

SCISVAC03 - Advanced Web Development

Learning Objectives

Explore the backbone of web page creation by developing .NET skill.

Enrich knowledge about HTML control and web control classes

Provide depth knowledge about ADO.NET

Understand the need of usability, evaluation methods for web services

Course Outcomes

On the successful completion of this course, Students will be able to

- Design a web page with Web form fundamentals and web control classes.
- Recognize the importance of validation control, cookies and session.
- Apply the knowledge of ASP.NET object, ADO.NET data access and SQL to develop a client server model.
- Recognize the difference between Data list and Data grid controls in accessing data.

Unit I Overview of ASP.NET

The .NET framework – Learning the .NET languages Data types – Declaring variables- Scope and Accessibility- Variable operations- Object Based manipulation- Conditional Structures- Loop Structures- Functions and Subroutines. Types, Objects and Namespaces The Basics about Classes- Value types and Reference types- Advanced class programming- Understanding name spaces and assemblies. Setting Up ASP.NET and IIS

Unit II Developing ASP.NET Applications

ASP.NET Applications ASP.NET applications– Code behind- The Global.asax application file- Understanding ASP.NET Classes- ASP.NET Configuration. Web Form fundamentals A simple page applet- Improving the currency converter- HTML control classes- The page class- Accessing HTML server controls. Web controls Web Control Classes – AutoPostBack and Web

Control events- Accessing web controls. Using Visual Studio.NET Starting a Visual Studio.NET Project- Web form Designer- Writing code- Visual studio.NET debugging. Validation and Rich Controls Validation- A simple Validation example- Understanding regular expressions- A validated customer form. State management - Tracing, Logging, and Error Handling.

Unit III Working with Data

Overview of ADO.NET - ADO.NET and data management- Characteristics of ADO.NET-ADO.NET object model. ADO.NET data access SQL basics- Select , Update, Insert, Delete statements- Accessing data- Creating a connection- Using a command with a Data Reader - Accessing Disconnected data - Selecting multiple tables – Updating Disconnected data. Data binding Single value Data Binding- Repeated value data binding- Data binding with data bases. Data list – Data grid – Repeater – Files, Streams and Email – Using XML

Unit IV Web Services

Web services Architecture Internet programming then and now- WSDL- SOAP- Communicating with a web service-Web service discovery and UDDI. Creating Web services Web service basics- The StockQuote web service – Documenting the web service- Testing the web service- Web service Data types- ASP.NET intrinsic objects. Using web services Consuming a web service- Using the proxy class- An example with TerraService.

Unit V Advanced ASP.NET

Component Based Programming Creating a simple component – Properties and state- Database components- Using COM components. Custom controls User Controls- Deriving Custom controls. Caching and Performance Tuning Designing and scalability- Profiling- Catching- Output catching- Data catching. Implementing security Determining security requirements- The ASP.NET security model- Forms authentication- Windows authentication.

Text Book:

Mathew Mac Donald, “ASP.NET Complete Reference”, TMH 2005.

Reference Books:

Crouch Matt J, “ASP.NET and VB.NET Web Programming”, Addison Wesley
2002.

Liberty.J. and D.Hurwitz, “Programming ASP.NET”, Third Edition, O’REILLY,
2006.