# Using The Data Warehouse Through Access

## About This Class

### Course Purpose

This purpose of this course is two-fold. First, it is to explain and demonstrate how to retrieve, query and format data from the Data Warehouse SQL database using Microsoft Access. Second, it is to show that the information obtained from the Data Warehouse presents you with additional ways to analyze the FRS financial data. The examples will use FRS information from the Data Warehouse while emphasizing various aspects of three of the four major objects within Microsoft Access (Tables, Queries and Reports).

### Course Objectives

1. Link tables and views from the Data Warehouse to Microsoft Access.
2. Open the tables to review the linked fields and data.
3. Create select and parameter queries from the linked tables.
4. Create reports from the queries to present visually appealing information.

### Course Prerequisites

The student should be familiar with the four major objects in Microsoft Access (Tables, Queries, Forms and Reports) and how to create each, or have taken the Access 2000: Introduction class.

### Hardware And Software Requirements

**Hardware Requirements:**

- Pentium 200 MHz processor or greater.
- 64 MB of RAM (128 MB highly recommended).
- 50 MB of free hard disk space.

**Software Requirements:**

- Microsoft Access 97 or 2000 (Access 2000 highly recommended).
- Microsoft Windows 98, Windows NT or Windows 2000.
- Supported ODBC driver (See the document entitled: “Connecting To The Data Warehouse” for installation instructions):
    - Version 3.70.08.20 – dated 10/29/1999
    - Version 3.70.08.21 – dated 07/26/2000
    - Version 2000.80.194.00 – dated 08/05/2000 or 08/06/2000

## Objective 1: Linking Information

### How Do I Link The Tables From The Data Warehouse To Access?

From Microsoft Access you will link to the data in the Data Warehouse SQL database. This will be accomplished with the use of an ODBC driver that will need to be created. The instructions for creating an ODBC connection are in the document entitled “Connecting To The Data Warehouse”. After the connection has been established you can then link tables and views from the Data Warehouse SQL database into Microsoft Access.

**To Link The Tables From The Data Warehouse Into A New Microsoft Access Database With An ODBC Connection Already Established:**

1. Open Microsoft Access.
2. Select Blank Access Database and click OK.
3. Give your database a meaningful name, such as FRS_DW; select the drive and folder you wish to save the database in; click the Create button.
4. Click the Tables object if necessary.
5. Click the New button.
6. Select Link Table and click OK.
7. In the Link window, change the Files Of Type to ODBC Databases (). This will take you to the ODBC connections that are available.
8. In the Select Data Source window, select the ODBC connection you created earlier; click OK. If you haven’t created an ODBC connection, see the document entitled “Connecting To The Data Warehouse”.

9. In the Link Tables window select the following tables:

| Table Name | Primary Key |
|---|---|
| FRS_Attributes | ACCT_DIGITS_1_6 |
| FRS_L0_AcctBal_xx | ACCT_DIGITS_1_10 |
| FRS_L1_9_AcctBal_Train | ACCT_DIGITS_1_10 |
| FRS_Transactions_Train | TRAN_KEY |
| FRS_OpenCommitments_xx | TRAN_KEY |
| FRS_Budgets_Train | TRAN_KEY |
| FRS_Encumbrances_Train | TRAN_KEY |

   **Note:** The tables you select for your job may be slightly different depending on your security rights and will have a different abbreviation after the table name. If you use ledger 0 accounts you will also want to select FRS_L0_AccBal_xx, but the Training IDs do not have a ledger 0 account.
10. Click OK.
11. You will then be prompted to select the primary key from each table. Choose the appropriate key from above that is next to the table. (e.g. FRS_Budgets_Train would select TRAN_KEY as the primary key.) The tables in Access are now linked to the Data Warehouse.

## Objective 2: Reviewing The Data In The Tables

### What Does The Information In The Tables Represent?

The information that is displayed in the Microsoft Access tables show the data that is stored in the Data Warehouse SQL database. The data is not actually stored in the Microsoft Access tables. In other words, if the ODBC connection is not working properly or you are not connected to the network, you will not see any data because the Access database has lost its connection with the Data Warehouse database. Further, you are limited to the data that you can actually see based on your security rights.

**To Review The Fields In A Table:**
1. Open the FRS_DW Microsoft Access database if necessary.
2. Click the Tables object.
3. Select a table you want to open. For our example, we will select FRS_Transactions_Train.
4. Click the Open button. This will open the table in datasheet view.
5. The field names will appear along the top with the data underneath. You will want to scroll to the right to view the rest of the field names.
6. Close the table when you are finished.

**Exercise 1:** Review The Fields In The FRS_Budgets table.
**Exercise 2:** Review The Fields In The FRS_Encumbrances table.
**Exercise 3:** Review The Fields In The FRS_L1_9_AcctBal table.
**Exercise 4:** Review The Fields In The FRS_Attributes table.
**Exercise 5:** Review the Fields in the FRS_OpenCommitments table **.**

**To Change All Of The Column Widths In A Table To Display All Of The Data:**
1. Open the table that contains the columns you wish to adjust.
2. Click and drag your mouse across all of the column headers in the table.
3. Select Column Width from the Format menu.
4. Click the Best Fit button.

## Objective 3: Creating Queries

### How Do I Create Queries To Display The Financial Data?

Queries are used to filter or ask questions of tables or other queries. Queries allow the user to access multiple tables or queries at one time. After you add multiple tables to the query window relationships are already created based on the relationships established in the Data Warehouse SQL database. You shouldn't need to create any relationships.

**To Create A Query:**
1. Open the FRS_DW Microsoft Access database if necessary.
2. Click the Queries object.
3. Click the New button.

4. Select Design View and click OK.
5. Select the Table(s) you wish to add; click the Add button.
6. Repeat Step 5 until you have added all the tables you want; click the Close button.
7. Double-click the fields within the tables that you just added to the query to add the fields to the Query-By-Example (QBE) grid. These are the fields that you will either want to show or need to provide some criteria against.
8. Enter the appropriate criteria and sorting options.
9. Save your query.
10. Click the Datasheet View button or the Run button to display the data from the query.

**Exercise 1:** Display all transactions from a specific 10-digit account. (**Use**: 25100063030 and **SAVE**).

**Exercise 2:** Display all transactions from a specified 10-digit account (i.e. create a parameter query and **SAVE**).

**Exercise 3:** Display an Account Description and Balance Available (use Attributes and L1_9_AcctBal tables and **SAVE**).

**Exercise 4:** Display Account Balance Information by sub code - Account_Digits_1_6, Account_Digits_7_10, Revised_Budget, YTD_Actual, Encumbrances, Bal_Available. (**SAVE**).

**Exercise 5:** Display summed Account Balance Information by pool code - Account_Digits_1_6, Revised_Budget, YTD_Actual, Encumbrances, Bal_Available (**Group by**: Account_Digits_1_6, Pool_Code **Sum**: other values).

**Exercise 6:** Display summed Account Balance Information by pool code with a count of sub codes - Account_Digits_1_6, Pool_Code, Account_Digits_7_10, Revised_Budget, YTD_Actual, Encumbrances, Bal_Available. (**Group by**: Account_Digits_1_6, Pool_Code **Count**: Account_Digits_7_10 **Sum**: other values **SAVE**).

**Exercise 7:** Display all transactions with a specific Transaction description - Account_Digits_1_6, Account_Digits_7_10, Tran_Code, Description, Amount, Reference_1, Reference_2 and Proc_Month (**Use**: Whs Rechg).

**Exercise 8:** Display all transactions with a Transaction description - Account_Digits_1_6, Account_Digits_7_10, Tran_Code, Description, Amount, Reference_1, Reference_2, and Proc_Month (**Using**: Like "*" & Photocopy & "*").

## Objective 4: Creating Reports For Displaying Data

### How Can I Create Meaningful Reports To Display Financial Data?

Reports are used for presenting information in a meaningful and easy to read manner. The data in the report will refresh automatically once the report has been formatted and linked to either a table or a query.

**To Create A Report Using The Report Wizard:**

1. Open the FRS_DW Microsoft Access database if necessary.
2. Click the Reports object.
3. Click the New button.
4. Select the Report Wizard.
5. Select a table or query from the drop-down menu.
6. Click OK.
7. Select the field you want on your report from the available list and click the arrow (>) button to move it to the selected list. If you want all of the fields, click the double arrow (>>) button.
8. Click the Next button.
9. Select the field you want to group by and click the arrow (>) button to move it to add the grouping levels. You can add multiple grouping levels or no grouping levels. By adding grouping levels you reduce the data to be repeated on your report.
10. Click the Next button.
11. Select the sorting options by clicking the drop-down menu. You can sort up to four columns.
12. Click the Sort By button to change from ascending to descending.
13. Click the Summary Options button to add summary information if applicable.
14. Click the Next button.
15. Select the lay out or look of the report.
16. Click the Next button.

17. Select the style of the report.
18. Click the Next button.
19. Type a name for your report.
20. Click the Finish button. This will take you to the Report Preview.
21. Click the Design button to make any changes to your report.
22. Save and close your report when you are done.

**Exercise 1:** Create a report to display all transactions from a specific 10-digit account. (Use: 2510006303).
**Exercise 2:** Create a report to display all transactions from a specified 10-digit account. (At the prompt type: 2516002005).
**Exercise 3:** Create a report to display an account description and balance available.
**Exercise 4:** Create a report to display account information by sub code (Grouped by sub code).
**Exercise 5:** Create a report to display summed account balance information by pool code with a count of sub codes.