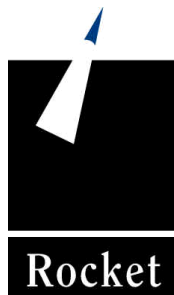


Rocket Visionary

Getting Started Guide

Version 3.0



October 2002

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In This Introduction

This introduction provides an overview of the information in this manual, the major components of Visionary, software requirements, and additional documentation.

About This Manual

This manual summarizes key Visionary concepts, provides procedures and annotated screen shots for common Visionary development tasks, provides a list of keyboard shortcut keys, and describes property expression syntax rules.

This section discusses the intended audience of the manual, the Visionary product set, and additional documentation resources.

Organization of This Manual

This manual includes the following chapters:

- [Chapter 1, “Visionary Overview,”](#) provides a brief overview of Visionary concepts and summarizes Visionary world development.
- [Chapter 2, “Building Worlds with Visionary Studio,”](#) provides procedures for creating Visionary worlds and annotated screen shots describing Visionary Studio.
- [Appendix A, “Visionary Studio Shortcut Keys,”](#) provides a list of shortcut keys for Visionary Studio.

Types of Users

This manual is written for Visionary world developers.

Major Components of Visionary

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 *Visionary worlds* and consist of graphical scenes of text, graphics, charts, and other rich content that can be stored in one or more databases.

The Visionary product set provides the following applications:

- **Visionary Studio.** The development environment for building worlds.
- **Visionary World Server.** A server that interacts with a Web server for deploying Visionary worlds across the Internet.
- **Visionary Administrator.** An application for administering Visionary World Server and editing the access properties of worlds published to the Internet.
- **Visionary WorldView.** An application to view published worlds:
 - For worlds deployed in a client/server environment, it communicates with the database server through ODBC.
 - For worlds deployed to the Internet, it acts as a browser.
- **Visionary Viewer.** Two 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.

Visionary products are supplied in the following packages:

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

This manual and the *Visionary Developer's Guide* describe the Visionary Developer package. For information on the Visionary World Server and End User packages, see the *Visionary Administrator's Guide*.

System Requirements and Software Dependencies

The release notes have a complete list of the system requirements, software dependencies, and database server dependencies.

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

Documentation Conventions

This section describes the conventions that this manual uses. These conventions make it easier to gather information from this and other volumes in the documentation set.

The following conventions are discussed:

- Typographical conventions
- Icon conventions

Typographical Conventions

This manual uses the following conventions to introduce new terms, illustrate screen displays, describe command syntax, and so forth.




Convention	Meaning
KEYWORD	All primary elements in a programming language statement (keywords) appear in uppercase letters in a serif font.
<i>italics</i> <i>italics</i> <i>italics</i>	Within text, new terms and emphasized words appear in italics. Within syntax and code examples, variable values that you are to specify appear in italics.
boldface <i>boldface</i>	Names of program entities (such as classes, events, and tables), environment variables, file and pathnames, and interface elements (such as icons, menu items, and buttons) appear in boldface.
monospace <i>monospace</i>	Information that the product displays and information that you enter appear in a monospace typeface.
KEYSTROKE	Keys that you are to press appear in uppercase letters in a sans serif font.
→	This symbol indicates a menu item. For example, “Choose Tools → Options ” means choose the Options item from the Tools menu.



Tip: When you are instructed to “enter” characters or to “execute” a command, immediately press RETURN after the entry. When you are instructed to “type” the text or to “press” other keys, no RETURN is required.

Icon Conventions

Comment icons identify three types of information, as the following table describes. This information always appears in italics.

Icon	Label	Description
	<i>Warning:</i>	Identifies paragraphs that contain vital instructions, cautions, or critical information
	<i>Important:</i>	Identifies paragraphs that contain significant information about the feature or operation that is being described
	<i>Tip:</i>	Identifies paragraphs that offer additional details or shortcuts for the functionality that is being described

These icons can apply to a row in a table, one or more paragraphs, or an entire section.

Additional Documentation

Visionary documentation is provided in a variety of formats:

- **Documentation.** The documentation set for Visionary includes the following documents, in addition to this manual:
 - *Visionary Developer's Guide*
 - *Visionary Administrator's Guide*
 - *Visionary Getting Started Guide* (this guide)
 - *Visionary Studio Quick Reference*
 - *Visionary Viewer Quick Reference*
- **Visionary Tutorial.** This tutorial is available from the Visionary Studio help menu.
- **Online help.** This facility provides both general and context-sensitive help.

Additional Documentation

- **Release Notes and Read Me First.** Release notes, which contain new feature information, and Read Me First are located in the directory where the product is installed.

Examine these files because they contain vital information about application and performance issues.

Visionary Overview

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In This Chapter

This chapter contains the following sections:

- [“What Is Visionary?,”](#) next
- [“Developing a Visionary World”](#) on page 1-6

What Is Visionary?

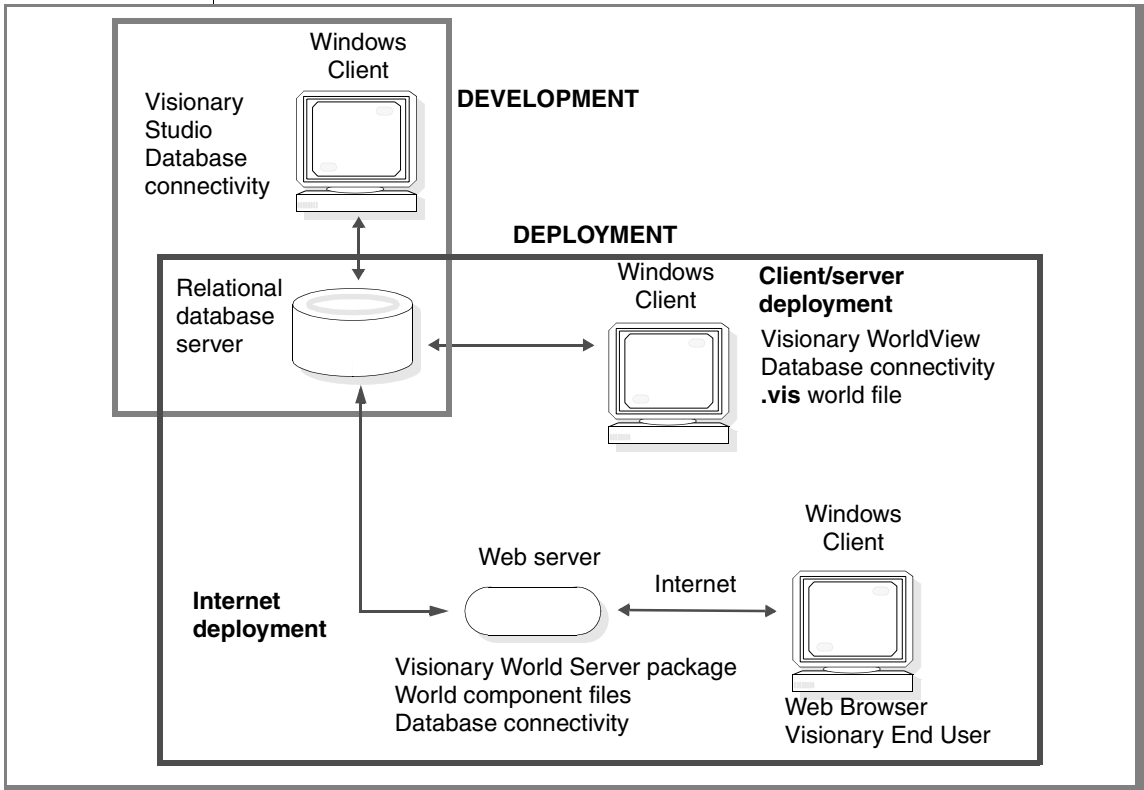
The Visionary suite of products allows you to build and deploy an application, called a *Visionary world*, that displays data dynamically. A Visionary world is a series of pages (*scenes*) displaying your business data in charts and graphs. As the end user navigates from scene to scene, data displays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

Visionary worlds can display data from relational databases.

What Is Visionary?

The following diagram illustrates Visionary products in both development and deployment configurations and lists the required software for each computer.

Figure 1-1
Visionary development and deployment



To develop a Visionary world, you need a computer running one of the Microsoft Windows operating systems listed in *Read Me First*, Visionary Studio, a database-connection driver (ODBC, or JDBC), and a relational database server.

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

Visionary World Elements

The basic elements of a 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*. 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 Visionary world can be linked together using a variety of navigation features. You can design your 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, and 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 Visionary World

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

Developing a 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 an ODBC data source for the database containing the data for the world.
4. Start Visionary Studio and connect to the ODBC 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 connection driver, and Visionary WorldView on client computers
 - **Internet deployment.** Install Visionary World Server, the published world component files, and the appropriate database connection driver on your Web server. Configure Visionary World Server with Visionary Administrator. Client computers automatically download the appropriate Visionary Viewer for the Web browser accessing the Visionary world URL.

Developing a Visionary World



Building Worlds with Visionary Studio

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In This Chapter

This chapter provides a visual procedure for using Visionary Studio. It contains the following sections:

- [“Visionary Studio Basics,”](#) next
- [“Managing Your Data, Connections, and Worlds”](#) on page 2-6
- [“Creating Queries”](#) on page 2-13
- [“Creating Scenes”](#) on page 2-22
- [“Customizing Your Visionary Studio Workspace”](#) on page 2-35

Visionary Studio Basics

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

Visionary Studio Basics

Menu bar
Launch wizards and execute other commands.

Help menu
View help topics and start the Visionary Tutorial.

Scene editor
Create application pages (scenes) by adding objects and linking them to data, events, and parameters.

Formula bar
Create formulas associated with object properties by typing and using the buttons.

Toolbars
Edit object properties and execute other commands.

World Manager, Worlds page
Manage the scenes, parameters, queries, and other objects in your applications (worlds).

World Manager, Workbooks page
Manage your filtered views of the database (workbooks).

Output window
View messages.

Data Template Selector
Click to edit a data template.

Data Template Editor
Format the display of database data.

Object Inspector, Properties page
Modify object properties.

Palette Manager
Add objects to your scene. Click a tab to see another palette.

Object Inspector, Events page
Set events for objects.

The screenshot shows the Visionary Studio interface with a menu bar at the top, a toolbar below it, and a main workspace. The workspace is divided into several panels: a World Manager on the left showing a tree view of objects, a central Scene Editor showing a grid with an 'Organization Chart' and a character icon, a Properties panel on the right showing a list of properties for a 'Text' object, and a Palette Manager at the bottom showing various object types like 'Text', 'Line', 'Arrow', and 'DoubleArrow'. The Properties panel includes a table of properties for the selected 'Text' object:


Name	Value
Name	Text
Value	Text
Location	(0.05, 0.05)
LocationAnchor	Center
Width	1
Height	0.25
AutoWidth	True
AutoHeight	True
HorzAlign	Left
VertAlign	Top
LeftMargin	0.1
RightMargin	0.1
TopMargin	0.05
BottomMargin	0.05
ToolTipText	
Visible	True
Frame	True
Font	

Visionary Studio Online Help

The Visionary Studio online help thoroughly documents how to use Visionary Studio. The online help includes information not covered in other 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 Visionary Studio:

- Choose **Help→Help Topics** to view all online help topics and to search the online help.
- Click the What's This help button (), place it over an interface element and click 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, Visionary Studio automatically opens the worlds you had open in the previous session, unless you disable that option (choose **Tools→Visionary Options** and then unclick **Reload previous worlds at startup**).

To open a particular world or workbook, choose **File→Open World** or **File→Open Workbook** to display the Open dialog box.

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

Saving Worlds and Workbooks

To save a world or workbook, right-click it in the World Manager and choose **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 choose **Save objectname**. See the *Visionary Developer's Guide* for more information.

Connecting to and Disconnecting from Data Sources

Visionary Studio prompts you to connect to a data source at startup, unless you disable that option (choose **Tools→Visionary Options** and uncheck **Show the Select Data Source dialog when the application starts**).

To connect to a data source

1. Choose **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 ODBC data sources.

To disconnect from a data source, choose **File→Disconnect**. If you are connected to more than one data source, the Connection Selection dialog box appears; choose 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 in the following sections:

- [“Managing Your Data with Workbooks,”](#) next

- [“Creating and Using a Workbook” on page 2-7](#)
- [“Managing Connections” on page 2-10](#)
- [“Managing Worlds with the World Manager” on page 2-11](#)

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 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

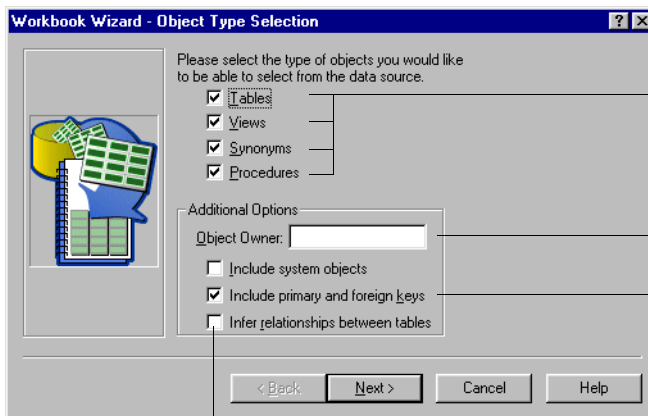
To create a workbook, you use the Workbook wizard.

To create a workbook

1. Choose **File**→**New Workbook** and click **OK**.
2. Click **Next** on the Welcome page.
3. Choose a data source and click **Next**.

Creating and Using a Workbook

4. Select database objects, object owners, and table relationships; then click **Next**.



Check or uncheck these boxes to customize your workbook.

To restrict the objects to those belonging to a single owner, type the owner name in this field.

To import a relationship between two tables that have an explicit join between a primary and foreign key, check this box.

To import a relationship between a table with a primary key and another table with a column of the same name and data type, check this box.

5. Select types of functions and click **Next**.
6. Select tables, views, and synonyms and click **Next**.
7. 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 choose **Delete**)
- Save or rename your workbook (right-click it and choose **Save** or **Save As**)
- Refresh or import other objects into your workbook (right-click the workbook and choose **Import**)
- Close the workbook (right-click it and choose **Close**)

- Copy the workbook and change its data source (right-click the workbook and choose **Duplicate**)
- Modify workbook display options (right-click it and choose **Options**)
- View and modify properties for tables and columns (right-click the object and choose **Properties**)
- Manage table relationships (right-click the table, choose **Properties**, and then click the **Relationships** tab)

The following diagram shows the World Manager displaying an ODBC workbook.

Right-click the workbook and choose a command:

- Choose **Save** or **Save as** to save it.
- Choose **Close** to close it.
- Choose **Refresh** to refresh it.
- Choose **Import** to import to it.
- Choose **Options** to alter display options.
- Choose **Duplicate** to copy it and change the data source.
- Choose **Properties** to view and modify its properties.

Data folder
Contains tables, views, and synonyms in the workbook.

Table folder
Contains columns.

Types folder
Contains the data types available in the workbook.

Functions folder
Contains the functions in the workbook.

Right-click the **Data** folder and choose **Remove this node but show contents** to remove the folder, but not its contents, from the workbook.

Right-click a table or column and choose a command:

- Choose **Delete** to remove it from the workbook.
- Choose **Properties** to view properties and, for tables, to edit table relationships.

Right-click the **Types** and **Functions** folders and choose a command:

- Choose **Don't Display This Item** to hide it.
- Choose **Delete** to remove it from the workbook.

Managing Connections

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

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

When you open a world, 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. You should delete unused connections.

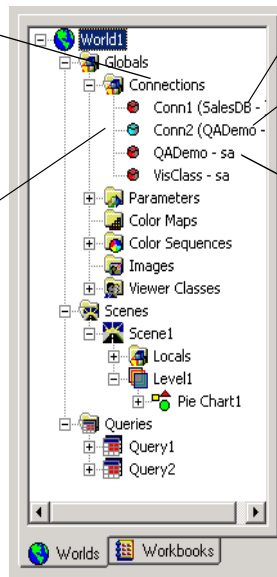
Connections for a world are shown in the World Manager, in the **Connections** folder, under the **Globals** folder

Right-click to:

- Open all connections
- Close all connections
- Edit all connections
- Insert a new connection

Right-click a connection to:

- Open it
- Close it
- Rename it
- Delete it
- Edit it



An open ODBC connection associated with a query

A closed ODBC connection associated with a query

An open ODBC connection without a query

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 and choose **Cut**, **Copy**, or **Paste**)
- Save a world, scene, query, or image (right-click and choose **Save *objectname***)
- Remove objects (right-click and choose **Delete**)
- Rename objects (right-click and choose **Rename**)
- Change the precedence of objects during scene execution by rearranging them
- Change the workbook with which a query is associated (right-click the query and choose **Association Workbook**)
- 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 choose **Edit Level Transition**)
- Insert a level of detail into a scene or data template (right-click and choose **Insert Level of Detail**)
- Change the query associated with a data template (right-click the data template and choose **Change Query**)
- Insert global parameters, color maps, color sequences, images, or viewer classes (right-click the **Globals** folder and choose **Insert *objectname***)
- Insert scene parameters (right-click the **Locales** folder and choose **Insert Parameter**)

Managing Worlds with the World Manager

The following diagram shows the World Manager displaying a world.

To edit any object, double-click it to open its Properties dialog box or the associated editor.

Right-click to insert global parameters, color maps and sequences, images, and viewer classes.

Right-click to insert scene parameters and viewpoints.

To insert an additional axis or data template, right-click the layout name and choose **Insert Axis** or **Insert Data Template**.

Right-click the **Queries** folder to insert new, insert existing, or paste a query.

To perform these commands on objects in Level folders, right-click the object and choose the appropriate command:

- **Cut**
- **Copy**
- **Paste**
- **Delete**
- **Rename** (not available for all objects)

To change object order of precedence during scene execution, drag an object to another location within the same level.

Right-click a query to perform the following actions:

- Associate a different workbook with the query (**Associate Workbook**)
- Associate a different connection with the query (**Associate Connection**)
- Insert a query parameter (**Insert Parameter**)
- Save the query (**Save** or **Save As**)
- Delete the query (**Delete**)
- Rename the query (**Rename**)
- Cut or Copy the query (**Cut** or **Copy**)

Creating Queries

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 Visionary query tools, see *Visionary Developer's Guide*.

To create a new query, right-click the Queries folder in the world Manager Worlds page and select New Query. The New Query dialog box appears; choose a workbook and a query tool and then click **OK**.

For information on which SQL options you can create with which Visionary query tools, see the *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 task 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.



Tip: 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 diagram shows the Tables and Columns page of the Simple and Advanced Query wizards.

The screenshot shows the 'Advanced Query Wizard - Tables and Columns' dialog box. It has a title bar with a close button. The main area contains a 'Table/view:' dropdown menu with 'employee' selected, and an 'Alias:' text box with 'employee' entered. Below this are two list boxes: 'Available fields:' and 'Selected fields:'. The 'Available fields:' list includes '(Expression)', 'department', 'title', 'address', 'city', 'state', 'zipcode', and 'function'. The 'Selected fields:' list includes 'employee.empid', 'employee.firstname', 'employee.lastname', and 'employee.superid'. There are arrow buttons between the lists and an 'Edit...' button. At the bottom are '< Back', 'Next >', 'Cancel', and 'Help' buttons. A tip box at the bottom reads: 'Tip: You may choose column names from the list of available fields and you may also calculate fields by entering functional expressions. An expression may contain one or more column names.'

Choose a table or view.

Type an alias name (optional).

To define a functional expression for a column, double-click **Expression**.

Select columns from this list.

Move desired columns to this list.

To define a functional expression for a column, select a column and click **Edit**.

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 choose **Properties**).

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

Cancel button
Click to delete the contents of the formula field.

Accept button
Click to accept the contents of the formula field.

Column button
Click to select a column. Which table the column is from depends on which field in the column list is selected.

Function button
Click to add a function to a column definition or to change the operator.

Formula field
Type a column name or formula in this field.

Click to add a new row.

Click to clear the selected field.

To fill in a field, click it and then click the **Column** button to

To change the operator, click a field and then click the **Function** button to specify a new operator.

Advanced Query Wizard - Table Relationship

How is the information in 'vis_employee' related to that in the other tables and views selected?

Field from 'vis_employee'	Operator	Related field
	=	

Tip: The relationship can be a simple relationship like a column being equal to a column in one of the other tables/views, or it can be more complex and include functions which operate on the columns in the relationship.

< Back Next > Cancel Help

Creating SQL Queries with Query Wizards

To create a table relationship with the Advanced Query wizard

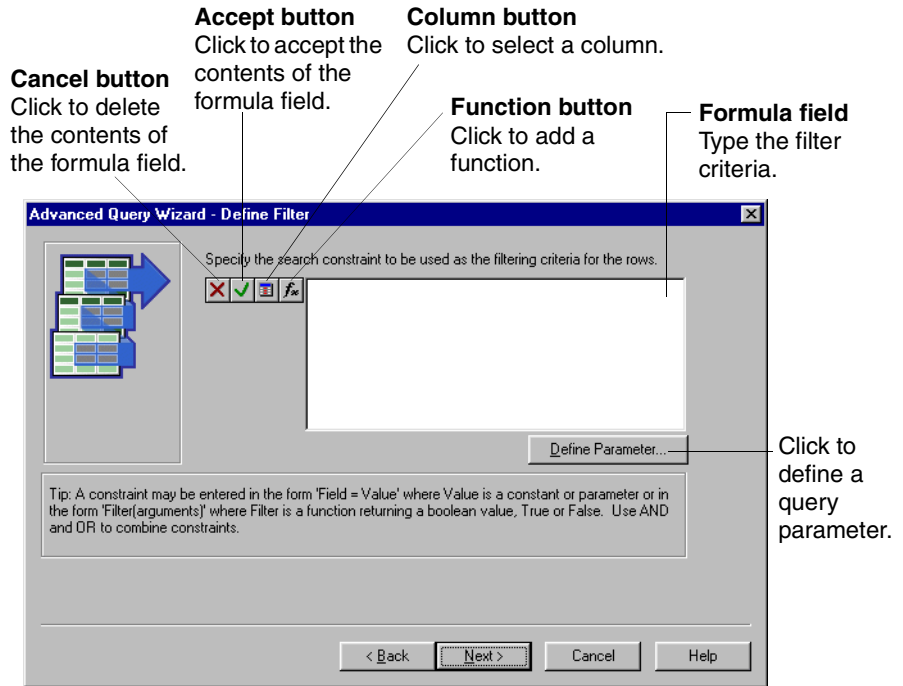
1. Click a field in the **Field from 'table name'** list.
2. Click the **Column** button, select a column, and click **OK**.
3. Optionally change the operator by clicking the Operator field and then the **Function** button.
4. Click a field in the **Related field** list.
5. Click the **Column** button,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

Creating SQL Queries with Query Wizards

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



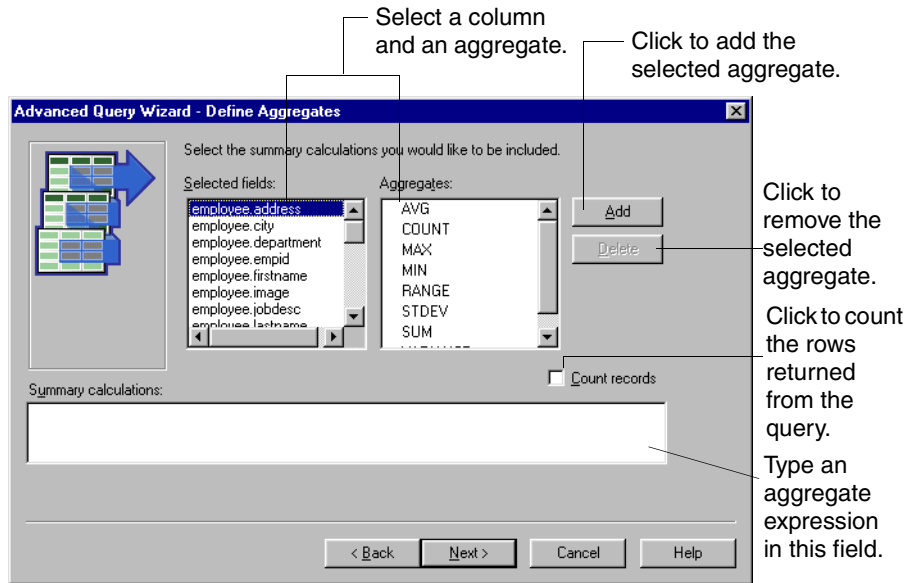
To create an expression, select the elements using the formula buttons, or type the expression into the formula field. For more information on formulas, see [“Modifying Properties Using the Formula Bar” on page 2-28.](#)

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.

Creating SQL Queries with Query Wizards

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

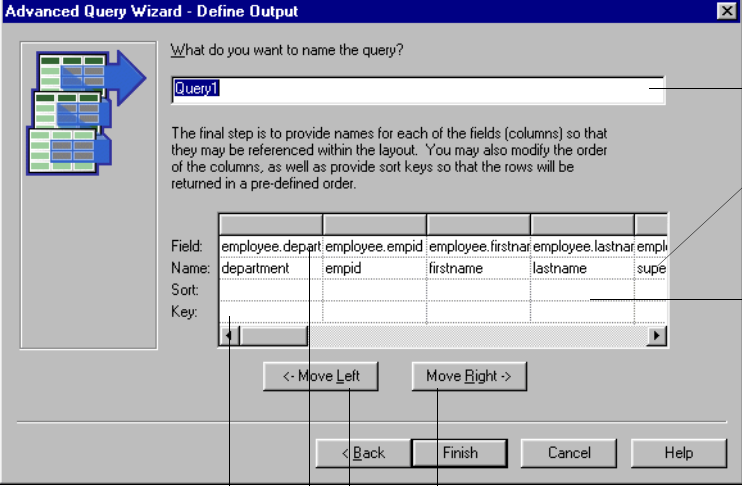


Defining the Output

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
- Give columns descriptive names
- Sort columns in ascending or descending order

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



What do you want to name the query?

Query1

The final step is to provide names for each of the fields (columns) so that they may be referenced within the layout. You may also modify the order of the columns, as well as provide sort keys so that the rows will be returned in a pre-defined order.

Field:	employee.depart	employee.empid	employee.firstname	employee.lastname	empl
Name:	department	empid	firstname	lastname	supe
Sort:					
Key:					

<- Move Left Move Right ->

< Back Finish Cancel Help

Type a name for the query.

To create display names, type them in this row.

To sort a column, click its cell in this row and choose **Ascending** or **Descending**.

To reorder columns, select a column and then click **Move Left** or **Move Right**.

A number in the Key row indicates the sort order of the column.

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 choose return columns from the query, create aliases for the columns and calculated values, and choose 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 (choose **Insert→Table**).
- Remove a table (right-click it and choose **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 choose **Define Parameter**).
- Remove a parameter (right-click the **Parameters** block and choose **Delete Parameter**).
- 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). x-ref for creating a function in an expression
- Create or modify a key sequence (click a field in the **Key Sequence** row and choose from the list).
- Assign or remove sort order (click in a field in the **Sort Order** row and choose from the list).
- Assign an aggregate function to a table column (click a field in the **Aggregate** row and choose from the list).

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

To create a join, drag one column to a column in another table.

To change the join operator, double-click the join line and display the **Operator** list in the Join Properties dialog box.

To edit or add a parameter, right-click the **Parameters** block and choose **Define Parameter**.

To remove a parameter, right-click it and then choose **Delete Parameter**.

To remove table, right-click it and choose **Remove Table**.

To include a column in your query, right-click its name and choose **Include Field**.

Columns included in your query.

Type display names in this row.

Type filter criteria in this field or click this field and use the Formula bar to create the filter. Do not include the WHERE key word.

To assign sort order, click a field in the **Sort Order** row and choose **Ascending** or **Descending** from the list.

To modify the key sequence, click a field in the **Key Sequence** row and choose from the list.

To assign an aggregate, click a field in the **Aggregate** row and choose an aggregate from the list.

Query: World1.Query1

vislibraries2
library
library_id
library_version
name
name_nc
platform
protocol_version
type

vislibrefs2
library_id
world_id

visworlds2
access_info
creator
date_modified
date_published
description
format
global_info
last_modified_by
project
project_name
project_name_nc
visionary_version
world_id
world_name
world_name_nc

Parameters
nvarchar

Field:	library_id	world_id	world_id	world_name	library
Table:	vislibraries2	vislibrefs2	visworlds2	visworlds2	vislibraries2
Display Name:	library_id	world_id	world_id1	world_name	Avg_library
Aggregate:					AVG
Sort Order:			ascending	descending	
Key Sequence:			2	1	
Row Filter:	vislibrefs2.library_id = vislibraries2.library_id AND visworlds2.world_id = vislibrefs2.world_id				
Group Filter:					

Data Sheet | Query Diagram | SQL Text

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 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 *Visionary Developer's Guide* for more information.

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 (*).

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

Type the query text directly in this window.

Keywords are blue.

Comments are green.

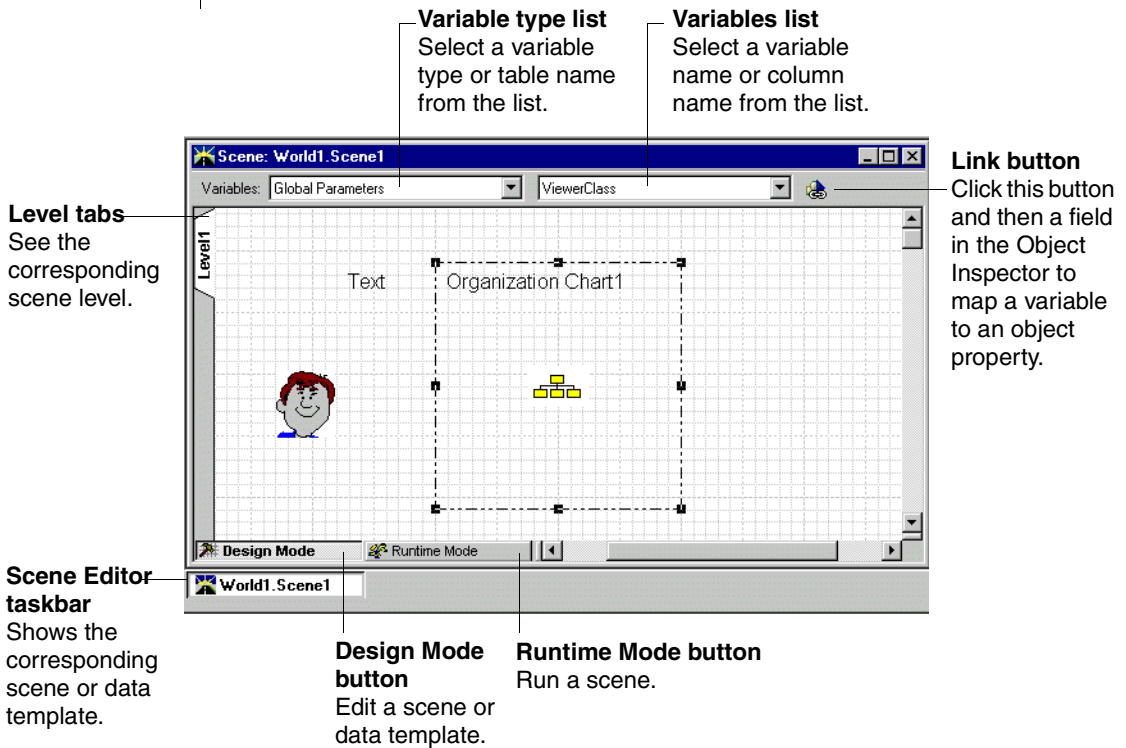
Query parameters are preceded by a colon.

```
SELECT vis_employee.empid AS empid,  
       vis_employee.firstname AS firstname,  
       vis_employee.lastname AS lastname,  
       vis_employee.title AS title,  
       vis_employee.vacation AS vacation,  
       vis_employee.jobdesc AS jobdesc  
FROM informix.vis_employee vis_employee,  
     informix.employee employee  
  
/* The query parameter Q_empid is set  
to the value of the scene parameter  
S_empid; its default value is 1. */  
  
WHERE vis_employee.empid=:Q_empid AND  
       vis_employee.empid = employee.empid
```

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 diagram shows the Scene Editor.



Adding Objects to a Scene with the Palette Manager

The following table describes how to select, move, and group objects in 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
Group objects	Select objects and choose Draw→Group
Select an individual object from a group	Shift-click the object in the Scene Editor

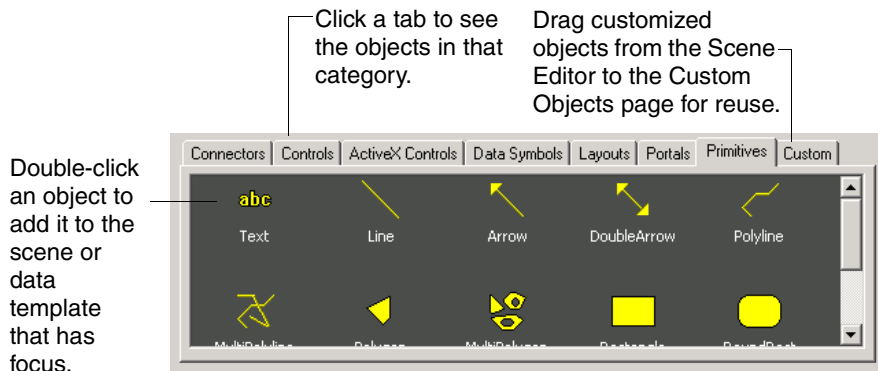
Adding Objects to a Scene with the Palette Manager

The Palette Manager contains a variety of palettes of objects you can use as you create 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.
- **Custom.** An empty palette that you can use to store custom objects for reuse.

The following diagram shows the Palette Manager.



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 the *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 choose its name from the object list at the top of the Object Inspector.

To edit an object property, type a new value in the property's value field (on the right) or choose 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 diagram shows the **Properties** page of the Object Inspector displaying the properties of a **Text** object.

Property names	Property values
Name	Text1
Value	=firstname+" "+lastname
Location	(0, 0.148438)
LocationAnchor	Center
Width	0.994792
Height	0.296875
AutoWidth	False
AutoHeight	False
HorzAlign	Center
VertAlign	Top
LeftMargin	0.1
RightMargin	0.1
TopMargin	0.05
BottomMargin	0.05
ToolTipText	
Visible	True
Frame	
Font	
FontName	Arial
Size	8
Bold	False

Use this list to select an object.

Click the expander button to display subproperties.

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.

Property names Property values

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.

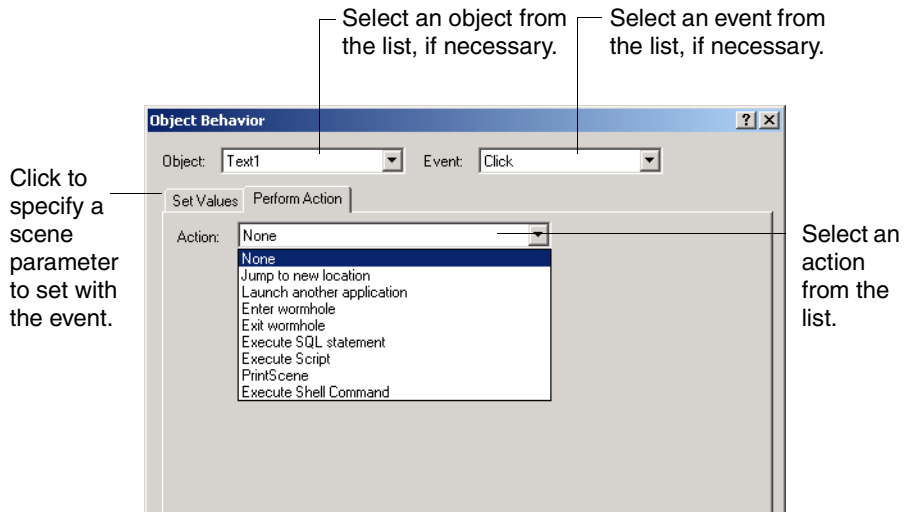
Use the **Events** page of the Object Inspector to add events to objects. The events you have defined appear in bold.

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.

Modifying Object Properties and Events

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**.

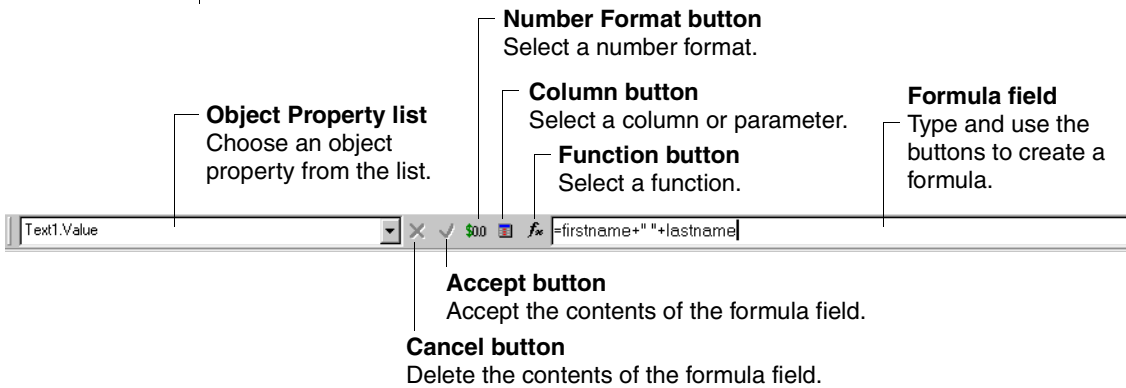
The name for the event you defined appear in bold in the Object Inspector.

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 choose an object property from the list on the left side of the Formula bar. This list displays all objects and their properties.

The following diagram 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.

Making a Scene Dynamic

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

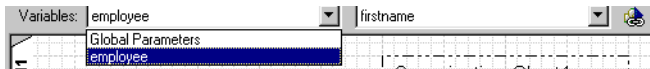
Mapping Object Properties to Variables

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.

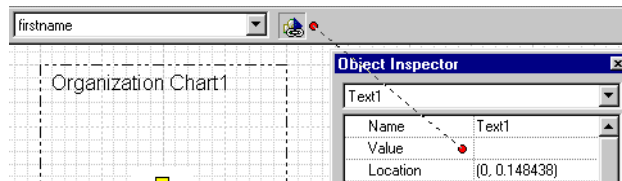
The Variables bar displays a list of global and scene parameters and SQL columns.

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

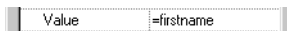
1. Select the variable type and variable name from the **Variables** lists. This example shows a table and column name from an SQL query.



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:

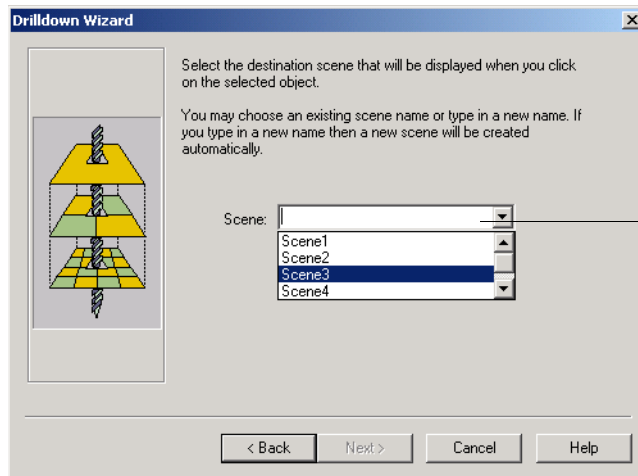
- A click event that triggers a jump to the destination scene and sets the scene parameter
- A new scene, if necessary
- A scene parameter to pass one of the columns returned by the query to the destination scene

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

Making a Scene Dynamic

Choosing a Destination Scene

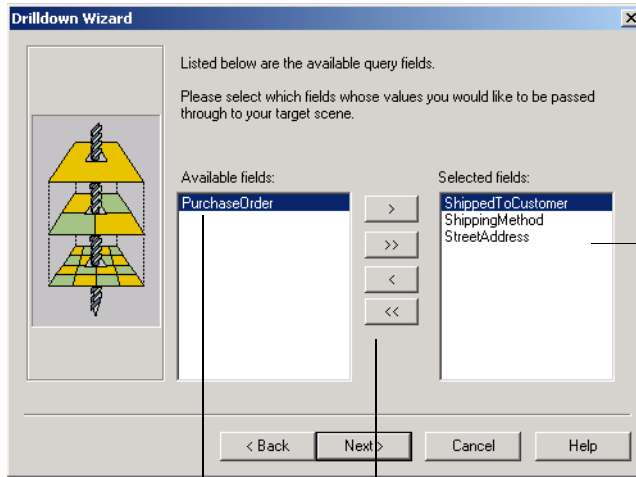
You want to identify the destination of your click event. Select an existing scene name from the dropdown list box, or enter the name of a scene in the text box. If you enter the name of a new scene, when you click Next, you will be asked to confirm that you want to create a new scene for the drilldown.



Type a name for a new scene or select an existing scene.

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.



Values available to the target scene.

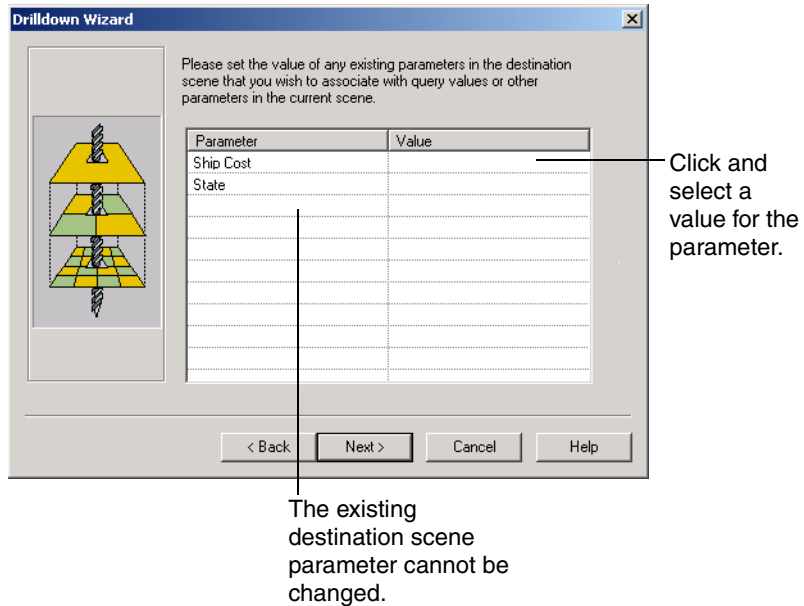
The available values to pass to the destination scene.

Use these buttons to select or unselect fields.

Making a Scene Dynamic

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.



Please set the value of any existing parameters in the destination scene that you wish to associate with query values or other parameters in the current scene.

Parameter	Value
Ship Cost	
State	

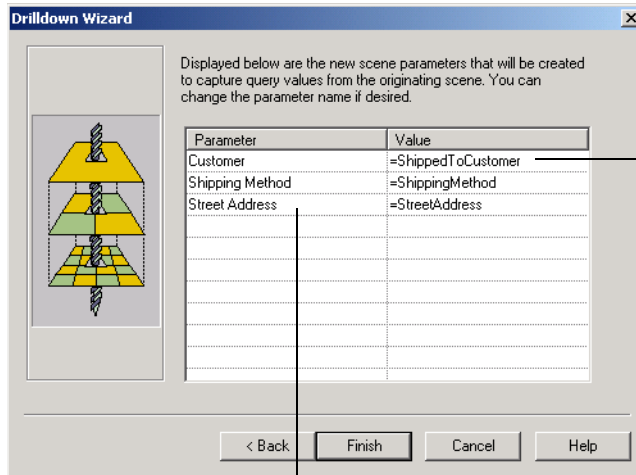
< Back Next > Cancel Help

Click and select a value for the parameter.

The existing destination scene parameter cannot be changed.

Renaming Destination Scene Parameters

You can change the parameter names for your destination scene. You may only use a parameter name that has not been used in this Visionary world. This step is optional.



Parameter values can not be changed.

Click the cell and type a new parameter name.

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

Customizing Your Visionary Studio Workspace

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

Customizing Your Visionary Studio Workspace

The following table lists ways of customizing Visionary Studio.

Customization	Procedure
Rearrange toolbars Move the standard, format, navigation, and Formula toolbars	Click the rebar at the side of the toolbar and drag it to the new location.
View print area View page outlines (dashed-blue lines)	Choose View→Print Area .
View toolbars View the standard, navigation, format, Status, and Variables toolbars	Choose View→Toolbars .
View the Formula bar	Choose View→Formula bar .
View the Data Template Selector	Choose View→Data Template Selector .
Dock windows Allow docking for the Object Inspector and Palette Manager	Choose Tools→Visionary Options .
Prompt for data source connection Prompt to connect to a data source when Visionary Studio starts Prompt to connect to a data source when opening a world	Choose Tools→Visionary Options .
Reload previous worlds Automatically open worlds used in your last session	Choose Tools→Visionary Options .
Set connection pool size Set the maximum number of connections that may be opened in your world	Choose Tools→Visionary Options .
Extend windows titles Show extended titles for editor windows	Choose Tools→Visionary Options .
Database object owner information	Choose Tools→Visionary Options .

(1 of 2)

Customizing Your Visionary Studio Workspace

Customization	Procedure
Open workbook Open the associated workbook when a world is opened	Choose Tools→Visionary Options and click the Workbooks tab.
Prompt to save workbook Prompt to save the workbook in the same location as a world when saving a world	Choose Tools→Visionary Options and click the Workbooks tab.
Create default workbooks Create and load a default workbook when connecting to a data source	Choose Tools→Visionary Options and click the Workbooks tab.

(2 of 2)

Customizing Your Visionary Studio Workspace



A

Visionary Studio Shortcut Keys

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

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→Find	Ctrl-F
Edit→Find Next	F3
File→New	Ctrl-N
File→Open	Ctrl-O
File→Print	Ctrl-P
File→Save	Ctrl-S
Help→Help Topics	F1
What's This help	Shift-F1
Delete	Delete
Next pane	F6
Previous pane	Shift-F6

In both design and runtime views movement can be accomplished with the keyboard arrows and the PAGE UP and PAGE DOWN keys, as described in the following table.

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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