Programming Microsoft Access 2002

Course 2657—Three days—Instructor-led

Introduction

This course teaches programming concepts and how to add simple functionality to a Microsoft Access 2002 database by using Microsoft Visual Basic for Applications.

Audience

The audience for this course includes the following:

- Knowledge workers and technologists who are familiar with using Access and other Microsoft Office applications but whose previous programming experience is limited
- Any programmers who require an introduction to Office development using Visual Basic

At Course Completion

After completing this course, students will be able to:

- Use the programming capabilities of Microsoft Visual Basic for Applications in Microsoft Access 2002 applications to write custom functions and event-driven procedures.
- Validate data.
- Find and trap errors.
- Gain access to and manipulate data in tables by using Microsoft ActiveX Data Objects (ADO) and the Structured Query Language (SQL).
- Create a custom switchboard for an Access application.

Prerequisites

The course assumes that students have the following skills:

- Ability to design a relational database
- Ability to use Microsoft Access to create a database with multiple tables, forms, and reports, and to create queries

Microsoft Certified Professional Exams

This course is not currently associated with any Microsoft certification exams.

Student Materials

The course materials are yours to keep. You will be provided with the following software for use in the classroom:

- Microsoft Windows XP
- Microsoft Access 2002

Course Outline

Module 1: Introduction to Programming

The following topics are covered in this module:

- Using Visual Basic Help
- Writing Procedures
- Working with Variables
- Controlling Program Flow
- Calling Procedures

After completing this module, students will be able to:

- Use Visual Basic Help.
- Use the Visual Basic Editor to add code to applications.
- Declare and use variables.
- Use built-in functions to obtain values from users.
- Create and call Sub procedures.
- Use conditional statements to control the flow of programs.

Lab 1.1: Introduction to Programming

Module 2: Responding to User Actions

The following topics are covered in this module:

- Overview of the Class Application
- Adding Event Procedures
- Working with Events
- Using Objects, Properties, and Methods
- Using the DoCmd Object

After completing this module, students will be able to:

- Create an event procedure.
- Add an event procedure to a form.
- Respond to user actions programmatically.
- Perform specific tasks by using the DoCmd object.

Lab 2.1: Responding to User Actions

Module 3: Validating Data

The following topics are covered in this module:

- Overview of Data Validation
- Validating Data Without Using Code
- Validating Data by Using Code

After completing this module, students will be able to:

- Differentiate between data validation at the table level, form level, and code level.
- Use the built-in validation tools in Microsoft Access.

Lab 3.1: Validating Data

Module 4: Using Functions and Understanding Scope

The following topics are covered in this module:

- Using Functions
- Understanding Scope

After completing this module, students will be able to:

- Describe the appropriate use of functions.
- Call built-in and custom functions in an application.
- Create a custom function.
- Describe the different levels of scope available to variables and procedures.
- Define variables at the appropriate level of scope.
- Define procedures at the appropriate level of scope.

Lab 4.1: Using Functions and Understanding Scope

Module 5: Using Debugging Tools

The following topics are covered in this module:

- Stepping Through Code
- Viewing Variables

After completing this module, students will be able to:

- Set breakpoints to stop program execution.
- Run selected portions of code.
- Test data and procedures in the Immediate window.
- Monitor variable values in the Locals window.
- Add and edit watch expressions.

Lab 5.1: Using Debugging Tools

Module 6: Handling Run-Time Errors

The following topics are covered in this module:

- Types of Errors
- Adding Error Handlers

After completing this module, students will be able to:

- Trap run-time errors.
- Create error handlers.
- Use the Err object.

Lab 6.1: Handling Run-Time Errors

Module 7: Looping Through Code

The following topics are covered in this module:

- Overview of Looping Structures
- For Loops
- Do Loops

After completing this module, students will be able to:

- List the different looping structures available in Visual Basic for Applications.
- Write a For...Next loop to perform execution of code statements a fixed number of times.
- Write a Do...While and a Do...Until loop to perform execution of code statements a variable

number of times.

- Describe the difference between beginning-of-loop and end-of-loop evaluation methods, and write code statements to accomplish each type of evaluation.

Module 8: Working with Records

The following topic is covered in this module:

- Overview of Recordsets
- Retrieving Data
- Structured Query Language (SQL)
- Manipulating Data

After completing this module, students will be able to:

- Define recordsets.
- Access data in tables by using ADO recordsets.
- Retrieve data by using SQL and ADO recordsets.
- Manipulate data by using SQL and ADO recordsets.

Lab 8.1: Working with Records

Module 9: Working with XML

The following topics are covered in this module:

- About XML
- Importing XML
- Exporting XML
- Transforming XML
- Modifying XML using the DOM

After completing this module, students will be able to:

- Describe XML and related technologies.
- Import XML into Access.
- Export XML from Access.
- Transform XML by using the Extensible Stylesheet Language for Transformations (XSLT).
- Modify XML by using the DOM.

Module 10: Finalizing Your Application

The following topics are covered in this module:

- Reviewing Your Application
- Enhancing the User Interface
- Packaging for Delivery

After completing this module, students will be able to:

- List four good coding practices and describe why you should use them.
- Describe the testing criteria for an application.
- Customize a switchboard.
- Hide code by creating an MDE file.

- Describe how to use the Compact and Repair utility to maintain your database application.
- Describe why and how to use the Database Splitter utility.
- Describe when and how to use the Packaging Wizard to prepare an application for distribution.

Lab 10.1: Finalizing Your Application