

Lab 7.2: Using Parameters in a Database Query

Lab Overview

Objectives

After completing this lab, you will be able to:

- ♦ Pass parameters to an IDC file from a URL.
- ♦ Pass parameters to an IDC file from a form.
- ♦ Use parameters in an IDC file to create a query based on user input.

Scenario

In the previous lab, you created an HTML file from data in a database, but the query was static: it didn't rely on information from the user, and it created the same response every time.

In this lab, you will add VBScript code and a form to the Employee's Only Web page to call the Internet Database Connector extension (Httpodbc.dll) and pass parameters to the IDC file. You will use the parameters in the SQLStatement in the IDC file to create a Web page from information in the database, as requested by the user.

In an optional exercise, you will use Httpodbc.dll and its helper files to write customer information, gathered in the Customer Data page, into the Main Street Market database.

Lab Setup

You must have a System ODBC DSN for WebMainSt. If you haven't already created one, see Exercise 1 in Lab 7.1.

You can edit the Employee's Only page, EmpOnly.htm, that you were editing in Lab 7.1, or use the file in the \Labs\Lab07.2 directory.

You'll also edit the Customer Data Web page, CustData.htm, that you were using in Lab 6. You can continue to work with that page, or use the file in the \Labs\Lab07.2 directory.

If you need additional help with the lab, you can refer to solution files in the \Labs\Lab07.2\Solution directory.

This demonstration summarizes the exercises that you perform in this lab.



Estimated time to complete this lab: **45 minutes**

Exercises

The following exercise provide practice working with the concepts and techniques covered in this chapter.

Exercise 1: Passing Parameters in a URL

In this exercise, you will dynamically create parameters with VBScript code and append them to the URL that references an IDC file. Then, you will use the parameter to extract sales for the current day from the Main Street Market database.

Exercise 2: Passing Parameters from a Form

In this exercise, you will create a form to ask the user for a range of dates, and use this information to extract sales information during these dates from the database.

Exercise 3: Adding Dynamic Links

In this exercise, you will edit the HTX file so that the returned Web page calls links that provide further information about the order.

Optional Exercise: Writing Customer Information into a Database

In this exercise, you will create the IDC and HTX files to write customer information into the Main Street Market database.

Exercise 1: Passing Parameters in a URL

Employees want to see sales information for the current day's sales. Rather than requiring them to type the date, you will add VBScript code to compute the current date and append it to the URL for the IDC file.

➤ Add a button to the Employees Only Web page

1. Open the Employees Only Web page, EmpOnly.htm, in Notepad.
2. Search for the text "Today's Sales".
3. Replace the text "Today's Sales" with a button named TodaySales:

```
<INPUT TYPE=Button NAME=TodaySales Value="Today's Sales">
```

➤ Create the OnClick event procedure

1. Add a <SCRIPT> section to the Employees Only page, and set the LANGUAGE property to "VBScript".
2. Add an OnClick event procedure for the button you just created:

```
Sub TodaySales_OnClick()  
End Sub
```

3. Add VBScript code to the OnClick event procedure:

- a. Create a variable with the URL of the IDC file, TdSales.idc, in the /Scripts directory, followed by a question mark (?), and the name of the parameter you are passing, Date:

```
strDate="/scripts/TDSales.idc?Date="
```

- b. Use the VBScript **Date** function to return the current date and append it to the end of the URL.

Subtract 2 years (730 days) from the real date because the data in the Orders table ends on 5/3/95.

- c. Jump to the URL by setting Location.HRef:

```
Location.HRef = strDate
```

If you are unsure of the implementation of this procedure, look at the solution code:

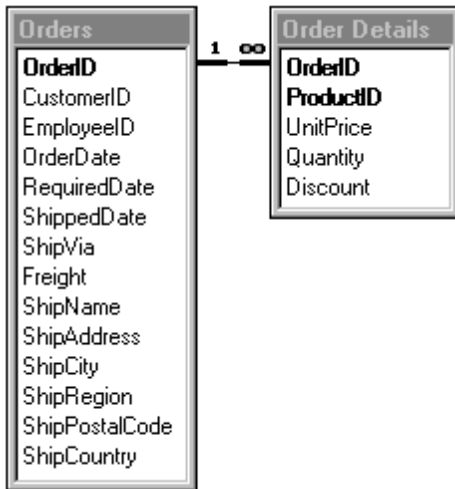
```
Sub TodaySales_OnClick()  
    Dim strDate  
    strDate="/scripts/TDSales.idc?Date=" & Date() - 710  
    Location.HRef = strDate  
End Sub
```

5. Save your changes to the Employees Only page.

➤ Create the IDC file to accept and use the Date parameter

1. In Notepad, create a new IDC file.
2. Add the DataSource field, and set it equal to the WebMainSt system ODBC data source you created in Lab 7.1.
3. Add the Template field, and set it equal to TdSales.htx. You'll create this file in the next step.
4. Add an SQLStatement field, and set it equal to an SQL statement that reads all orders in the Orders table and the sum of the items in each order.

The Orders and Order Details tables have the following fields:



The SQL statement should retrieve the OrderID and OrderDate from the Orders table, and the Sum of the UnitPrice and Quantity fields from the Order Details table:

```

SELECT Orders.OrderID, Orders.OrderDate, Sum(UnitPrice * Quantity/100*100)
AS OrderTotal
FROM Orders, [Order Details]
WHERE Orders.OrderID = [Order Details].OrderID
GROUP BY Orders.OrderID, Orders.OrderDate
  
```

- Use the parameter passed into the IDC file to augment the WHERE clause such that only Orders taken on that date are returned from the database. (Note that Microsoft Access databases require Dates to be surrounded by # signs.)

```

AND Orders.OrderDate = #Date%#
  
```

- Save the IDC file as TdSales.idc in the \Scripts directory of your Internet Server.

If you are unsure of the syntax of the IDC file, look at the solution:

```

Datasource: WebMainSt
Template: TdSales.htx
SQLStatement:
+SELECT orders.OrderID, orders.OrderDate,
+ Sum([Quantity]* [UnitPrice])/100*100 AS OrderTotal
+ FROM Orders, [Order Details]
+ WHERE Orders.OrderID = [Order Details].OrderID
+ AND Orders.OrderDate = #Date%#
+ Group By Orders.OrderID, Orders.OrderDate
  
```

➤ **Create the HTX file to output a table of order information for one day**

- In Notepad, create a new file.
- Enter the HTML tags to create a file that returns the table of Orders and Order Totals from the database. The resulting Web page should look like this:

Sales for 8/16/93

Order ID	Order Total
10280	\$613.2
10281	\$86.5

Hint You can use the value of the parameter passed into the IDC file by adding "idc." to its name in the HTX file.

Note The reason the dollar values aren't formatted correctly is because the Internet Database Connector reads them in their native format from the database. If you want the values to look differently, you need to change the data stored in the database.

If you are unsure of the syntax of the table in the HTX file, look at the solution:

```
<H3>Sales for <%IDC.Date%></H3>
<TABLE BORDER>
<TR>
<TH>Order ID</TH><TH>Order Total</TH>
</TR>
<%begindetail%>
<TR>
<TD><%OrderID%></TD><TD align="right">$<%OrderTotal%></TD>
</TR>
<%enddetail%>
```

3. Save the file as TdSales.htx in the \Scripts directory of your Internet Server.

➤ **Test the link**

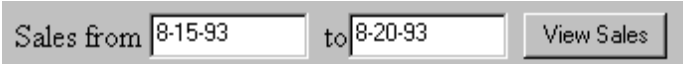
- ◆ Open the Employees Only page with the Internet Explorer and click the Today's Sales button.

Exercise 2: Passing Parameters from a Form

Employees want to see sales for a range of dates. Because they must type in the dates themselves, you will add a form to the Employees Only page to obtain the dates and then pass them to an IDC file.

➤ **Create a form to obtain a range of dates**

1. Open the Employees Only page, EmpOnly.htm, with Notepad.
2. Add a form with two text boxes, one for the start date and one for the end date requested, and a submit button:



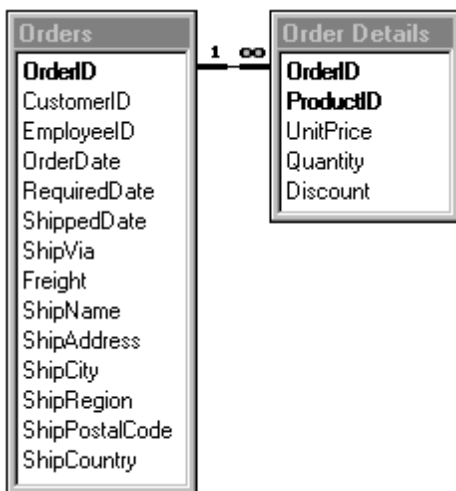
The screenshot shows a form with the text "Sales from" followed by a text input field containing "8-15-93", the word "to" followed by another text input field containing "8-20-93", and a button labeled "View Sales".

3. Set the ACTION of the form to be the URL of the IDC file, /Scripts/RgSales.idc. You will create this file in the next procedure.
4. Set the METHOD of the form to POST.
5. Save your changes to the Employees Only page.

➤ **Create the IDC file to accept and use both date parameters**

1. Use Notepad to create a new IDC file.
2. Add the DataSource field, and set it equal to the WebMainSt system ODBC data source you created in Lab 7.1.
3. Add the Template field, and set it equal to RgSales.htx. You'll create this file in the next procedure.
4. Add an SQLStatement field, and set it equal to an SQL statement that reads all orders in the Orders table and the sum of the items in each order, during the dates specified.

The Orders and Order Details tables have the following fields:



This SQL statement is similar to the one you created in Exercise 1. It should retrieve the OrderID and OrderDate from the Orders table, and the Sum of the UnitPrice and Quantity fields from the Order Details table:

```

SELECT Orders.OrderID, Orders.OrderDate, Sum(UnitPrice * Quantity) AS OrderTotal FROM
Orders, [Order Details]
WHERE Orders.OrderID = [Order Details].OrderID
GROUP BY Orders.OrderID, Orders.OrderDate
  
```

- Use the parameters passed to the IDC file to augment the WHERE clause so that only Orders taken during the range requested are returned from the database:

```

AND Orders.OrderDate BETWEEN #%StartDate%# AND #%EndDate%#
  
```

- Save the IDC file as RgSales.idc in the \Scripts directory of your Internet Server.

If you are unsure of the syntax for the IDC file, look at the solution code:

```

Datasource: WebMainSt
Template: RgSales.htx
SQLStatement:
+SELECT Orders.OrderID, Orders.OrderDate,
+ Sum([Quantity]* [UnitPrice]) AS OrderTotal
+ FROM Orders, [Order Details]
+ WHERE Orders.OrderID = [Order Details].OrderID
+ AND (Orders.OrderDate Between #%StartDate%# and #%EndDate%#)
+ GROUP BY Orders.OrderID, Orders.OrderDate
  
```

➤ Create the HTX file to output a table of order information for a range of dates

- Open a new file with Notepad.

2. Enter in the HTML tags to create a file that returns the table of Orders, Order Dates, and Order Totals from the database. The resulting Web page should look like this:

Order Date	Order ID	Order Total
1993-08-16 00:00:00	10284	\$1452.0000
1993-08-17 00:00:00	10285	\$2179.2000
1993-08-18 00:00:00	10286	\$3016.0000
1993-08-19 00:00:00	10287	\$924.0000
1993-08-20 00:00:00	10288	\$89.0000

If you are unsure of the syntax for the table, look at the solution code:

```
<TABLE BORDER>
<TR>
<TH>Order Date</TH>
<TH>Order ID</TH>
<TH>Order Total</TH>
</TR>
<%begindetail%>
<TR><TD><%OrderDate%></TD>
<TD><%OrderID%></TD>
<TD align="right"><%OrderTotal%></TD>
</TR>
<%enddetail%>
</TABLE>
```

3. Save the file as RgSales.htx in the \Scripts directory of your Internet Server.

➤ Test the form

- ◆ Open the Employees Only page with the Internet Explorer, fill in a range of dates, such as 8/1/93 to 8/15/93, and select the View Sales button.

Exercise 3: Adding Dynamic Links

The table of order information returned from the RgSales.htx file in Exercise 2 can easily be changed from a static table to one that includes links to more information on each order.

Individual orders are made up of many order items. You can make a link from each Order ID to another IDC file that will retrieve the order items and return them in another table.

➤ Change RgSales.htx to include links in the order information table

1. Open RgSales.htx in Notepad.
2. Replace the items in the OrderID column with links to a new IDC file, ODetails.idc, that accepts the OrderID as a parameter:

```
<A HREF="/scripts/ODetails.idc?OrderID=<%OrderID%>">
<%OrderID%>
</A>
```

3. Save the changes to the page, and test with Internet Explorer.

The table should look like this:

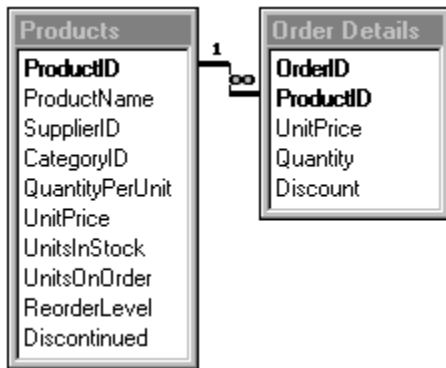
Order Date	Order ID	Order Total
1993-09-20 00:00:00	10312	\$1614.8000
1993-09-21 00:00:00	10313	\$182.4000
1993-09-22 00:00:00	10314	\$2327.0000
1993-09-23 00:00:00	10315	\$516.8000
1993-09-24 00:00:00	10316	\$2835.0000

Note The new links in the table won't work; however, you will be able to check that the parameter being sent to ODetails.idc is correct for each link.

➤ **Create the IDC file to retrieve Order Details information for specified OrderID**

1. In Notepad, create a new IDC file.
2. Add the DataSource field, and set it equal to the WebMainSt system ODBC data source you created in Lab 7.1.
3. Add the Template field, and set it equal to ODetails.htx. You'll create this file in the next step.
4. Add an SQLStatement field, and set it equal to an SQL statement that reads Product information for each Order item in the OrderID passed in.

The Products and Order Details tables have the following fields:



The SQL statement should retrieve the ProductName and ProductID from the Products table, and the OrderID, UnitPrice, Quantity, and UnitPrice*Quantity from the Order Details table:

```
SELECT Products.ProductID, Products.ProductName, [Order Details].OrderID, [Order
Details].UnitPrice, [Order Details].Quantity,
[Order Details].UnitPrice * Quantity AS SubTotal
FROM Products, [Order Details]
WHERE Products.ProductID = [Order Details].ProductID
```

5. Use the parameter passed into the IDC file to augment the WHERE clause such that only information for the OrderID passed in is retrieved from the database:

```
AND [Order Details].OrderID = %OrderID%
```

6. Save the IDC file as ODetails.idc in the \Scripts directory of your Internet Server.

If you are unsure of the syntax of the IDC file, look at the solution:

```
Datasource: WebMainSt
Template: ODetails.htx
SQLStatement:
+SELECT Products.ProductID, Products.ProductName,
+ [Order Details].OrderID, Quantity, [Order Details].UnitPrice,
+ Quantity * [Order Details].UnitPrice as Subtotal
+ FROM Products, [Order Details]
+ WHERE Products.ProductID = [Order Details].ProductID
+ AND OrderID=%OrderID%
```

► **Create the HTX file to output a table of product information for the Order selected**

1. In Notepad, create a new file.
2. Enter the HTML tags to create a file that returns the table of Product information from the database. The resulting Web page should look like this:

Details on Order #10314

Product Name	Unit Price	Quantity	Subtotal
Mascarpone Fabioli	\$25.6000	40	\$1024.0000
Escargots de Bourgogne	\$10.6000	30	\$318.0000
Tarte au sucre	\$39.4000	25	\$985.0000

If you are unsure of the syntax of the HTX file, look at the solution:

```
Details on Order #<%OrderID%>
<TABLE BORDER>
<TR>
<TH>Product Name</TH>
<TH>Unit Price</TH>
<TH>Quantity</TH>
<TH>Subtotal</TH>
</TR>
<%begindetail%>
<TR>
<TD><%ProductName%></TD>
<TD align="right">${<%UnitPrice%></TD>
<TD align="right"><%Quantity%></TD>
<TD align="right">${<%SubTotal%></TD>
</TR>
<%enddetail%>
</TABLE>
```

3. Save the file as ODetails.htx in the \Scripts directory of your Internet Server.

► **Test**

- ♦ Open the Employees Only page with the Internet Explorer, fill in a range of dates, such as 8/1/93 to 8/15/93, and click the View Sales button. In the returned table of orders, click an OrderID link.

Optional Exercise: Entering Customer Information into a Database

In this exercise, you will add the information in the Customer Data Web page to the Customers table in the Main Street Market database. The customers table requires a unique Customer ID, which you will generate with the Visual Basic **Rnd** function.

➤ Generate a unique customer ID

1. Open the Customer Data Web page, CustData.htm, in Notepad and locate the FORM tag.
2. Add a hidden control named CustID (TYPE=HIDDEN NAME="CustID") to the form.

Because this field isn't displayed, it can be added anywhere inside the form.

3. In the OnSubmit event procedure of the form, generate a 5 digit random number and assign it to the CustID field:

```
Randomize
Document.Forms(0).CustID.Value = Int((99999 * Rnd) + 1)
```

➤ Call the IDC file from the validation code on the Submit button OnClick event

1. In Lab 6, you set the ACTION property of the form to call the FormDump server extension. Change the ACTION property of the form to the URL of the IDC file, /Scripts/CustData.idc. You will create this file in the next procedure.
2. Save your changes to the Customer Data page.

➤ Create the IDC file to write Customer data into the database

1. In Notepad, create a new IDC file.
2. Add the DataSource field, and set it equal to the WebMainSt system ODBC data source you created in Lab 7.1.
3. Add the Template field, and set it equal to CustData.htx. You'll create this file in the next procedure.
4. Add an SQLStatement field, and set it equal to an SQL statement that writes all the information from the Customer Data Web page into the Customers table.

The Customers table has the following fields:

Customers
CustomerID
CompanyName
ContactName
ContactTitle
Address
City
Region
PostalCode
Country
Phone
Fax

Note There are some fields in the Customer Data form that do not have corresponding fields in the database. Don't write these extra fields into the database.

The SQL statement should use the INSERT command to create a new record in the Customers table, with the corresponding fields in the form on the Customer Data Web page:

```
INSERT INTO Customers (CustomerID, CompanyName, ContactName, ContactTitle, Address,
City, Region, PostalCode, Country, Phone, Fax)
VALUES('%CustID%', '%Company%', '%Name%', '%Title%', '%Street%', '%City%', '%State%',
'%Zip%', '%Country%', '%PhoneNum%', '%FaxNum%');
```

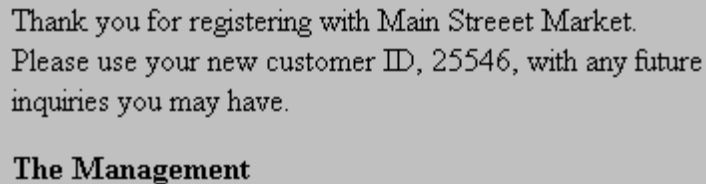
5. Save the IDC file as CustData.idc in the \Scripts directory of your Internet Server.

If you are unsure of the syntax of the IDC file, look at the solution:

```
Datasource: WebMainSt
Template: CustData.htx
SQLStatement:
+ INSERT INTO Customers
+ (CustomerID, CompanyName, ContactName, ContactTitle,
+ Address, City, Region, PostalCode, Country, Phone, Fax)
+ VALUES('%CustID%', '%Company%' , '%Name%', '%Title%',
+ '%Street%', '%City%', '%State%', '%Zip%', '%Country%',
+ '%PhoneNum%', '%FaxNum%');
```

➤ **Create an HTX file that returns a generic confirmation**

1. Open a new file in Notepad.
2. Insert HTML tags to create a file that confirms the receipt of information. The resulting Web page should look like this:



Thank you for registering with Main Street Market.
Please use your new customer ID, 25546, with any future
inquiries you may have.

The Management

3. Save the file as CustData.htx in the \Scripts directory of your Internet Server.

➤ **Test the form**

- Open the Customer Data Web page with Internet Explorer, fill the fields of the form with valid information, and click the Test or Submit button. If you want, open the MainSt.mdb database with Microsoft Access and verify that the information was written into the Customers table.