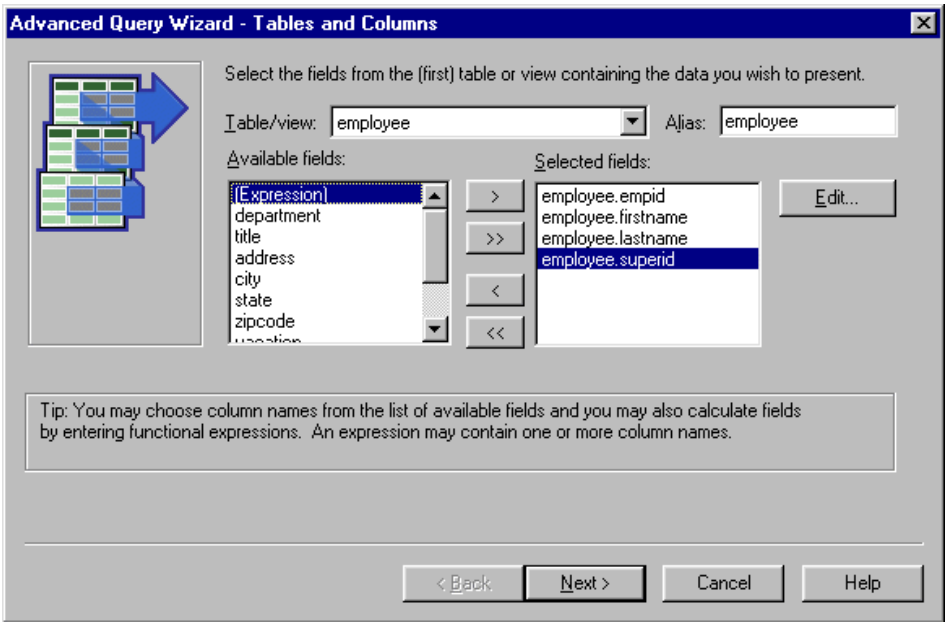
Each of these tasks is described in more detail in the following sections. The text in the margin identifies to which wizard each tasks applies.

### Selecting tables and columns

You select a table from and the columns that the query returns with both the Simple and the Advanced Query wizards.

**Note:** Remember that the tables, columns and functions you see in the list boxes in your query tools come from the workbook you select in the New Query dialog box. If you do not see the table you want, or if you wish to exclude tables from these lists, cancel the query wizard and begin your query again.

The following figure shows the Tables and Columns page of the Simple and Advanced Query wizards.

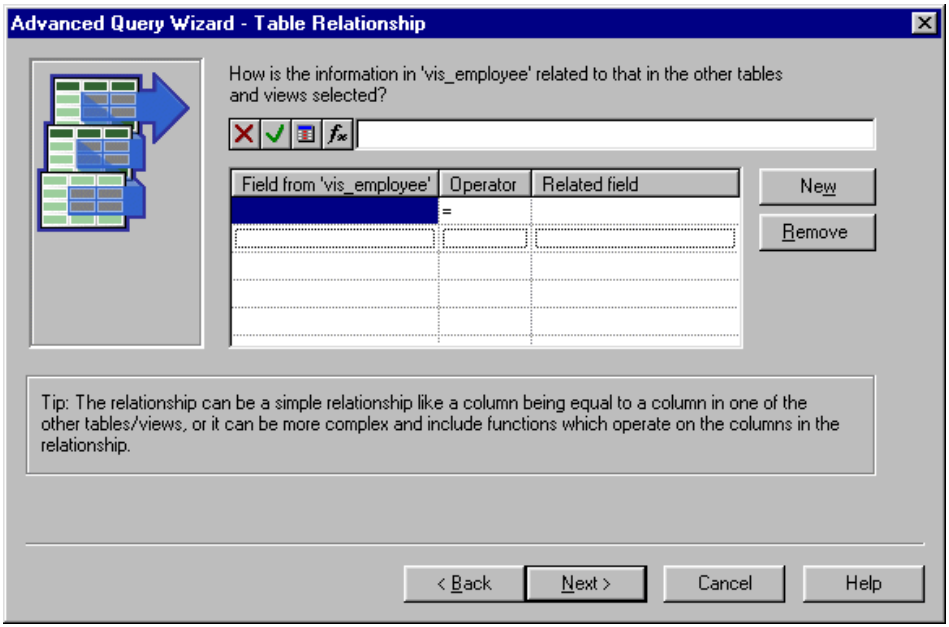


### Specifying table relationships

With the Advanced Query wizard, you can include more than one table in your query. The Advanced Query wizard displays additional Table and Columns pages for as many additional tables as you choose. You can also specify the relationships between tables by creating joins between columns of the same data type.

You can add and edit table relationships on the Workbooks page of the World Manager (right-click the table and click **Properties**).

The following figure shows the Table Relationship page of the Advanced Query wizard.



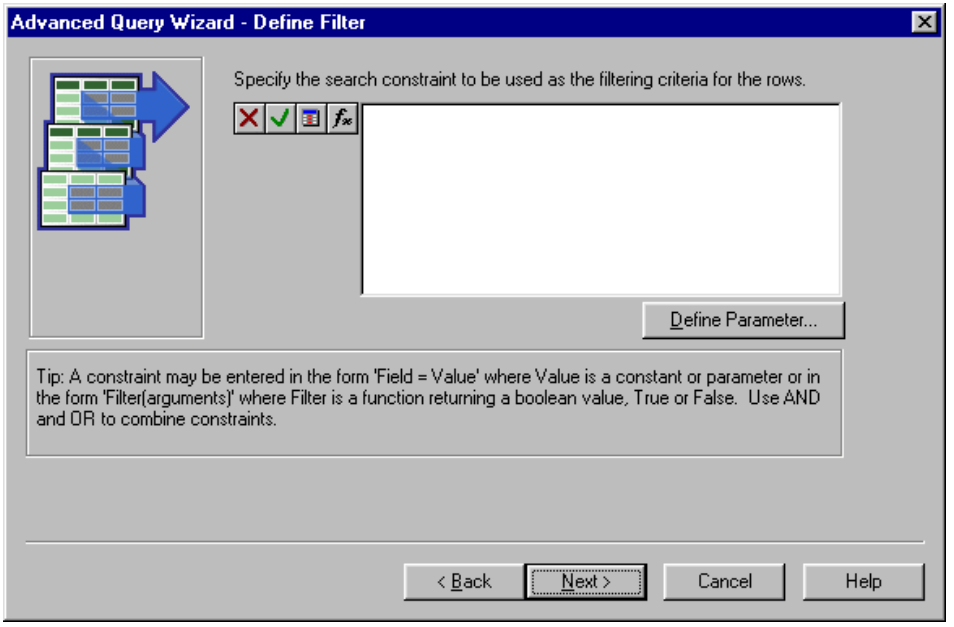

To create a table relationship with the Advanced Query wizard:

1. Click a field in the Field from '*table name*' list.
2. Click the **Column** button, select a column, and click **OK**.
3. Optionally change the operator by clicking the Operator field and then the **Function** button.
4. Click a field in the Related field list.
5. Click the **Column** button, select a column, and click **OK**. The column name appears in the formula field.
6. Click the **Accept** button.

### Specifying filter criteria

You can define filter criteria with the Advanced Query wizard. You can perform computations on data and display the results by specifying an expression. An expression consists of a column name, a constant, a quoted string, a keyword, a query parameter, a function, or any combination of these items connected by operators.

The following figure shows the Define Filter page of the Advanced Query wizard.

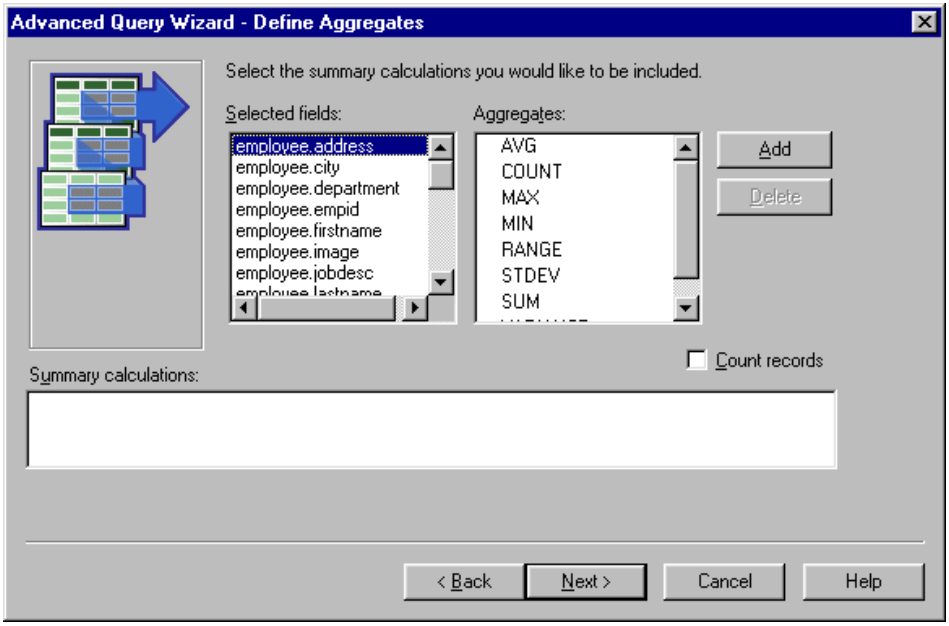



To create an expression, select the elements using the formula buttons, or type the expression into the formula field. For more information on formulas, see “Modifying properties using the Formula bar” on page 31.

### Defining aggregates

You can use the Simple and Advanced Query wizards to define aggregates that summarize the data returned by your query. Use the lists to specify the column and aggregate or type the expression in the Summary calculations field.

The following figure shows the Define Aggregates page of the Simple and Advanced Query wizards.

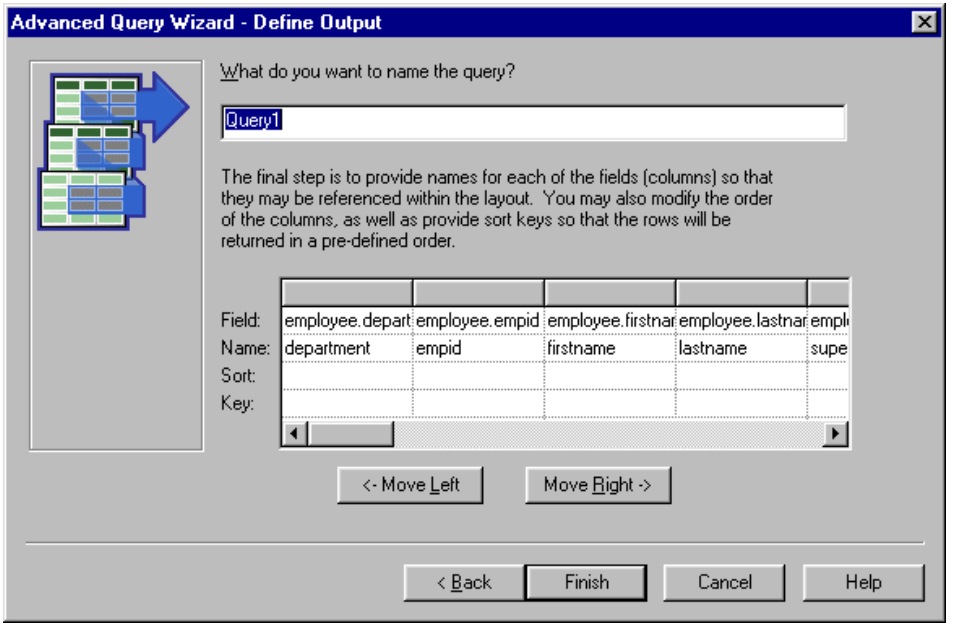


### Defining the Output

You can name your query and define its output with the Simple and Advanced Query wizards. You can define query output in the following ways:

- Change the order of the returned columns (select a column and click **Move Left** or **Move Right**).
- Give columns descriptive names (type the name in the Name cell).
- Sort columns in ascending or descending order (click the column's Sort cell and click **Ascending** or **Descending**).

The following figure shows the Define Output page of the Simple and Advanced Query wizards.




After you click **Finish**, you can view the results of the query in the Datasheet view of the Query Editor.

## Using the Query Diagram view

The Query Diagram view provides graphical support for composing SQL queries. Use the Query Diagram view to create new queries if you are familiar with SQL languages, or to edit an existing query. The SQL Query Diagram views are different; each is described below.

To edit an existing query, double-click it on the Worlds page of the World Manager.

### Creating or modifying SQL queries

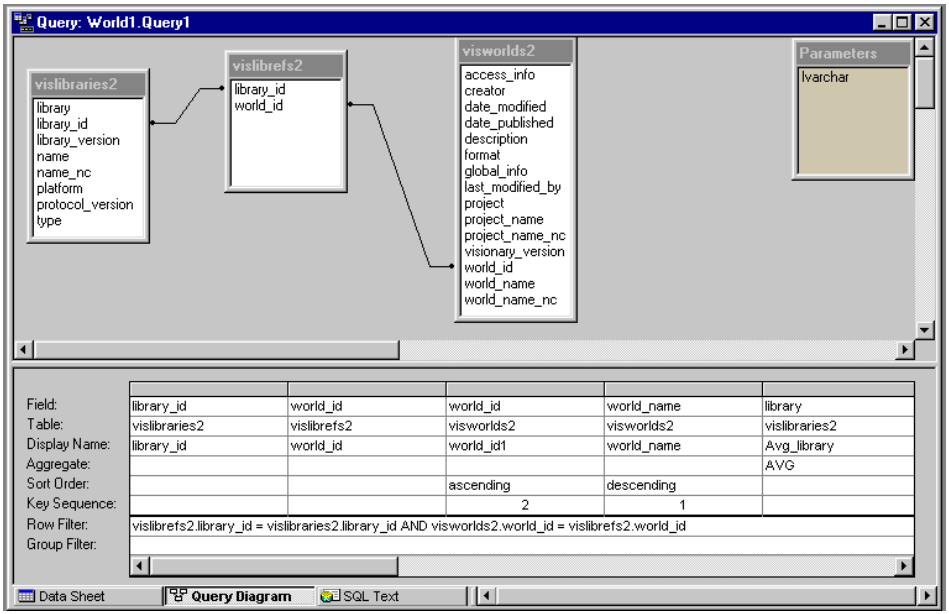
The Query Diagram view for SQL contains a split screen with two diagram windows:

- **Query diagram**. Allows you to copy tables from your workbook into the diagram space and to create joins by dragging a link from one or more columns in one table to those in another table.
- **Grid tool**. Contains list boxes from which you can select return columns from the query, create aliases for the columns and calculated values, and select a sort order for the data returned.

You can use the Query Diagram view to perform the following tasks for SQL queries:

- Insert a new table (click **Insert —> Table**).
- Remove a table (right-click the table and click **Remove Table**).
- Create a join between two tables (drag a column from one table onto a column in another table).
- Edit the join operator (double-click the join line).
- Remove a join (click a join line and press Delete).
- Add or edit a parameter (right-click the Parameters block and click **Define Parameter**).
- Remove a parameter (right-click the Parameters block and click **Delete Parameter**).
- Include a column (right-click the column and click **Include Field**).
- Create display names for table columns (type names in Display Name fields).
- Create a filter (type the criteria in the Row Filter row or use the Formula bar). For more information see, "Modifying properties using the Formula bar" on page 31.
- Create or modify a key sequence (click a field in the Key Sequence row and select from the list).
- Assign or remove sort order (click in a field in the Sort Order row and select from the list).
- Assign an aggregate function to a table column (click a field in the Aggregate row and select from the list).

The following figure shows the Query Diagram displaying an SQL query.




## Using the Text view

The Text view of the Query Editor shows the text of the query in SQL. The Text view is most useful to skilled programmers, for modifying queries. If you have existing queries created outside of QMF Visionary that you want to use in a world, you can copy them into the Text view.

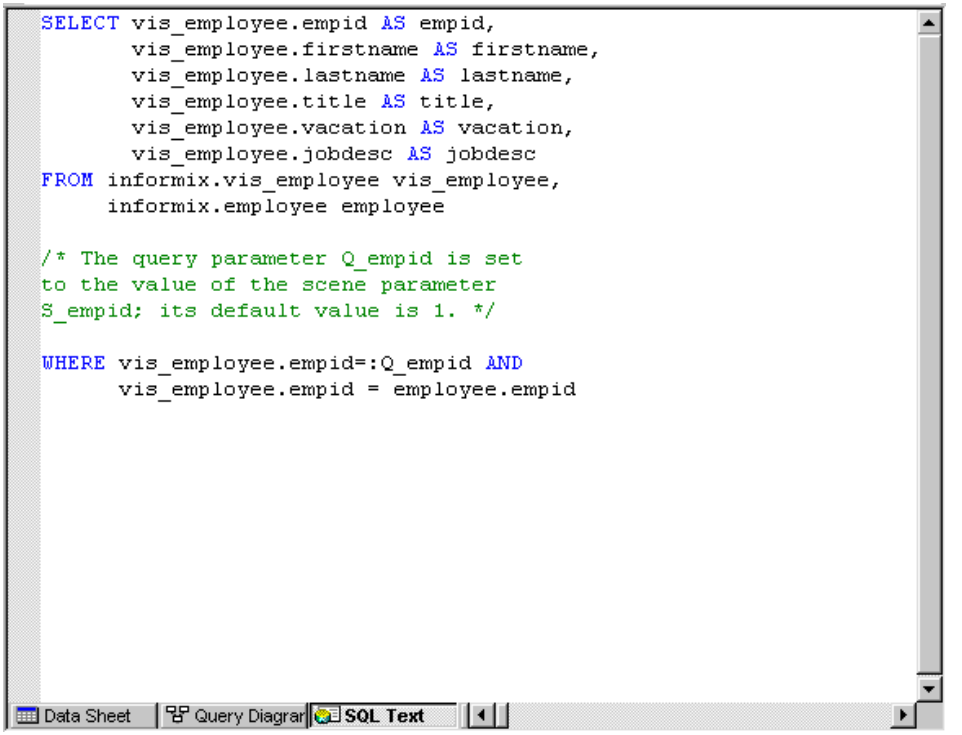
The Text view supports some query clauses that the Query Diagram view does not support. See the *DB2 QMF Visionary Developer's Guide* for more information.

The SQL Text view supports multiple SELECT statements. When multiple SQL statements are executed, QMF Visionary uses the last SELECT statement for the query result set.

The SQL Text view also supports the use of stored procedures that generate a result set. QMF Visionary assumes a stored procedure if a SELECT statement is not found.

You can include comments in the Text view, but if you subsequently open the query in the Query Diagram view, the comments might be removed. One-line comments must begin with two hyphens (--); multiline comments must begin with a slash and star (/*) and end with a star and slash (*/). Keywords are blue and comments are green. Query parameters are preceded by a colon.

The following figure shows the Text view displaying an SQL query.




## Creating scenes

You compose scenes in the Scene Editor by inserting objects. You can insert objects by using the Palette Manager or by using the Insert menu. The Scene Editor has two modes: design mode and runtime mode.

The following figure shows the Scene Editor.

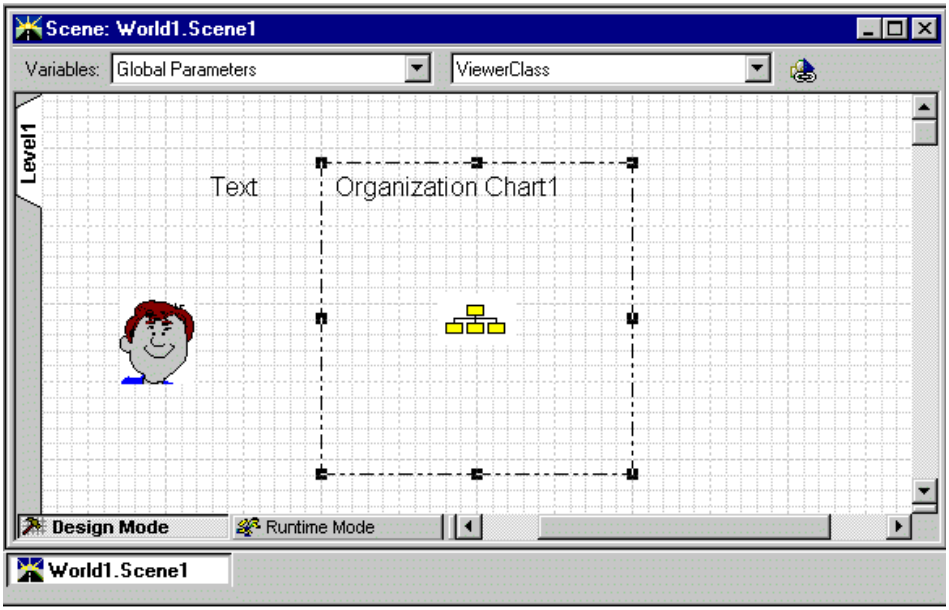



*Table 1. How to use the Scene Editor*

| Task | Method |
|---|---|
| Select an object | Click it Drag a rectangle around it Double-click its name on the Worlds page of the World Manager |
| Select multiple objects | Hold down the SHIFT key while clicking each object Drag a rectangle around all objects |
| Move the selection from one object to another | Use the TAB key; each object is automatically selected in turn |
| Move an object | Select it and, when the cursor is a four-headed arrow, drag the object to its new location Alternatively, hold down the SHIFT key and use the keyboard arrow keys to minutely position the object |
| Mark the scene's origin | Click **View —> Guides** If you moved the guide wires, you can turn the guide off (click **View —> Guides**) and turn the guide back on (click **View —> Guides** again) to remark the scene's origin |
| Group objects | Select objects and click **Draw —> Group** |
| Select an individual object from a group | Shift-click the objects in the Scene Editor |

*Table 1. How to use the Scene Editor (continued)*

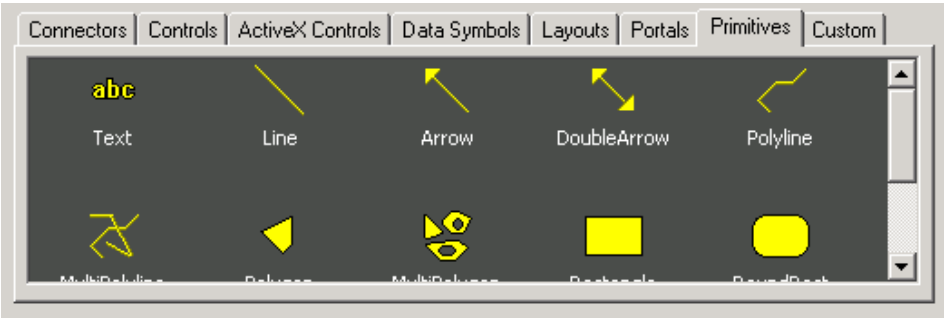
| Task | Method |
|---|---|
| Recenter the scene | Press **Home** or click **View —> Recenter Scene** to place the origin back in the center of the viewable area |
| View scene levels | Click the corresponding Level tab |
| Edit a scene or data template | Click **Design Mode** |
| Run a scene | Click **Runtime Mode** |
| Toggle between Design Mode and Runtime Mode | Press F5 |

## Adding objects to a scene with the Palette Manager

The Palette Manager contains a variety of palettes of objects you can use as you create QMF Visionary worlds:

- **Connectors**. Contains connector objects that display links between data points in 2-D data templates.
- **Controls**. Contains standard edit controls to capture user input.
- **ActiveX Controls**. Contains display controls and 3-D layouts that can display multiple columns of query results.
- **Data Symbols**. Contains symbols that represent data points in 2-D data templates.
- **Layouts**. Contains 2-D layouts that can display multiple columns of SQL query results.
- **Portals**. Contains the Wormhole object, which you use to link two scenes together.
- **Primitives**. Contains primitive objects such as a line, text, and rectangle.Primitives. Contains primitive objects such as a line, text, and rectangle.
- **Custom**. An empty palette that you can use to store custom objects for reuse.

The following figure shows the Palette Manager.




You can use the Palette Manager to perform the following tasks:

- Add an object to the scene or the data template that has focus (double-click the object).
- View the objects in a category (click the desired tab).
- Add custom objects for reuse (drag the customized object from the Scene Editor to the Custom page).

## Inserting layouts

A layout is an object that can display more than one column of query results. To insert a layout, you use the Layout wizard. The Layout wizard attaches a query to the layout object. Depending on the layout, the Layout wizard might also guide you through mapping specific output columns of the query to objects in the layout and specifying formatting attributes, such as labels and margins. Layout objects include:

- 2-D Layouts on the Layouts palette.
- List and Combo controls on the Controls palette.
- 3-D ActiveX control layouts on the ActiveX Controls palette.

## Modifying object properties and events

You can modify object properties and events with the Object Inspector, the Formula bar, and the standard and text toolbars. This section describes the Object Inspector and the Formula bar. See *DB2 QMF Visionary Developer's Guide* for more information.

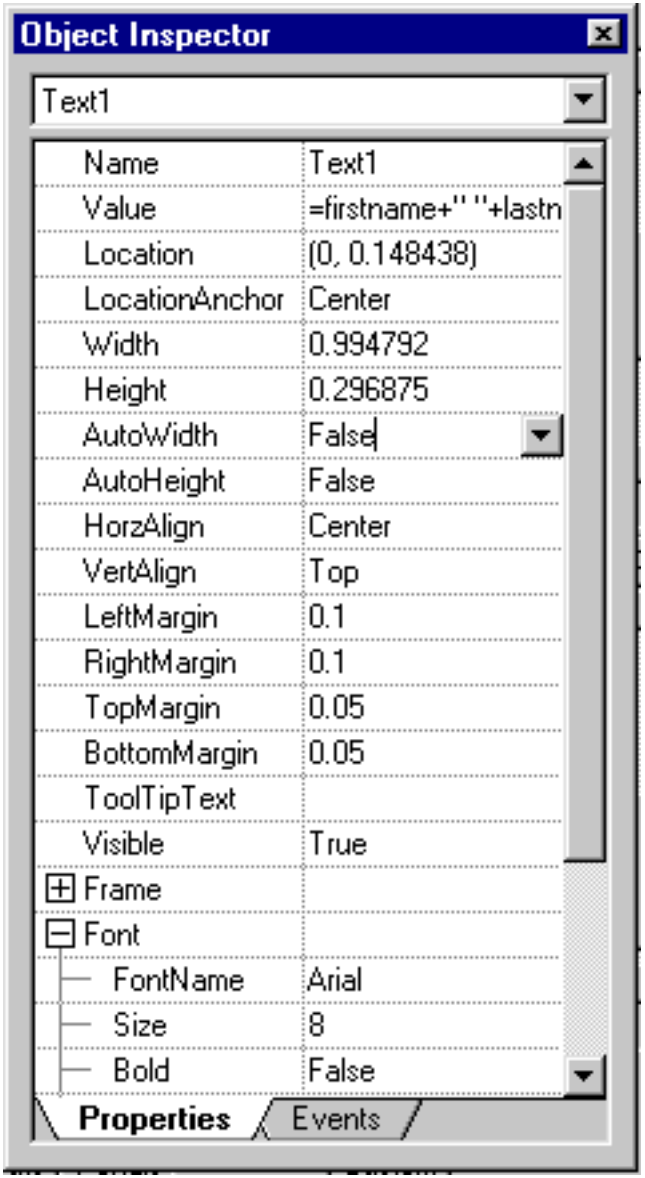
### Modifying properties using the Object Inspector

The Object Inspector is a design tool that allows you to view and modify object properties or events. To see an object's properties in the Object Inspector, select the object by clicking it in the Scene editor, or select its name from the object list at the top of the Object Inspector. The property names display in the first column and the property's values display in the second column.

To edit an object property, type a new value in the property's value field (on the right) or select a new value from the list box. If you edit property values using the Formula bar or by manipulating the object in the Scene Editor, the new values are reflected in the Object Inspector.

If you select more than one object in the Scene Editor, the properties common to all the selected objects appear in the Object Inspector. When you make changes to common properties, all selected objects are updated.

The following figure shows the Properties page of the Object Inspector displaying the properties of a Text object.




For Text objects, the Value property determines the text the object shows. This property can be set to columns, parameters, or functions.

Some fields have lists containing possible values. Click a field to see its list button and then click the button to see the list.

You can use the expander button to display subproperties.

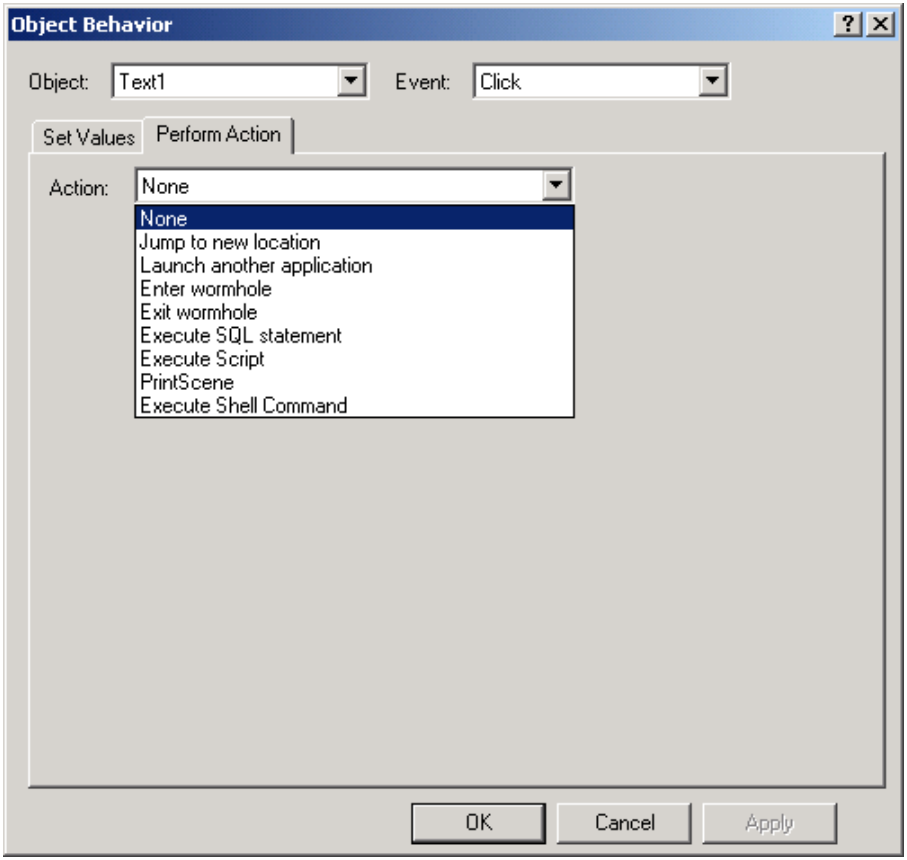
### Creating events using the Object Inspector

You can assign events to objects so that when the user performs a specific task, an action occurs. For example, a user clicks a button to jump back to the previous scene.

Use the Events page of the Object Inspector to add events to objects. The events you have defined appear in bold.

To add an event to an object:

1. Click the Events tab on the Object Inspector to see the Events page.
2. Double-click an event type.
3. In the Object Behavior dialog box, select an action from the list. Select a scene parameter to set, if necessary.




4. Fill out the dialog box that appears to specify the details of the event.
5. Click **OK**.

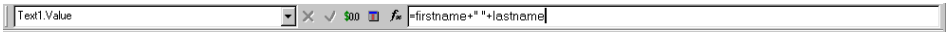
The name for the event you defined appears in bold in the Object Inspector.

### Modifying properties using the Formula bar

The Formula bar allows you to edit the value object properties using buttons to easily add functions, column names, and number formatting.

By default, the Formula bar displays the value of the property selected in the Object Inspector. You can also select an object property from the list on the left side of the Formula bar. This list displays all objects and their properties.

The following shows the Formula Bar.




To specify a function in an expression:

1. Click the **Function** button to display the Insert Function dialog box.
2. Select the version of a function whose argument is the data type of the column on which it will act and click **OK**.
3. In the Formula field, highlight the data type argument in the function and click the **Column** button.
4. Select a column and click **OK**.

To place a number format template in an expression:

1. Place your cursor in the expression where you want the format template placed.
2. Click the **Format Number** button to display a list of formatting templates.
3. Click the format template you want inserted into the expression.

## Making a scene dynamic

This section discusses how you can make scenes dynamic by setting object properties equal to variables, adding events that trigger actions to objects, and using the Drilldown wizard to pass a scene parameter and add a jump from a data point in one scene to another scene.

QMF Visionary offers other powerful tools for creating dynamic scenes. See the *DB2 QMF Visionary Developer's Guide* for more ways to make a scene dynamic.

### Mapping object properties to variables

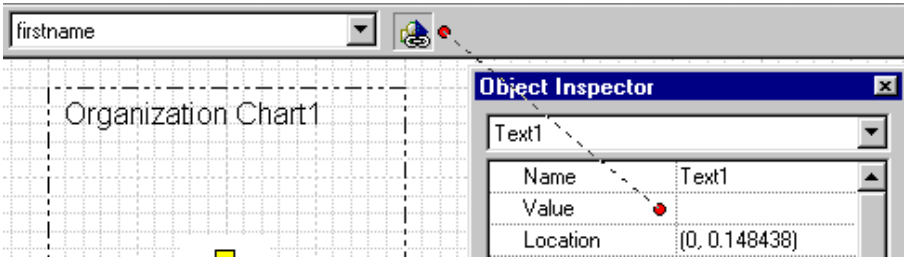
To map an object property to a variable (such as a column or parameter), you set the value of a property to the variable name. You can use the Formula bar, the Variables bar, or, using the Object Inspector, type the variable name preceded by an equals sign directly into the appropriate cell.

The Variables bar displays a list of global and scene parameters and SQL columns.

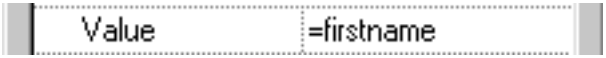
To map an object property to a variable using the Variables bar:

1. Select the variable type and variable name from the **Variables** lists. This example shows a table and column name from an SQL query.


2. Click the **Link** button and then the appropriate property name cell.




The column name appears in the property value cell, preceded by an equals sign.




### Creating drilldown events

You might want users to be able to click a data point to jump to another scene containing more information about that data point. For example, users might be shown a pie chart of sales per region. When users click a region "slice," they jump to another scene, which shows a map and other details for that region. You can create drilldown events using the Drilldown wizard for layouts that support data templates.

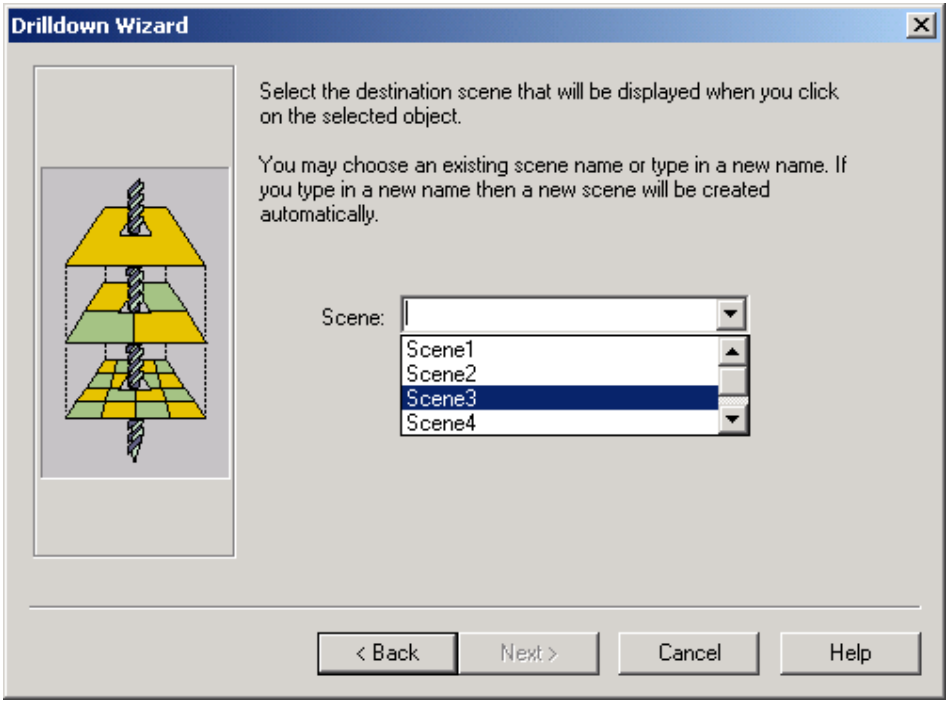
The Drilldown wizard creates the following events and objects:

- A click event that triggers a jump to the destination scene and sets the scene parameter
- A new scene, if necessary
- A scene parameter to pass one of the columns returned by the query to the destination scene

To create a drilldown event, click a data template in the Data Template Editor. and click **Insert —> Drilldown**. The Drilldown wizard appears; click **Next**.

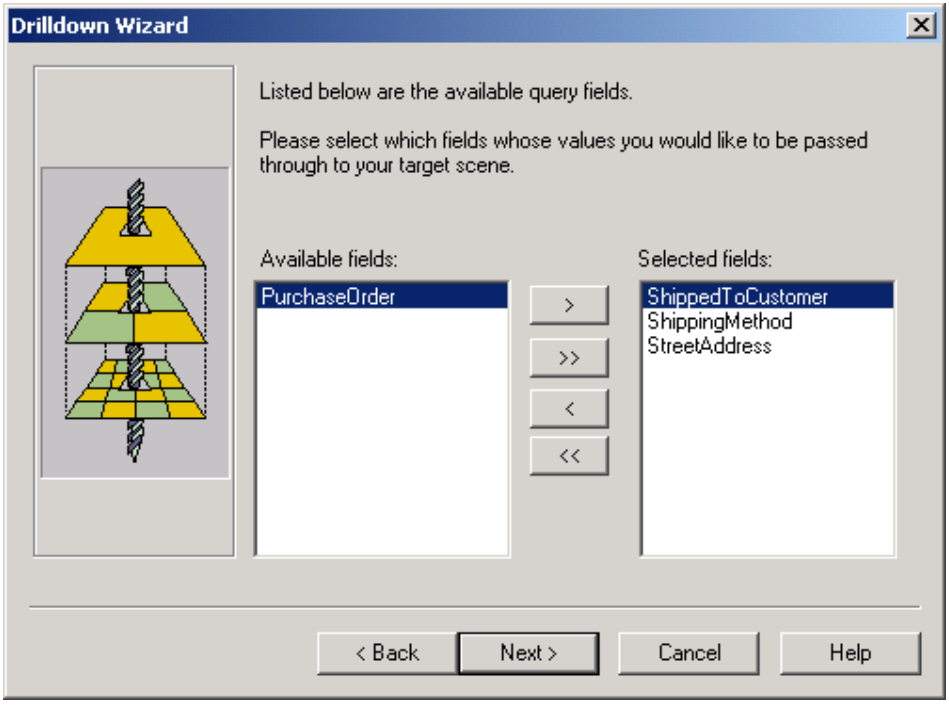
**Choosing a Destination Scene:** You want to identify the destination of your click event. Select an existing scene name from the drop-down list, or enter the name of a scene in the text box. If you enter the name of a new scene, when you click **Next**, you will be asked to confirm that you want to create a new scene for the drilldown.

The following figure shows the Destination Scene page of the Drilldown wizard.



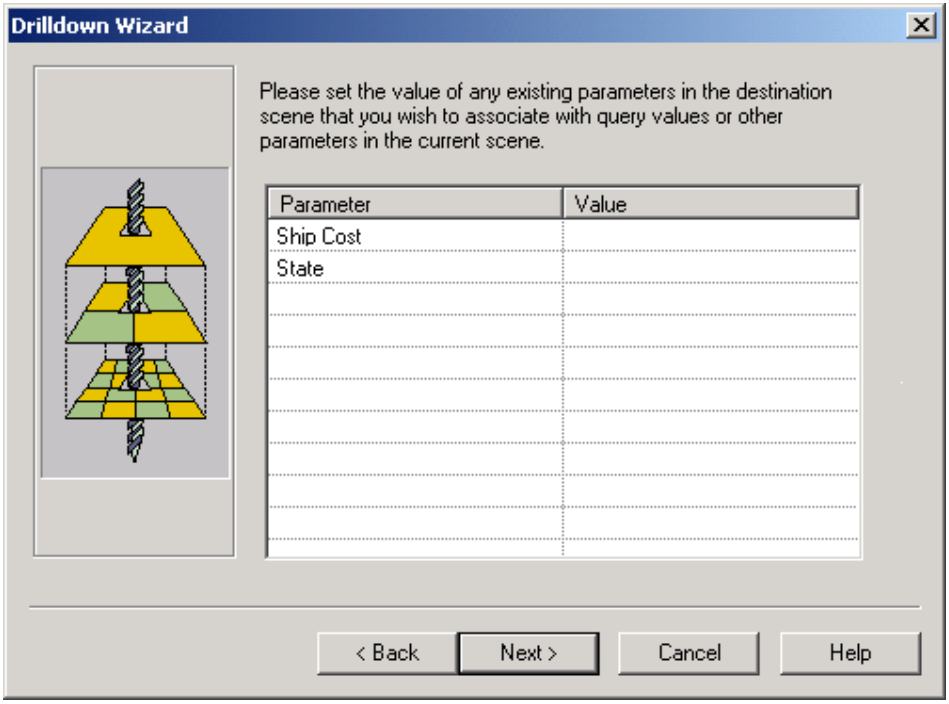
**Selecting Drilldown Values:** You want to select which values from fields in the original scene to map as scene parameters to the new scene. Select the values you want to pass through to your destination scene.

The following figure shows the Fields page of the Drilldown wizard.



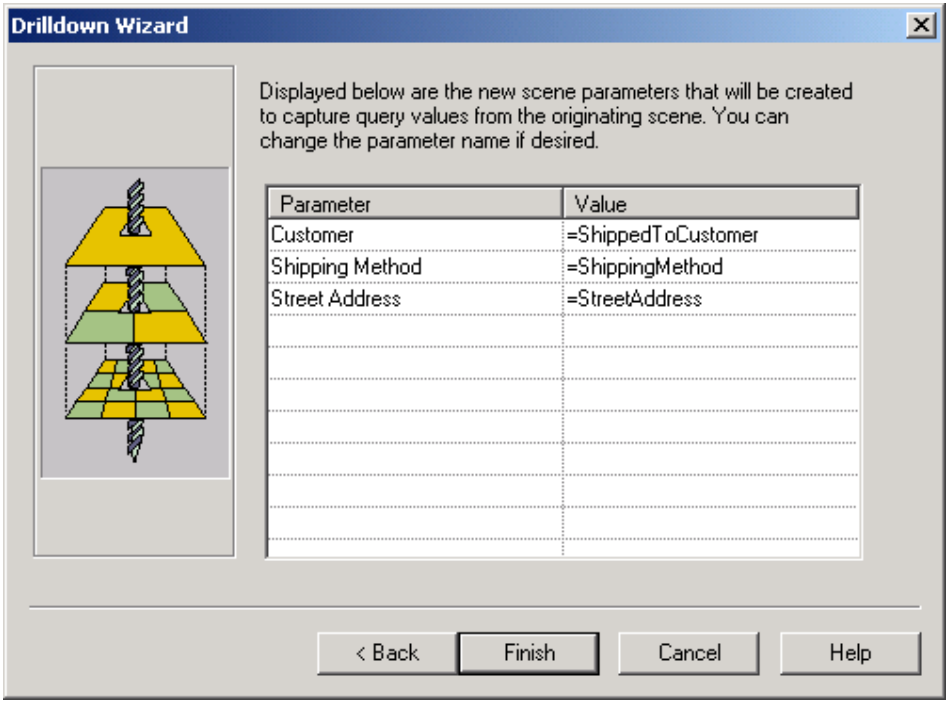
**Mapping Existing Destination Scene Parameters:** If your destination scene has at least one scene parameter, you can coordinate the scene parameters being mapped to the destination scene with the destination scene's existing parameter.

The following shows the Set Parameter Values page of the Drilldown wizard.



**Renaming Destination Scene Parameters:** You can change the parameter names for you destination scene. You may only use a parameter name that has not been used in this QMF Visionary world. This step is optional.

The following shows the Rename Parameter page of the Drilldown wizard.




Click **Finish** to complete the drilldown event.

## Customizing your workspace

You can customize QMF Visionary Studio so that it is configured to maximize your productivity.

Also, for each editor (Scene editor, Query editor, and World Structure editor), you can customize your workspace to display only the windows and toolbars you want. QMF Visionary remembers these selections and their location for each subsequent session until they are changed.

*Table 2. Ways of customizing QMF Visionary Studio*

| Customization | Procedure |
|---|---|
| Move the standard, format, navigation, alignment, and formula toolbars | Click the rebar at the end of the toolbar and drag it to the new location |

*Table 2. Ways of customizing QMF Visionary Studio (continued)*

| Customization | Procedure |
|---|---|
| View page outline (dashed-blue lines) | Click **View —> Print Area** |
| View the standard, navigation, format, status, and alignment toolbars | Click **View —> Toolbars** |
| View the Formula bar | Click **View —> Formula Bar** |
| View the Data Template Editor | Click **View —> Data Template Editor** |
| View the Data Template Selector | Click **View —> Data Template Selector** |
| View the Object Inspector | Click **View —> Object Inspector** |
| View the World Manager | Click **View —> World Manager** |
| View the Palette Manager | Click **View —> Palette Manager** |
| View the Output Window | Click **View —> Output Window** |
| Allow docking for the Object Inspector and Palette Manager | Click **Tools —> QMF Visionary Options** and click the Workspace tab |
| Prompt to connect to a data source when QMF Visionary starts | Click **Tools —> QMF Visionary Options** and click the Login tab |
| Prompt to connect to a data source when opening a world | Click **Tools —> QMF Visionary Options** and click the Login tab |
| Set the maximum number of connections that may be opened in your world | Click **Tools —> QMF Visionary Options** and click the Login tab |
| Automatically open worlds used in your last session | Click **Tools —> QMF Visionary Options** and click the Workspace tab |
| Show extended titles for editor windows | Click **Tools —> QMF Visionary Options** and click the Workspace tab |
| Show data object owner information | Click **Tools —> QMF Visionary Options** and click the Workspace tab |
| Open and close the associated workbook when a world is opened and closed | Click **Tools —> QMF Visionary Options** and click the Workspace tab |
| Prompt to save the workbook in the same location as a world when saving a world | Click **Tools —> QMF Visionary Options** and click the Workspace tab |
| Create and load a default workbook when connecting to a data source | Click **Tools —> QMF Visionary Options** and click the Workspace tab |
| Display the window bar above or below the content | Click **Tools —> QMF Visionary Options** and click the Workspace tab |

# Chapter 3. QMF Visionary Studio shortcut keys

This chapter provides a list of shortcut keys for QMF Visionary Studio menu commands and a list of shortcut keys for moving around the QMF Visionary Studio interface.

## Shortcut keys for menu commands

The following table lists QMF Visionary Studio menu commands and their keyboard shortcut keys.

*Table 3. Shortcut keys for menu commands*

| Menu Commands | Keyboard Shortcuts |
|---|---|
| Edit —> Cut | Ctrl+X, Ctrl+Delete |
| Edit —> Copy | Ctrl+C, Ctrl+Insert |
| Edit —> Paste | Ctrl+V, Shift+Insert |
| Edit —> Redo | Ctrl+Y |
| Edit —> Undo | Ctrl+Z |
| Edit —> Delete | Del |
| Edit —> Find | Ctrl+F |
| Edit —> Find Next | F3 |
| Edit —> Select All | Ctrl+A |
| File —> New | Ctrl+N |
| File —> Open | Ctrl+O |
| File —> Print | Ctrl+P |
| File —> Save | Ctrl+S |
| View —> Recenter Scene | Home |
| View —> Guides | Ctrl+G |
| Help —> Help Topics | F1 |
| What's This Help | Shift+F1 |
| Delete | Delete |
| Next Pane | F6 |
| Previous | Shift+F6 |

## Shortcut keys for movement

In both design and runtime modes, movement can be accomplished with the keyboard arrows and the Page Up and Page Down keys, as described in the following table.

*Table 4. Shortcut keys for movement*

| **Key** | **Moves Viewpoint** | **Shift+Key Moves Viewpoint** | **Ctrl+Key Moves Viewpoint** |
|---|---|---|---|
| Left arrow | Left by 10% of the width of the view | Left by the full width of the view (1 page) | To the left edge of the scene |
| Right arrow | Right by 10% of the width of the view | Right by the full width of the view (1 page) | To the right edge of the scene |
| Up arrow | Up by 10% of the height of the view | Up by the full height of the view (1 page) | To the top edge of the scene |
| Down arrow | Down by 10% of the width of the view | Down by the full width of the view (1 page) | To the bottom edge of the scene |
| Home | To the default viewpoint | To the default viewpoint | To the default viewpoint |
| Page Up or keypad + | Zooms out by 10% | Zooms out by 20% | Zooms out by 100% |
| Page Down or keypad - | Zooms in by 10% | Zooms in by 20% | Zooms in by 100% |

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