



# BEA Liquid Data for WebLogic™

## Getting Started

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## Getting Started

<b>Part Number</b>	<b>Date</b>	<b>Software Version</b>
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# About This Document

This document provides quick start steps that explain how to start the BEA Liquid Data for WebLogic™ server, bring up the WebLogic Server Administration Console and use it to configure some data sources, use the Data View Builder to map source and target schemas and construct a query, and run the query against the server.

This document covers the following topics:

- [“Step 1. Start the Samples Server” on page 1-2](#)
- [“Step 2. Start the WLS Administration Console” on page 1-3](#)
- [“Step 3. Configure Order Query Data Sources” on page 1-5](#)
- [“Step 4. Start the Data View Builder and Verify the Data Sources” on page 1-14](#)
- [“Step 5. Construct the Query” on page 1-15](#)
- [“Step 6. View and Test the Query” on page 1-25](#)

## What You Need to Know

This document is intended mainly for business users/developers and XML data designers who will be using Liquid Data to design distributed data solutions and construct queries. System Administrators will also find the initial steps useful as a snapshot example of the configuration process.

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# e-docs Web Site

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If you do not have the Adobe Acrobat Reader, you can get it for free from the Adobe Web site at <http://www.adobe.com/>.

## Related Information

For more information in general about Java and XQuery, refer to the following sources.

- The Sun Microsystems, Inc. Java site at:  
<http://java.sun.com/>
- The World Wide Web Consortium XML Query section at:  
<http://www.w3.org/XML/Query>

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For more information about BEA products, refer to the BEA documentation site at:

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When contacting Customer Support, be prepared to provide the following information:

- Your name, e-mail address, phone number, and fax number
- Your company name and company address
- Your machine type and authorization codes
- The name and version of the product you are using
- A description of the problem and the content of pertinent error messages

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# Documentation Conventions

The following documentation conventions are used throughout this document.

Convention	Item
<b>boldface text</b>	Indicates terms defined in the glossary.
Ctrl+Tab	Indicates that you must press two or more keys simultaneously.
<i>italics</i>	Indicates emphasis or book titles.
monospace text	Indicates code samples, commands and their options, data structures and their members, data types, directories, and file names and their extensions. Monospace text also indicates text that you must enter from the keyboard. <i>Examples:</i> <pre>#include &lt;iostream.h&gt; void main ( ) the pointer psz chmod u+w * \tux\data\ap .doc tux.doc BITMAP float</pre>
<b>monospace boldface text</b>	Identifies significant words in code. <i>Example:</i> <pre>void <b>commit</b> ( )</pre>
<i>monospace italic text</i>	Identifies variables in code. <i>Example:</i> <pre>String <i>expr</i></pre>
UPPERCASE TEXT	Indicates device names, environment variables, and logical operators. <i>Examples:</i> <pre>LPT1 SIGNON OR</pre>

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Convention	Item
{ }	Indicates a set of choices in a syntax line. The braces themselves should never be typed.
[ ]	Indicates optional items in a syntax line. The brackets themselves should never be typed. <i>Example:</i> buildobjclient [-v] [-o name ] [-f file-list]... [-l file-list]...
	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed.
...	Indicates one of the following in a command line: <ul style="list-style-type: none"> <li>■ That an argument can be repeated several times in a command line</li> <li>■ That the statement omits additional optional arguments</li> <li>■ That you can enter additional parameters, values, or other information</li> </ul> The ellipsis itself should never be typed. <i>Example:</i> buildobjclient [-v] [-o name ] [-f file-list]... [-l file-list]...
.	Indicates the omission of items from a code example or from a syntax line. The vertical ellipsis itself should never be typed.

---



# 1 Getting Started with Liquid Data: A Basic Example

This guide walks you through a simple example to illustrate the general process of configuring some data sources and constructing a query. This example shows how to build a query similar to the Order Query used in BEA Liquid Data for WebLogic™ Avitek Sample. Following through this process using our example query is an easy and fun way to get familiar with how to configure data sources, construct data views, and run generated queries in Liquid Data.

Note that this topic is meant to serve as an example only to familiarize you with the most common tasks of configuration and query building—it is not comprehensive or required. People with many different levels of experience are likely to work through this example. Feel free to browse this section and build your own first Liquid Data project.

For more advanced query examples, see the [Query Cookbook](#) in *Building Queries and Data Views* and the [Samples](#) readme files and project files that are installed with Liquid Data. For details on how to set up and manage Liquid Data and configure data sources, see the Liquid Data [Administration Guide](#). For information on building queries and using the [Data View Builder](#), see *Building Queries and Data Views*.

The following sections are included here:

- [Step 1. Start the Samples Server](#)
- [Step 2. Start the WLS Administration Console](#)
- [Step 3. Configure Order Query Data Sources](#)

# 1 *Getting Started with Liquid Data: A Basic Example*

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- [Step 4. Start the Data View Builder and Verify the Data Sources](#)
- [Step 5. Construct the Query \(View a Demo\)](#)
- [Step 6. View and Test the Query](#)
- [Step 7. Save the Project](#)
- [Next Steps](#)

## Example directories

Examples used in this chapter assume that the Liquid Data 1.1 installation is located at:

```
/bea_70SP2/weblogic700/liquiddata/samples/
```

where `bea70SP2` is the location of the WebLogic 7.0 SP2 server and `samples` is the location of the Liquid Data 1.1 sample installation.

## Step 1. Start the Samples Server

If this is your first time running the Liquid Data Samples server after installation, it is necessary to first populate the Samples database.

## Windows

To populate the Liquid Data samples database under Windows choose the following menu option:

```
Start-> Programs-> BEA WebLogic Platform 7.0-> Liquid Data for WebLogic 1.1  
->Liquid Data Samples -> First-Time Samples Configuration
```

A terminal window will appear. You will know that the loading of the sample data is complete when you see the message “Sample database population has been successful. Press any key to continue.” Press any key.

To start the Liquid Data samples server under Windows choose the following menu option:

## Step 2. Start the WLS Administration Console

---

Start->Programs -> BEA WebLogic Platform 7.0 ->  
Liquid Data for WebLogic 1.1 -> Liquid Data Samples -> Launch Samples Server

A new terminal window will appear and you will initially see the message “Starting WebLogic Server”. When the Samples server has successfully loaded you will see “Server started in RUNNING mode.”

## UNIX

To populate the Liquid Data samples database under UNIX run the `ldsampler.sh` shell command in the following domain:

```
/bea_70SP2/weblogic700/liquiddata/samples/config/ld_samples/command/ldsampler.sh
```

A terminal window will appear. You will know that the loading of the sample data is complete when you see the message “Sample database population has been successful. Press any key to continue.” Press any key.

To start the Liquid Data samples server under UNIX run the `startWeblogic.sh` shell command in the following domain:

```
/bea_70SP2/weblogic700/liquiddata/samples/config/ld_samples/startWeblogic.sh
```

A new terminal window will appear and you will initially see the message “Starting WebLogic Server”. When the Samples server has successfully loaded you will see “Server started in RUNNING mode.”

**Note:** For more information on setting up and starting the Samples server, see [Post-Installation Tasks](#) in *Installing Liquid Data*. For more information on starting Liquid Data servers in the various preconfigured domains, see [Starting and Stopping the Server](#) in the *Liquid Data Administration Guide*.

## Step 2. Start the WLS Administration Console

To start the WLS Administration Console for the Liquid Data Samples server running on your local machine, type the following URL in a Web browser address field:

# 1 *Getting Started with Liquid Data: A Basic Example*

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`http://localhost:7001/console`

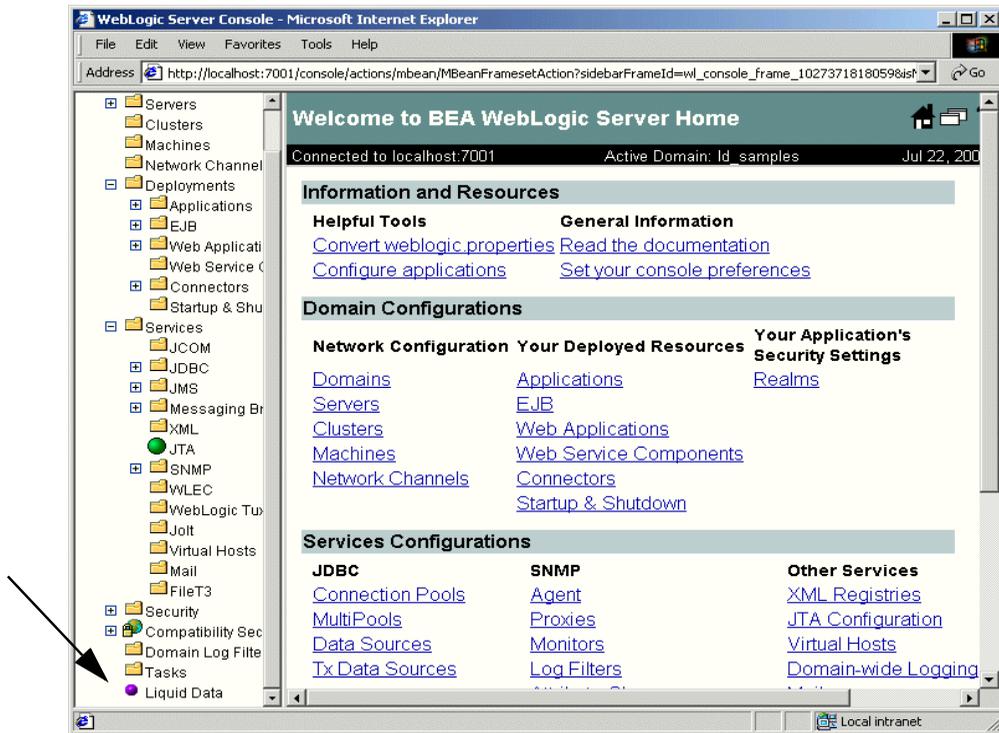
Login to the console by providing the following default username and password for the Samples server.

**Table 1-1 User Name and Password for Samples WLS Administration Console**

<b>Field</b>	<b>Defaults</b>
<b>Username</b>	<code>system</code>
<b>Password</b>	<code>security</code>

The Console Home Page is displayed. Note that Liquid Data is the bottom element in the left pane.

Figure 1-1 Samples WLS Administration Console



**Note:** For more information on using the Administration Console, see the *Liquid Data Administration Guide*.

## Step 3. Configure Order Query Data Sources

This section describes how to configure the two supplied sample data sources used in the Order Query example:

- A relational database data source description for customer and order based on a Wireless customer database.

- An XML data source description for customer and order information based on a BroadBand customer database.

## Configure a Relational Database Data Source Description

Configuring a relational database Liquid Data source description consists of first creating a JDBC connection pool and JDBC data source, and then configuring the Liquid Data data source using the JDBC configuration you just created. Each of these tasks is described here:

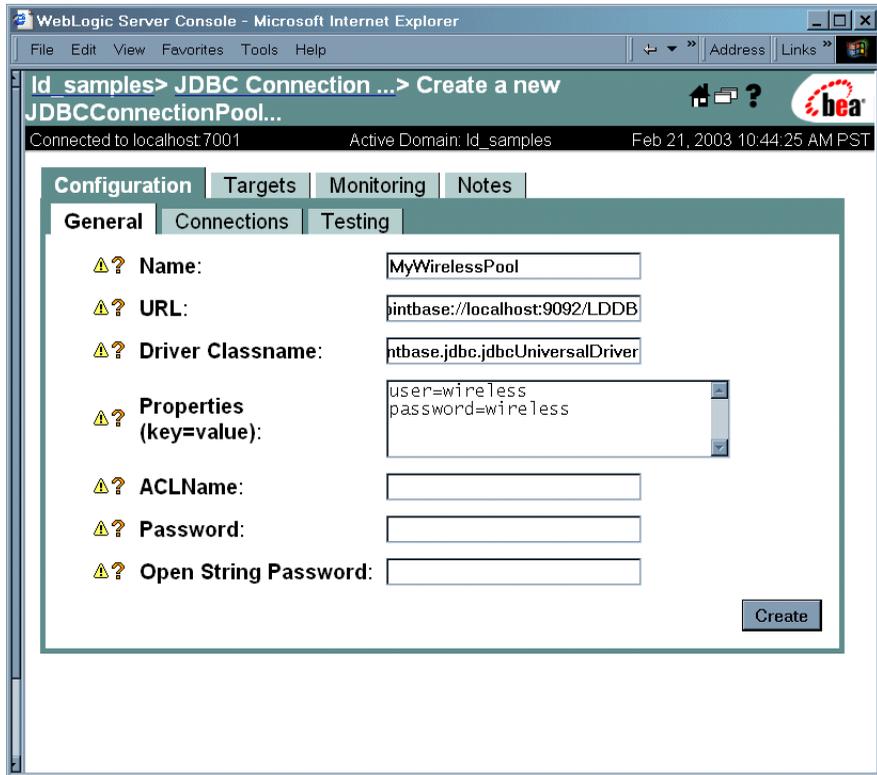
- [Create and Deploy the JDBC Connection Pool](#)
- [Create and Deploy the JDBC Data Source](#)
- [Configure the Relational Database Data Source Description](#)

**Note:** For detailed information on configuring Relational Database data sources in Liquid Data, see [Configuring Access to Relational Databases](#) in the *Administration Guide*.

### Create and Deploy the JDBC Connection Pool

1. Expand the JDBC node in the left pane.
2. Click on Connection Pools.  
A table of existing connection pools, if any, is shown.
3. Click the “Configure a New JDBC Connection Pool” text link to display the JDBC pool General configuration tab.

Figure 1-2 JDBC Connection Pool General Configuration Tab



4. On the General tab, provide information about the JDBC connection pool you want to create as described in the following table.

Table 1-2 JDBC Connection Pool Configuration for PB-WL Data Source

Field	Value to Enter
<b>Name</b>	MyWirelessPool This is the name of the JDBC Connection Pool. You can choose any meaningful name.
<b>URL</b>	jdbc:pointbase://localhost:9092/LDDB This is the URL for the database. In this case, we are using the PointBase database installed with the Liquid Data samples.

# 1 Getting Started with Liquid Data: A Basic Example

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**Table 1-2 JDBC Connection Pool Configuration for PB-WL Data Source**

Field	Value to Enter
<b>Driver Classname</b>	<code>com.pointbase.jdbc.jdbcUniversalDriver</code> This is the driver classname for the database. In this case, we are using the driver for the PointBase database installed with the Samples.
<b>Properties</b>	<code>user=wireless</code> <code>password=wireless</code> User name and password based on security set up on the database. Those provided here are the default username and password for the Samples database. You can add these as comma separated <i>attribute=value</i> pairs or one per line as shown above.

5. Click Create.

The new JDBC connection pool you created appears under the Connection Pools node. And the Configuration, Targets, and Monitoring tabs (among others) for that pool remains displayed in the console work area.

6. Click on the Targets tab to display the JDBC connection pool.

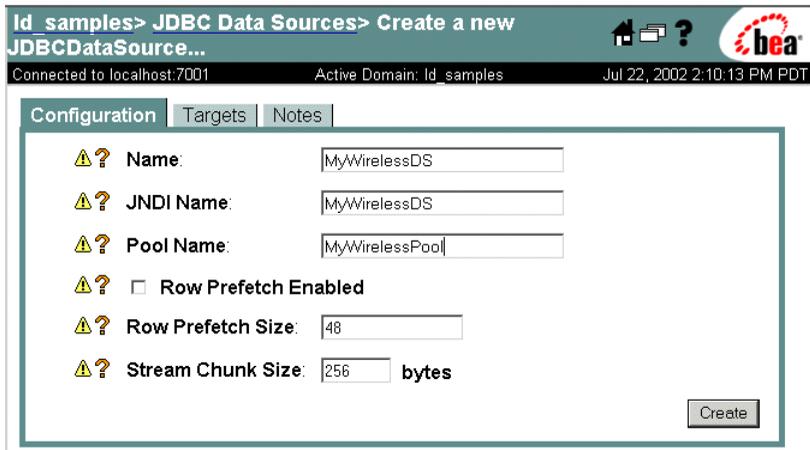
The name of your Liquid Data server (by default, `myserver`) should be listed under Available.

7. Select the Liquid Data server and click the right arrow button to move the server into the Chosen list.
8. Click Apply.

## Create and Deploy the JDBC Data Source

1. In the left pane, click on the Data Sources sub-node under Services -> JDBC.
2. A table of existing data sources, if any, is shown.
3. Click the “Configure a New JDBC Data Source...” link.

Figure 1-3 JDBC Data Source General Configuration Tab



4. On the Configuration tab, provide information about the JDBC data source you want to create, as described in the following table.

Table 1-3 JDBC Data Source Configuration for PB-WL Data Source

Field	Value to Enter and Explanation
<b>Name</b>	MyWirelessDS This is a logical name used for the JDBC data source.
<b>JNDI Name</b>	MyWirelessDS In this example the JDBC Data Source Name and JDBC JNDI Name are the same. The JNDI name will be used in the Liquid Data data source configuration (as described in <a href="#">“Configure the Relational Database Data Source Description”</a> ).
<b>Pool Name</b>	MyWirelessPool The Pool Name must match the name of the Connection Pool created in <a href="#">“Create and Deploy the JDBC Connection Pool”</a> on page 1-6.

5. Click Create.  
Your new JDBC data source MyWirelessDS is shown.
6. Click on the Targets tab.  
The name of your Liquid Data server (default: myserver) should be listed.

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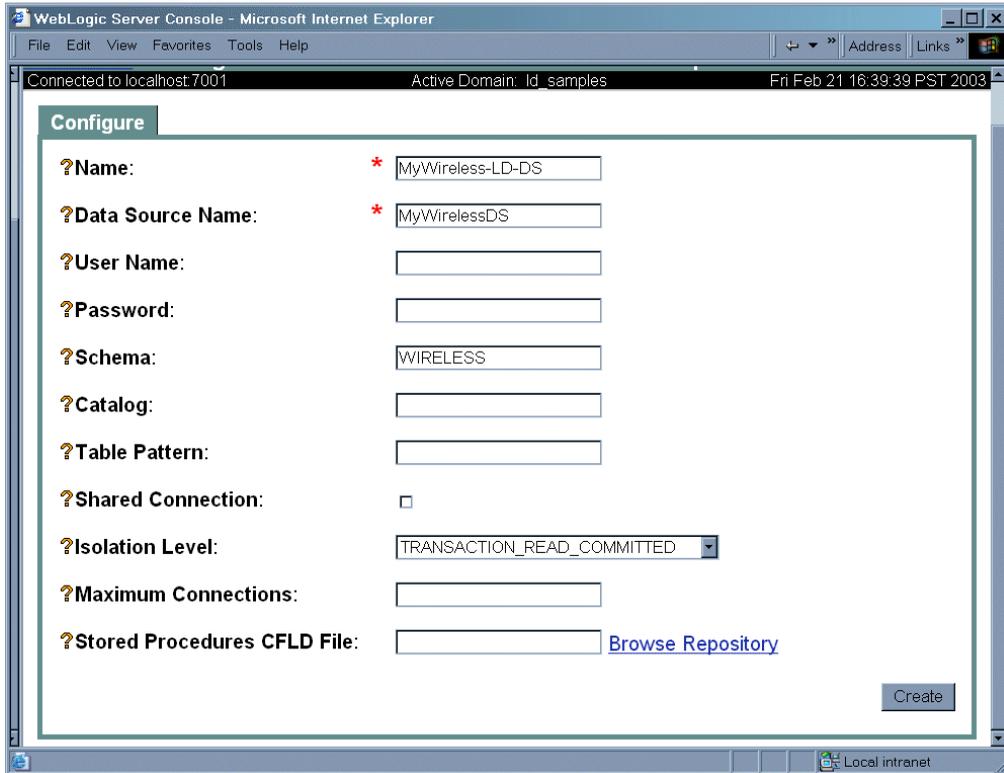
7. Click the right arrow button to move the targets server into the Chosen list.
8. Click Apply.

## **Configure the Relational Database Data Source Description**

Now you are ready to add a description of your Relational Database data source to the Liquid Data Server registry. To do this:

1. In the left pane, click the Liquid Data node (last item on the left pane).
2. In the right pane, click the Data Sources tab (under Configuration).
3. Click the Relational Databases tab.
4. Click the “Configure a New Relational Database Data Source Description” link to display Configure tab.

**Figure 1-4 Liquid Data Relational Databases Configuration Tab on the Liquid Data Node**



5. Fill in the fields for your data source as described in the following table.

**Table 1-4 Liquid Data Source Description for PB-WL Data Source**

Field	Value to Enter
<b>Name</b>	MyWireless-LD-DS  This is the logical name of the data source. It is a Liquid Data source description used to register the relational database data source with the Liquid Data server. You can choose any meaningful name. For this example, please use the suggested name.

# 1 Getting Started with Liquid Data: A Basic Example

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**Table 1-4 Liquid Data Source Description for PB-WL Data Source**

Field	Value to Enter
<b>Data Source Name</b>	MyWirelessDS This is the data source name; it must match the JNDI name for the JDBC data source you created in <a href="#">“Create and Deploy the JDBC Data Source”</a> on page 1-8.
<b>Schema</b>	WIRELESS The schema name given here must match the name of a schema stored in your data source. In this case, we are using the WIRELESS schema provided in the Samples database.  <b>Note:</b> The way in which you define schema varies depending on the type of database you are using. For more detailed information, see <a href="#">Configuring Access to Relational Databases</a> in the <i>Liquid Data Administration Guide</i> .

---

6. Click Create.

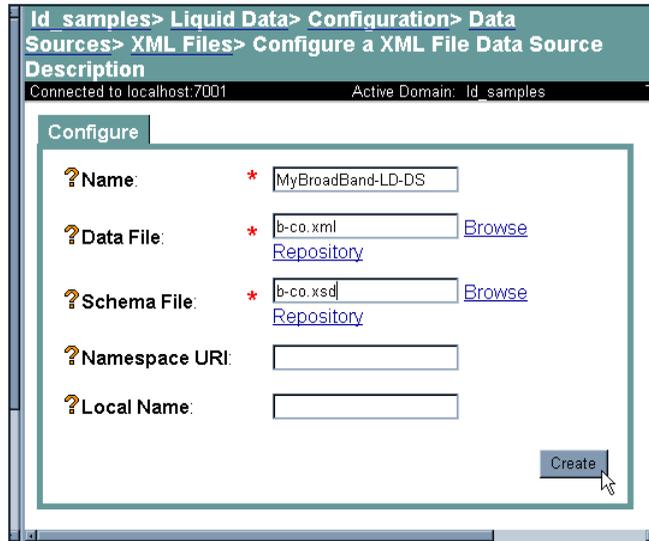
You should see the relational database you added displayed in the summary table.

## Configure an XML File Data Source Description

Configuring an XML File data source description in Liquid Data simply consists of describing it as a resource using the Liquid Data node in the WLS Administration Console:

1. In the left pane, click the Liquid Data node.
2. In the right pane, click the Data Sources tab (under Configuration).
3. Click the XML Files tab.
4. Click the “Configure a New XML Data Source Description” text link.

Figure 1-5 XML Configuration Tab on the Liquid Data Node



5. Fill in the fields for your data source as described in the following table.

Table 1-5 Liquid Data Data Source Description for My-PB-WL Data Source

Field	Value to Enter
<b>Name</b>	MyBroadBand-LD-DS This is the name of the Liquid Data data source description used to register the XML data source with the Liquid Data server. You can choose any meaningful name.
<b>Data File</b>	b-co.xml This is the XML data file name. It must correspond to an XML data file stored in the Liquid Data server repository. (The example file name provided above resides in the Samples server repository.)
<b>Schema File</b>	b-co.xsd Schema for the XML file. The schema you specify here must be in the Liquid Data server repository. The schema used for this example is provided in the repository along with the samples.
<b>Namespace URI</b>	Not needed for this basic example.

# 1 Getting Started with Liquid Data: A Basic Example

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**Table 1-5 Liquid Data Data Source Description for My-PB-WL Data Source**

Field	Value to Enter
<b>Schema Root Element Name:</b>	Not needed for this basic example.

6. Click Create.

You will see the file description you added displayed in the summary table.

**Note:** For detailed information on configuring XML data sources in Liquid Data, see [Configuring Access to XML Files](#) in the *Liquid Data Administration Guide*.

## Step 4. Start the Data View Builder and Verify the Data Sources

Next, start the Windows-based Data View Builder. You can do this in two ways:

1. Choose:

```
Start→Programs→BEA WebLogic Platform 7.0→Liquid Data for WebLogic 1.1→  
Launch Data View Builder
```

2. Or you can start the Data View Builder by double-clicking on the file:

```
\bea_70SP2\weblogic700\liquiddata\DataViewBuilder\bin\DVBUILDER.cmd
```

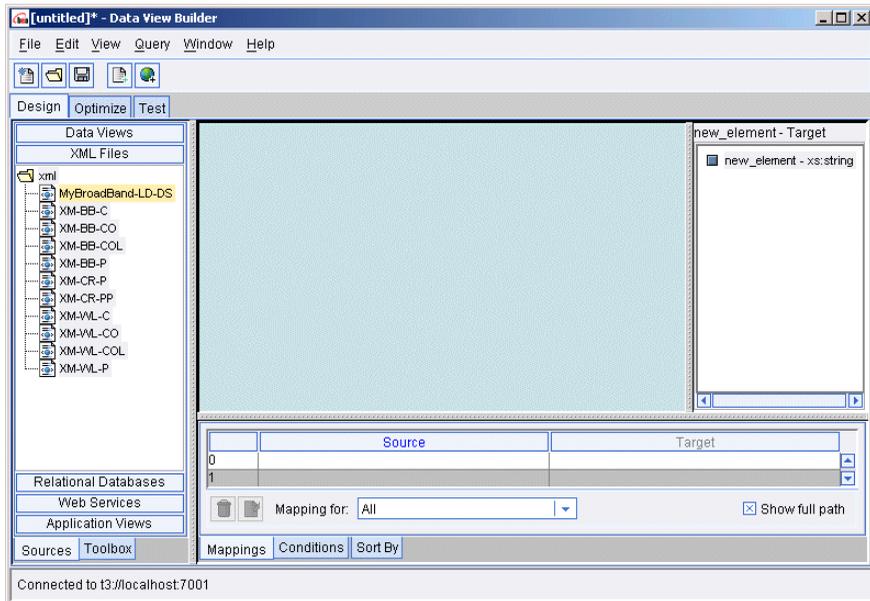
If you are not already connected to the Liquid Data Samples server enter the following address in the Server URI field on the Login window. (No username or password is needed. Leave those fields blank.)

```
t3://localhost:7001
```

a. Click the Login button.

The Data View Builder workspace and tools are displayed. You can click on the buttons on the left Navigation panel to view the various types of data sources configured on the Liquid Data server to which your Data View Builder is connected. In this case, you are connected to the Samples server.

Figure 1-6 Initial the Data View Builder Workspace



3. The data sources you just configured on the Samples server should be available in the Data View Builder. To find them, click the buttons on the left for the appropriate data source types:
  - Click Relational Databases to view the configured relational databases. This list should include your new relational database data source: `MyWireless-LD-DS`
  - Click XML Files to view the configured XML data sources. This list should include your new XML data source: `MyBroadBand-LD-DS`

## Step 5. Construct the Query

The Data View Builder allows you to construct queries (and *data views*) by dragging and dropping elements or *nodes* in source and target schemas for the data sources with which you are working.

# 1 Getting Started with Liquid Data: A Basic Example

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You can define source conditions by dragging and dropping elements among source schemas and using other Data View Builder tools such as constants and functions to express the query statement.

Then you drag and drop elements from your source schemas to the target schema to shape and define, or *map*, the structure of the query result.

The query you are about to build here is similar to the Order Query featured in the Liquid Data Avitek Sample. Given a customer with orders stored in two data sources (“Wireless” orders in a relational database and “Broadband” orders in an XML file), this query will return the order information for that customer.

To construct our sample order query, you need to do the following:

- [Open the Relevant Data Source Schemas](#)
- [Add a Target Schema from the Server Repository](#)
- [Project the Output by Mapping Source to Target Schema](#)
- [Define the Source Conditions](#)

All of the tasks described in this section are accomplished using the Design tab in the Data View Builder. For more information on using the tools and features on the Design tab, see the Design tab discussion in *Building Queries and Data Views*.

## View a Demo

**Constructing the “Order Query” Demo...** If you are looking at this documentation online, you can click the “Demo” button to view an animated demonstration of how to build the conditions and create the mappings described in this example. This demo previews the steps described in detail in the following sections.

## Open the Relevant Data Source Schemas

To open the data sources you need to construct the data view:

1. On the Builder Toolbar, click the Sources tab (on the bottom of the left vertical panel).
2. Open the data source schemas from the Builder toolbar as follows:

- Click Relational Databases and double-click on MyWireless-LD-DS data source to open the associated XML schema.
- Click XML Files and double-click on MyBroadBand-LD-DS data source to open the associated XML schema.

The XML schemas for the each of the data sources are displayed.

**Note:** You can open multiple data source schemas and move them around on the workspace as needed.

## Add a Target Schema from the Server Repository

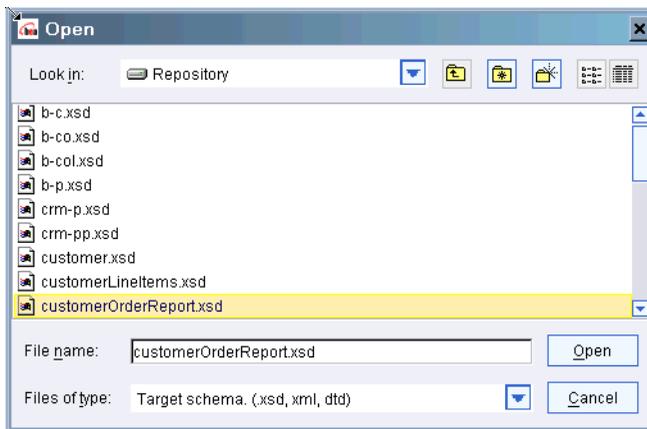
The target schema we will use for the Order Query is in a file called `customerOrderReport.xsd` which is available in the Samples server repository.

To add the target schema:

1. Choose the menu command File → Set Target Schema.

This brings up the Liquid Data file browser. By default, the browser will open to the Liquid Data repository schema directory, which includes several sample schemas available for experimentation and testing.

**Figure 1-7 The Liquid Data Repository Schema Directory**



# 1 Getting Started with Liquid Data: A Basic Example

The schema directory can be found at:

```
\opt\prod\bea_70SP2\weblogic700\liquiddata\samples\config\ld_samples\ldrepository\schemas
```

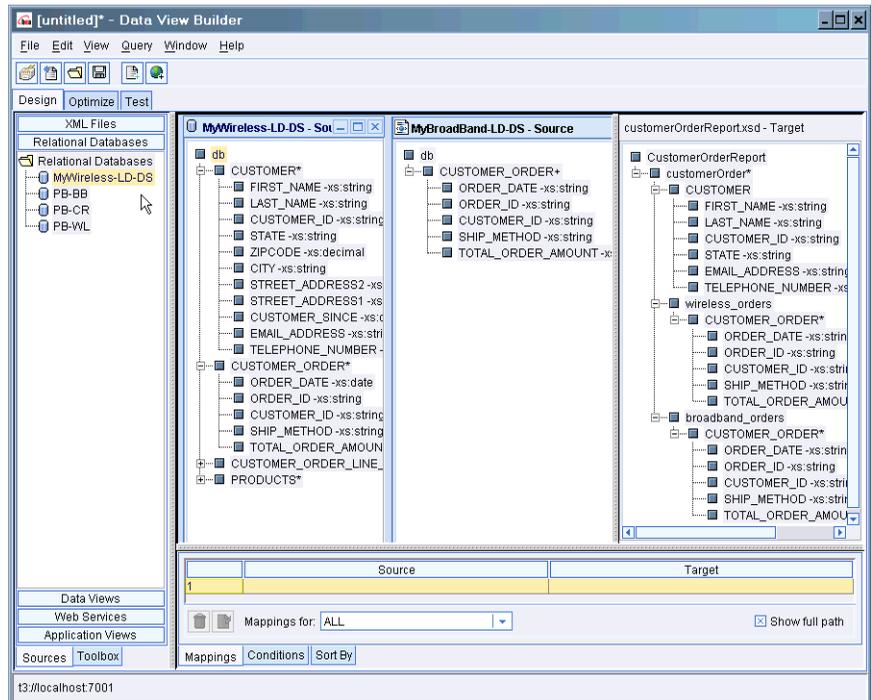
2. Choose `customerOrderReport.xsd` and click Open (or double-click on the schema name).

`customerOrderReport.xsd` is displayed as the target schema.

**Note:** You can open only one target schema at a time; it is always docked to the far right side of the workspace.

At this point, your Data View Builder workspace contains two data source schemas and a target schema, as shown in the following figure:

**Figure 1-8 Data View Builder with Source and Target Schemas Workspace**

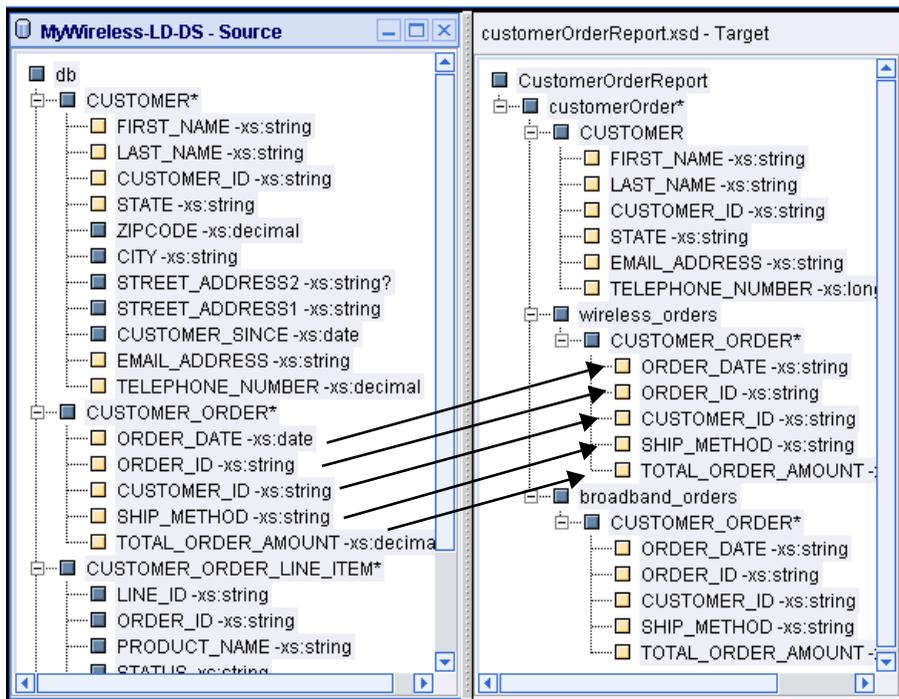


## Project the Output by Mapping Source to Target Schema

**Note:** To expand the XML element trees in source and target schemas select the top element, right mouse-click to get the pop-up menu, and choose Expand or just double-click.

1. The CustomerOrderReport target schema includes a CUSTOMER\_ORDER format for both Wireless and Broadband. First map the CUSTOMER\_ORDER elements shown in each data source to the corresponding CUSTOMER\_ORDER elements in the target schema as follows:
  - Drag and drop the sub-elements contained in the Wireless data source CUSTOMER\_ORDER\* into the corresponding sub-elements in the target schema wireless\_orders CUSTOMER\_ORDER\*.

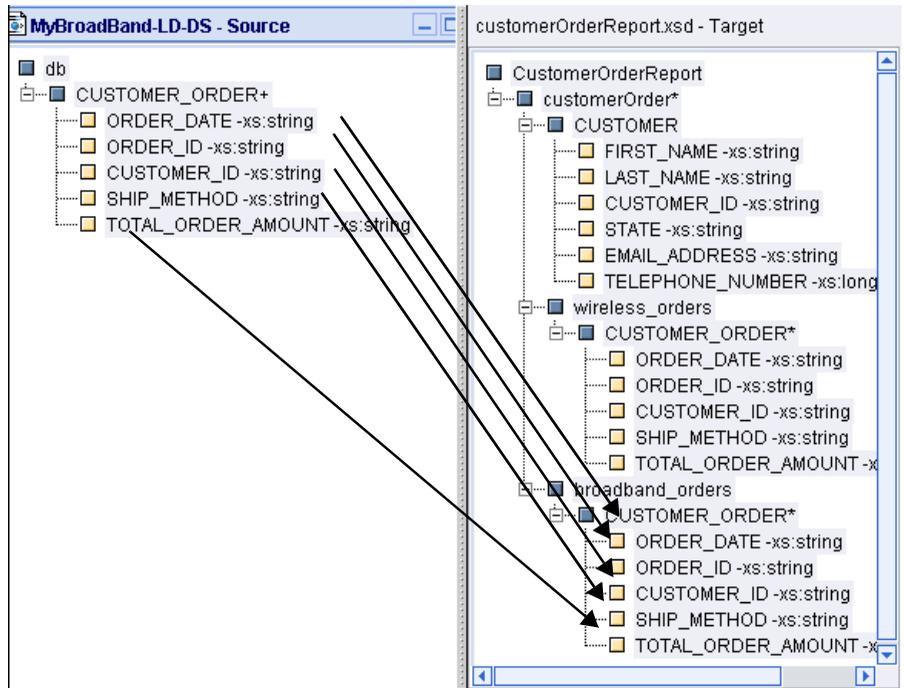
**Figure 1-9 Mapping Wireless CUSTOMER\_ORDER to Target Schema**



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- Drag and drop the sub-elements contained in the BroadBand data source CUSTOMER\_ORDER\* into the corresponding sub-elements in the target schema wireless\_orders CUSTOMER\_ORDER\*.

**Figure 1-10 Mapping Broadband CUSTOMER\_ORDER to Target Schema**



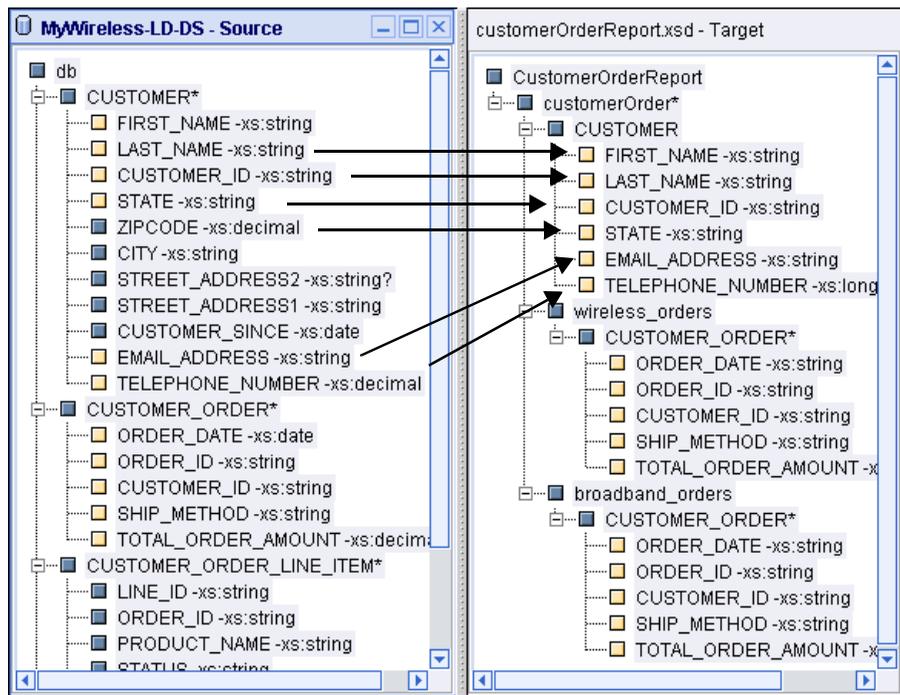
In both cases, the sub-elements to map are ORDER\_DATE, ORDER\_ID, CUSTOMER\_ID, SHIP\_METHOD and TOTAL\_ORDER\_AMOUNT.

**Note:** As you drag and drop elements from source to target, the Mappings tab is automatically displayed in the lower part of the workspace. The mapped elements are highlighted in the schema windows and each mapping is recorded on the Mappings tab showing Source and Target details. If you need to delete a mapping, select it on the Mappings tab by clicking in the Mapping ID field to highlight the row in which the Source/Target mapping is shown and then click the Trashcan icon.

- For this example, we use the Wireless data source schema to format the CUSTOMER element in the target schema. So we need to map the CUSTOMER elements shown in the Wireless data source to the CUSTOMER elements in the target. To do this, drag and drop the sub-elements contained in the Wireless data source CUSTOMER\* into the corresponding sub-elements in the target schema CUSTOMER.

**Note:** You do not necessarily need to have a target for every source element.

**Figure 1-11 Mapping Wireless CUSTOMER to Target Schema CUSTOMER**

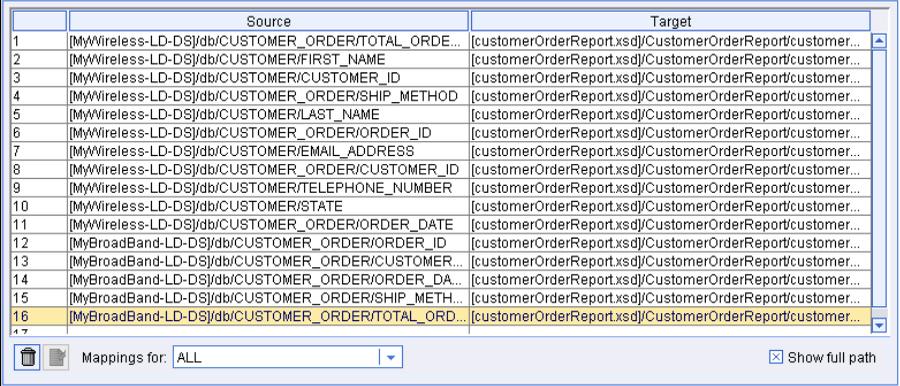


At this point, you have completed the source to target mappings and the target schema is ready.

The source-to-target mappings you created are shown on the Mappings tab.

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Figure 1-12 Source-to-Target Mappings



	Source	Target
1	[MyWireless-LD-DS]/db/CUSTOMER_ORDER/TOTAL_ORDE...	[customerOrderReport.xsd]/CustomerOrderReport/customer...
2	[MyWireless-LD-DS]/db/CUSTOMER/FIRST_NAME	[customerOrderReport.xsd]/CustomerOrderReport/customer...
3	[MyWireless-LD-DS]/db/CUSTOMER/CUSTOMER_ID	[customerOrderReport.xsd]/CustomerOrderReport/customer...
4	[MyWireless-LD-DS]/db/CUSTOMER_ORDER/SHIP_METHOD	[customerOrderReport.xsd]/CustomerOrderReport/customer...
5	[MyWireless-LD-DS]/db/CUSTOMER/LAST_NAME	[customerOrderReport.xsd]/CustomerOrderReport/customer...
6	[MyWireless-LD-DS]/db/CUSTOMER_ORDER/ORDER_ID	[customerOrderReport.xsd]/CustomerOrderReport/customer...
7	[MyWireless-LD-DS]/db/CUSTOMER/EMAIL_ADDRESS	[customerOrderReport.xsd]/CustomerOrderReport/customer...
8	[MyWireless-LD-DS]/db/CUSTOMER_ORDER/CUSTOMER_ID	[customerOrderReport.xsd]/CustomerOrderReport/customer...
9	[MyWireless-LD-DS]/db/CUSTOMER/TELEPHONE_NUMBER	[customerOrderReport.xsd]/CustomerOrderReport/customer...
10	[MyWireless-LD-DS]/db/CUSTOMER/STATE	[customerOrderReport.xsd]/CustomerOrderReport/customer...
11	[MyWireless-LD-DS]/db/CUSTOMER_ORDER/ORDER_DATE	[customerOrderReport.xsd]/CustomerOrderReport/customer...
12	[MyBroadBand-LD-DS]/db/CUSTOMER_ORDER/ORDER_ID	[customerOrderReport.xsd]/CustomerOrderReport/customer...
13	[MyBroadBand-LD-DS]/db/CUSTOMER_ORDER/CUSTOMER...	[customerOrderReport.xsd]/CustomerOrderReport/customer...
14	[MyBroadBand-LD-DS]/db/CUSTOMER_ORDER/ORDER_DA...	[customerOrderReport.xsd]/CustomerOrderReport/customer...
15	[MyBroadBand-LD-DS]/db/CUSTOMER_ORDER/SHIP METH...	[customerOrderReport.xsd]/CustomerOrderReport/customer...
16	[MyBroadBand-LD-DS]/db/CUSTOMER_ORDER/TOTAL_ORD...	[customerOrderReport.xsd]/CustomerOrderReport/customer...
17		

Mappings for: ALL  Show full path

Mappings Conditions Sort By

## Define the Source Conditions

The final step is to define source conditions. This is the way in which you actually pose the “question” (query) or filter designed to get at the data in a particular way. In this example, we want to find out which customers (whose customer IDs match a given constant) have orders in both BroadBand and Wireless.

- [Create a Join Between the CUSTOMER\\_IDs in CUSTOMER and CUSTOMER\\_ORDER within Wireless](#)
- [Create a Join between Wireless CUSTOMER\\_ID and Broadband CUSTOMER\\_ID](#)
- [Use a Function to Retrieve a Customer ID Matching a Given Constant](#)

## Create a Join Between the CUSTOMER\_IDs in CUSTOMER and CUSTOMER\_ORDER within Wireless

In the Wireless data source, drag and drop the sub-element CUSTOMER\_ID (from CUSTOMER) to CUSTOMER\_ID (subelement in CUSTOMER\_ORDER) within the same data source schema window.

This creates a join between CUSTOMER and CUSTOMER\_ORDER. The syntax of this join is displayed on the first row of the Conditions tab:

**Note:** As you drag and drop elements from source element to source element, the Conditions tab is automatically displayed in the lower part of the workspace. The mapped elements are highlighted in the schema windows and each source condition is recorded on the Conditions tab. If you need to delete a condition, highlight the row in which the condition appears and click the Trashcan icon.

### Create a Join between Wireless CUSTOMER\_ID and Broadband CUSTOMER\_ID

Drag and drop the Wireless element CUSTOMER/CUSTOMER\_ID onto the Broadband data source element CUSTOMER\_ORDER/CUSTOMER\_ID.

The syntax of this Join is displayed on the next row on the Conditions tab.

**Note:** If you ran the query at this point, you would get a query result showing all customers who have orders in both BroadBand and Wireless. In the next step, however, we refine the query a little further.

### Use a Function to Retrieve a Customer ID Matching a Given Constant

You can use a function to create a filter that matches a given customer.

1. On the Builder Toolbar (left navigation panel) click the Toolbox tab, then click XQuery Functions.
2. In the XQuery Functions panel, expand the XQuery Comparison operators list and find the Equals (eq) function.
3. Drag and drop the eq function from the Builder Toolbar into the first empty Condition row (lower part of the workspace).

This causes the Function Editor to open automatically. By dragging the eq function into the conditions you get a “placeholder” equation in the form of:

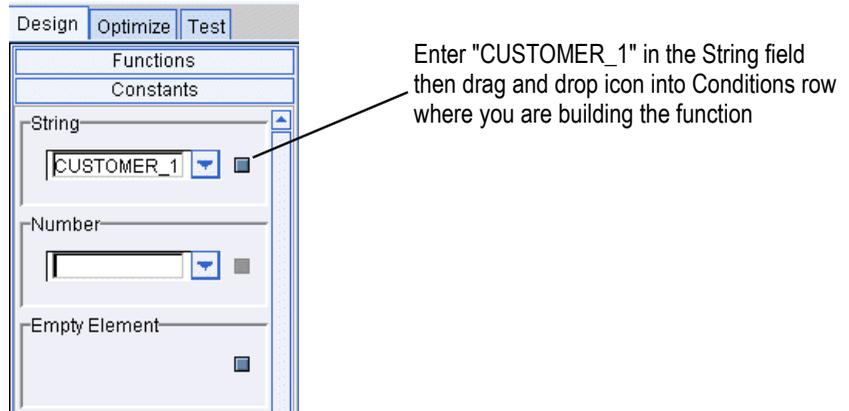
```
(anyValue1 - xsext:anyValue eq anyValue2 - xsext:anyValue)
```

4. Drag the Wireless CUSTOMER\_ID (a sub-element of CUSTOMER) into the left side of the equation (onto the first placeholder, “anyValue1 - xsext:anyValue”).
5. On the left navigation panel, click Constants.

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6. In the Constants String field, type CUSTOMER\_1. Drag and drop the constants icon (to the right of the field) into the right side of the equation (onto the remaining placeholder, “anyValue2 - xsex: anyValue”).

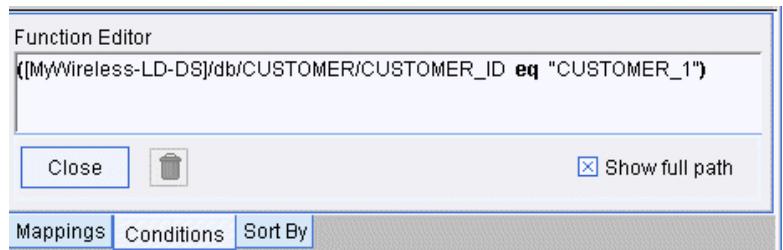
**Figure 1-13 Using a String Constant in a Function**



**Note:** Make sure that you have the left navigation panel expanded out far enough to the right to be able to see both icons to the right of the Constants fields.

The syntax of this statement is displayed in the Functions Editor.

**Figure 1-14 Equation for a Source Condition Shown in Functions Editor**

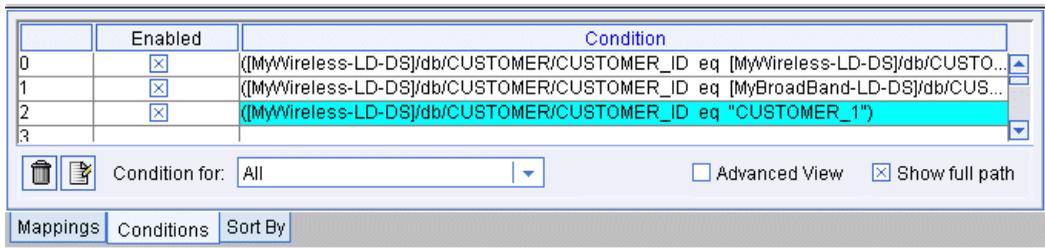


You can close the Functions Editor by clicking the Close button.

You have set up all the source conditions as reflected on the Conditions tab.

**Note:** To see the full text of the source conditions statements, you may have to expand the Conditions area by clicking and dragging the left or right borders.

Figure 1-15 Source Conditions



## Step 6. View and Test the Query

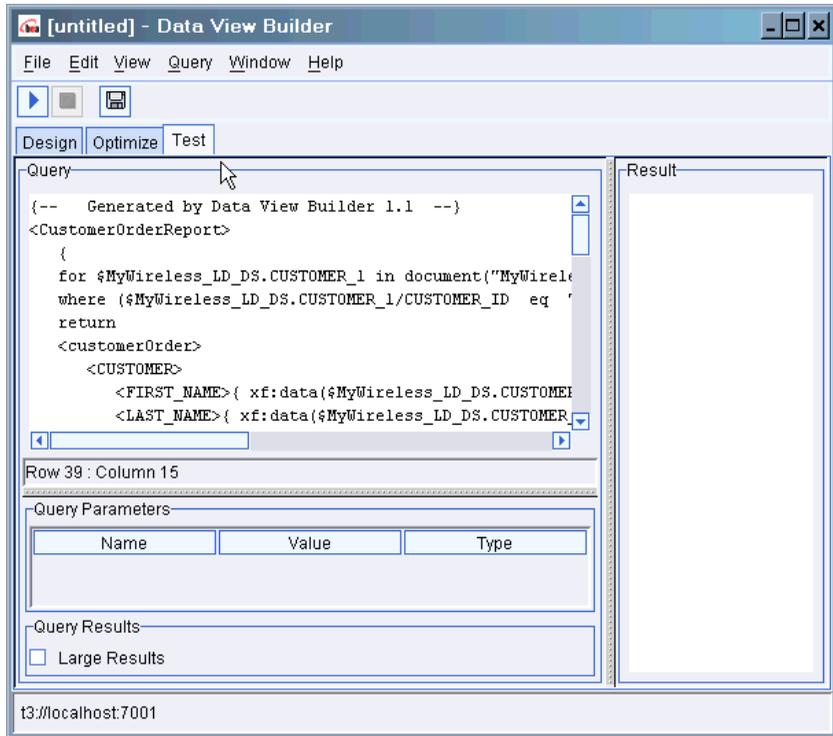
### Switch to Test View

Now you are ready to switch to the Test tab where you can look at the XQuery syntax of the generated query you just constructed, and then *run* the query to test it.

Click the Test tab at the top of the workspace.

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Figure 1-16 Data View Builder Test Tab



## Understanding the Generated XQuery

The Data View Builder has automatically generated the following XQuery for the query you constructed with drag-and-drop tools.

Listing 1-1 Generated XQuery for Getting Started Query

```
{--Generated by Data View Builder 1.1--}
<CustomerOrderReport>
{
  for $MyWireless_LD_DS.CUSTOMER_1 in document("MyWireless-LD-DS")/db/CUSTOMER
  where ($MyWireless_LD_DS.CUSTOMER_1/CUSTOMER_ID eq "CUSTOMER_1")
  return
    <customerOrder>
      <CUSTOMER>
        <FIRST_NAME>{ xf:data($MyWireless_LD_DS.CUSTOMER_1/FIRST_NAME)
        <LAST_NAME>{ xf:data($MyWireless_LD_DS.CUSTOMER_1/LAST_NAME)
    }
  }
```



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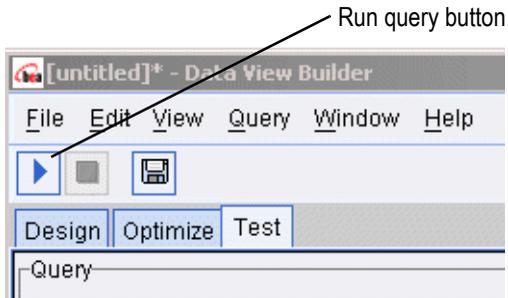
---

```
}</CUSTOMER_ID>
  <SHIP_METHOD>{ xf:data($MyBroadBand_LD_DS.CUSTOMER_ORDER_3/SHIP_METHOD)
}</SHIP_METHOD>
  <TOTAL_ORDER_AMOUNT>{ cast as
xs:decimal(xf:data($MyBroadBand_LD_DS.CUSTOMER_ORDER_3/TOTAL_ORDER_AMOUNT))
}</TOTAL_ORDER_AMOUNT>
  </CUSTOMER_ORDER>
}
</broadband_orders>
</customerOrder>
}
</CustomerOrderReport>
```

---

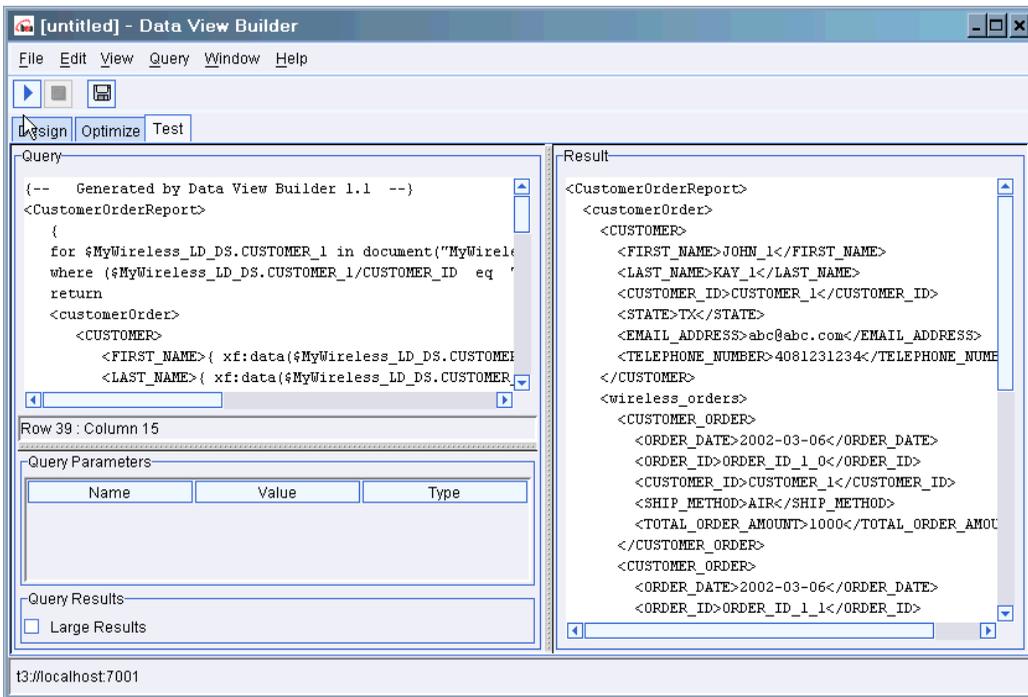
## Run the Query

When you are ready to run the query, click the Run query button on the toolbar in the upper left.



The Liquid Data server process the query and the query result is displayed as shown in the following figure and code listing.

Figure 1-17 Query Result on Test Tab



Listing 1-2 XML for the Query Result

```

<CustomerOrderReport>
  <customerOrder>
    <CUSTOMER>
      <FIRST_NAME>JOHN_1</FIRST_NAME>
      <LAST_NAME>KAY_1</LAST_NAME>
      <CUSTOMER_ID>CUSTOMER_1</CUSTOMER_ID>
      <STATE>TX</STATE>
      <EMAIL_ADDRESS>abc@abc.com</EMAIL_ADDRESS>
      <TELEPHONE_NUMBER>4081231234</TELEPHONE_NUMBER>
    </CUSTOMER>
    <wireless_orders>
      <CUSTOMER_ORDER>
        <ORDER_DATE>2002-03-06</ORDER_DATE>
        <ORDER_ID>ORDER_ID_1_0</ORDER_ID>
      </CUSTOMER_ORDER>
      <CUSTOMER_ORDER>
        <ORDER_DATE>2002-03-06</ORDER_DATE>
        <ORDER_ID>ORDER_ID_1_1</ORDER_ID>
      </CUSTOMER_ORDER>
    </wireless_orders>
  </customerOrder>
</CustomerOrderReport>

```

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```
<CUSTOMER_ID>CUSTOMER_1</CUSTOMER_ID>
<SHIP_METHOD>AIR</SHIP_METHOD>
<TOTAL_ORDER_AMOUNT>1000</TOTAL_ORDER_AMOUNT>
</CUSTOMER_ORDER>
<CUSTOMER_ORDER>
  <ORDER_DATE>2002-03-06</ORDER_DATE>
  <ORDER_ID>ORDER_ID_1_1</ORDER_ID>
  <CUSTOMER_ID>CUSTOMER_1</CUSTOMER_ID>
  <SHIP_METHOD>AIR</SHIP_METHOD>
  <TOTAL_ORDER_AMOUNT>2000</TOTAL_ORDER_AMOUNT>
</CUSTOMER_ORDER>
</wireless_orders>
<broadband_orders>
  <CUSTOMER_ORDER>
    <ORDER_DATE>2002-04-09</ORDER_DATE>
    <ORDER_ID>ORDER_ID_1_0</ORDER_ID>
    <CUSTOMER_ID>CUSTOMER_1</CUSTOMER_ID>
    <SHIP_METHOD>AIR</SHIP_METHOD>
    <TOTAL_ORDER_AMOUNT>1000.00</TOTAL_ORDER_AMOUNT>
  </CUSTOMER_ORDER>
  <CUSTOMER_ORDER>
    <ORDER_DATE>2002-04-09</ORDER_DATE>
    <ORDER_ID>ORDER_ID_1_1</ORDER_ID>
    <CUSTOMER_ID>CUSTOMER_1</CUSTOMER_ID>
    <SHIP_METHOD>AIR</SHIP_METHOD>
    <TOTAL_ORDER_AMOUNT>1500.00</TOTAL_ORDER_AMOUNT>
  </CUSTOMER_ORDER>
</broadband_orders>
</customerOrder>
</CustomerOrderReport>
```

---

Congratulations! You have successfully built and run a query using Liquid Data.

**Note:** To switch back to the Design mode, click the Design View tab on the toolbar.

## Step 7. Save the Project

To save the project:

1. Choose the menu option File—>Save Project. The Save dialog is displayed.

2. Navigate to the directory in which you want to save your project and enter a name in the File Name field.
3. Click Save.

The file is saved as a Data View Builder project with a `qpr` extension.

**Note:** For more information on working with and saving projects, see [Working with Projects](#) in the *Building Queries and Data Views*.

For information on saving a query as a *stored query*, see [Saving a Query](#) also in *Building Queries and Data Views*.

## Next Steps

Now that you are somewhat familiar with the basics of creating Liquid Data queries using the Data View Builder, you may want to review the following documents:

- The Liquid Data [Product Overview](#) provides an end-to-end description of the product and how to use it, including designing your business solution, using security features, setting up clustering, creating the presentation layer, understanding the recommended deployment scenarios, and using Liquid Data with other BEA products like BEA WebLogic Portal, BEA Application Integration, and BEA WebLogic Workshop.
- [Building Queries and Data Views](#) provides a detailed GUI overview and description of Data View Builder features a comprehensive “Query Cookbook”, and lots more.
- The Liquid Data [Administration Guide](#) provides information about how to configure the data source types supported by Liquid Data including Application Integration (AI), how to configure Security, how to set up monitoring and reporting.

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