

Upgrading Web Development Skills from ASP to Microsoft ASP.NET

Course 2640—Three days—Instructor-Led

Introduction

This three-day, instructor-led course provides students with the knowledge and skills that are needed to successfully upgrade their existing Active Server Pages (ASP) skills, as well as upgrading their Web applications, to Microsoft ASP.NET. This course also explains the new features of ASP.NET that can then be leveraged to improve an existing Web application.

Audience

This course is intended for existing Web developers who are writing ASP solutions. This course assumes that the students are familiar with Hypertext Markup Language (HTML), client-side and server-side scripting, ASP, Microsoft ActiveX Data Objects (ADO), and a Microsoft .NET-based programming language.

The Web developer is responsible for the design and implementation of a Web application or a Web solution. Typically, these individuals:

- Assist with the creation of functional specifications.
- Design and develop user interfaces (UIs).
- Create ASP Pages.
- Write Web Forms applications.
- Create and test prototypes.

Prerequisites

Before attending this course, students must have:

- The ability to create HTML pages with tables, images, and forms.
- Experience using a scripting language, such as Microsoft Visual Basic Scripting Edition or JavaScript.
- Experience using ASP to create Web applications.
- The ability to retrieve data from relational databases by using ADO.
- Familiarity with a Microsoft .NET-based programming language.

At Course Completion

After completing this course, students will be able to:

- Describe the key differences between ASP and ASP.NET.
- Create an ASP.NET Web application by using Microsoft Visual Studio .NET.
- Create an ASP.NET Web Application UI.
- Use the trace feature of ASP.NET to obtain information about executed requests.
- Use the Visual Studio .NET debugger to debug ASP.NET Web applications.
- Access databases in an ASP.NET Web application by using Microsoft ADO.NET.
- Create and call a COM object from an ASP.NET Web page.
- Explain how XML Web services is beneficial to distributed Internet computing.

- Create an XML Web service by using Visual Studio .NET.
- Create client code that can create and call a remote XML Web service.
- List server and client-side state management techniques and explain how ASP.NET improves state management.
- Use the ASP.NET Application object to track data that is associated with an ASP.NET Web application.
- Use the ASP.NET Session object to track data that is associated with an individual user session.
- Use the ASP.NET HttpCookie object to store client-side data.
- Explain what approach would be the best for migrating a ASP Web application to ASP.NET, given a specific ASP Web application scenario.
- Implement Forms-based authentication in an ASP.NET Web application.
- Prepare an ASP.NET Web application for deployment.

After completing the appendices, students will be able to:

- Access and display Extensible Markup Language (XML) data in an ASP.NET Web application.
- Use caching to improve Web application performance.

Microsoft Certified Professional Exams

- Exam 70-305: Developing and Implementing Web Applications with Microsoft Visual Basic .NET and Microsoft Visual Studio .NET
- Exam 70-315: Developing and Implementing Web Applications with Microsoft Visual C#™ .NET and Microsoft Visual Studio .NET

Course Materials

The student kit includes a comprehensive workbook and other materials necessary for this class.

Course Outline

Module 1: Introduction to Microsoft ASP.NET Web Application Development

This module describes the ASP.NET architecture and how it relates to the Microsoft .NET Framework.

Lessons

- Introduction to ASP.NET
- Developing an ASP.NET Web Application Using Visual Studio .NET
- .NET Programming Model Changes

Lab: Developing an ASP.NET Web Application Using Visual Studio .NET

- Using Class View
- Using the ArrayList Class

After completing this module, students will be able to:

- Explain ASP.NET Web application elements and the ASP.NET Web application process model.
- Create an ASP.NET Web application by using Visual Studio .NET and be able to explain the component parts of the Web Application.
- Implement the major programming model changes between ASP and ASP.NET.

Module 2: Developing a Microsoft ASP.NET Web Application User Interface

This module explains how to create an ASP.NET Web application UI by using Web Forms, ASP.NET server controls, and event handlers. Students will also learn how to validate user input by using validation controls and how the page postback process works.

Lessons

- Creating an ASP.NET Web Application User Interface
- Validating User Input
- Creating and Using User Controls in an ASP.NET Web Form
- Processing ASP.NET Web Forms

Lab: Developing an ASP.NET Web Application User Interface

- Create a New Web Form
- Validate User Input
- Handle an Event
- Test Your Web Form
- (Optional) Build and Add a User Control

After completing this module, students will be able to:

- Create an ASP.NET Web application UI.
- Implement event handlers by using code-behind files.
- Validate user input by using validation controls.
- Create and use user controls.
- Explain how ASP.NET Web Forms are processed.

Module 3: Debugging Microsoft ASP.NET Web Applications

This module explains how to analyze the cause of logic errors in ASP.NET Web applications by using the ASP.NET trace functionality and the Visual Studio .NET debugger.

Lessons

- Tracing in ASP.NET Web Applications
- Debugging ASP.NET Web Applications

Lab: Debugging ASP.NET Web Applications

- Tracing and Debugging an ASP.NET Web Application

After completing this module, students will be able to:

- Use the trace functionality of ASP.NET to obtain the execution details of Web page requests.
- Use the Visual Studio .NET debugger to debug ASP.NET Web applications.

Module 4: Accessing Data Using Microsoft ADO.NET

This module explains how to use ADO.NET to access data from a database.

Lessons

- Overview of ADO.NET
- Reading Data Using DataReaders

- Programmatically Accessing Data Using DataSets
- Visually Generating DataSets
- Data-Bound Controls
- Best Practices for Secure and Reliable Data Access

Lab: ADO.NET

- Bind a DropDownList Control to a SqlDataReader
- Bind a DataGrid Control to a DataSet

After completing this module, students will be able to:

- Explain how ADO.NET provides data access for ASP.NET Web applications.
- Retrieve data from a data source by using the DataReader class.
- Use programmatically the Connection, Command, and DataAdapter objects to create and work with DataSet objects.
- Use visually the Connection, Command, and DataAdapter objects to create and work with DataSet objects.
- Display the data from an ADO.NET data source on an ASP.NET Web Form.
- Explain several techniques that can be used to ensure that ADO.NET is secure and reliable.

Module 5: Managing State in a Microsoft ASP.NET Web Application

This module explains how state management has evolved in ASP.NET.

Lessons

- Introduction to State Management
- Session State Management
- Client-Side State Management

Lab: Storing Application and Session Data

- Storing Application State
- Storing Session State

After completing this module, students will be able to:

- Manage application state by using the server-side state management options that are available to ASP.NET Web applications.
- Manage session state by using the server-side state management options that are available to ASP.NET Web applications.
- Manage session state by using the client-side state management options that are available to ASP.NET Web applications.

Module 6: Authenticating Users

This module explains the different types of authentication methods that are supported by ASP.NET and how to implement Microsoft Windows -based and Forms-based authentication in an ASP.NET Web application.

Lessons

- ASP.NET Authentication Model
- Implementing Windows-Based Authentication in ASP.NET Web Applications

- Implementing Forms-Based Authentication in ASP.NET Web Applications

Lab: Authenticating Users

- Configure Web.config and IIS
- Add Code for the Web Forms
- Test the ASP.NET Web Application

After completing this module, students will be able to:

- Describe the authentication methods that are supported by ASP.NET.
- Implement Forms-based authentication in an ASP.NET Web application.
- Implement Windows-based authentication in an ASP.NET Web application.

Module 7: Creating and Consuming XML Web Services

This module explains how to create and consume XML Web services.

Lessons

- Introduction to XML Web Services
- Creating an XML Web Service
- Creating an XML Web Service Client

Lab: Creating and Consuming XML Web Services

- Create an XML Web Service
- Consume an XML Web Service
- (Optional) Handle XML Web Service Errors

After completing this module, students will be able to:

- Explain why XML Web services were developed and how they function.
- Use the templates in Visual Studio .NET to create an XML Web service.
- Create a Web reference proxy for an XML Web service WebMethod, and then call the method from a Web Form.

Module 8: Calling COM Component

This module explains how to access existing COM components by using .NET COM interop.

Lessons

- ASP.NET and COM Interoperability
- Calling Com Objects from ASP.NET Web Forms

Lab: Calling COM Components

- Import the COM Component Type Library
- Create, Call, and Release a COM Object

After completing this module, students will be able to:

- Import the COM Component Type Library.
- Create, call, and release a COM object.

Module 9: Migrating ASP Web Applications to Microsoft ASP.NET

This module explains how to examine an existing ASP Web application and apply strategies for migrating it to ASP.NET.

Lessons

- Migrating an ASP Web Page
- Migrating an ASP Application

Lab: Migrating to ASP.NET

- Migrate BookList.asp
- Migrate CheckOutList.asp
- (Optional)Improve Migrated Code

After completing this module, students will be able to:

- Plan and implement the migration of individual ASP Web pages to ASP.NET.
- Plan and implement the migration of complete ASP Web applications to ASP.NET.

Module 10: Deploying Microsoft ASP.NET Web Applications

This module explains how to prepare an ASP.NET Web application for deployment.

Lessons

- ASP.NET Application Deployment Methods
- Maintaining a Deployed ASP.NET Web Application

Lab: Deploying an ASP.NET Web Application

- Explore and Test the ASP.NET Web Application
- Create the Web Setup Project
- Deploy and Test
- Preparing for External Deployment

After completing this module, students will be able to prepare an ASP.NET Web application for deployment.

Appendix A: Accessing XML Data

This appendix explains how to read, write, and display XML data in an ASP.NET Web application by using the XML classes in the .NET Framework.

Lessons

- XML in Microsoft. NET
- Displaying XML Data on a Web Form
- XML and the DataSet Object

After completing this appendix, students will be able to read, write, and display XML data in an ASP.NET Web application by using the XML classes in the .NET Framework.

Appendix B: Improving Microsoft ASP.NET Web Application Performance Using Caching

This appendix explains how to use the cache object to store global data.

Lessons

- Using the Cache Object

- Using ASP.NET Output
 - Caching

After completing this appendix, students will be able to use the cache object to store global data.

Appendix C: Job Aid: Migrating ASP Web Applications to Microsoft ASP.NET

This appendix is a job aid to assist developers while porting .asp pages to ASP.NET.

Appendix D: Review Game

This appendix gives the students an opportunity to apply the knowledge that they have learned in the course.