Keane

ADO.NET using C#

Course No.

9413

Description

This three-day intensive course teaches the essential elements of ADO.NET such that at the end of the course the user is able to utilize the tremendous database manipulation power either in ASP.NET or Windows Forms.

The course first introduces the user to the basic class members of the ADO.NET family: Connection, DataCommand, DataReader to achieve forward-only reading capability. DataReader bears a close resemblance to the vintage recordset object. Then the course focuses on the backbone of ADO.NET: DataSet and its related classes, such as DataAdapter, DataTable, DataRow, DataColumn, DataRelation, TableMappings. ColumnMappings. DataSet is able to handle multiple tables while remain disconnected. It is eminently suited for Internet-centric tasks. Transactions and Concurrency are discussed. The close relationship between ADO.NET and XML is covered in detail. The course concludes with a practical discussion of data binding and its use in both Windows Forms and Web Forms (ASP.NET) applications.

Upon completion of this course the student will easily program ADO.NET programs in C#.

Prerequisites

A basic knowledge of SQL and of programming the .NET Framework using C#. The student should also understand the fundamentals of XML. To get full benefit from the case studies in the course the student should be able to write simple Windows Forms and Web Forms applications.

Objectives

- Understand the purpose of the ADO.NET classes.
- Identify the ADO.NET classes involved in selecting, inserting, deleting, updating, sorting data rows.
- Identify the nuances of different programming approaches in using the classes.
- Identify the power of XML.
- Showcase ADO.NET in short console programs for brevity and simplicity.
- Emphasize real-life solution in presenting Windows application or ASP.NET application at the end of each chapter, where all the concepts covered by the little console programs are pulled together.
- Understand the magic of XML that can turn a local database into an Internet power source.

Format

Lecture and hands-on workshops

System Requirements

Course exercises require Microsoft Visual Studio .NET 2003 on Windows 2000 or XP. SQL Server should be installed. See the appropriate course Setup Guide for details.

A good minimal hardware profile for this course would have a Pentium 500-MHz or equivalent CPU, 256 MB of RAM, and at least 2 GB of free disk space for tools installation and courseware

Duration

3 days

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Course Contents

1. **ADO.NET Overview**
   - From DAO, RDO, ADO to ADO.NET
   - Visual Studio .NET
   - OLEDB and SQLServer
   - Namespaces and Classes
   - Interfaces
   - First ADO.NET Program.
2. **ADO.NET Connections**
   - Managed Providers
   - Connection Class
   - Connection Strings
   - Connection Pooling
   - Connection Events
   - Connection Factory Pattern
   - Error Handling
3. **ADO.NET Commands**
   - Command Objects
   - Command Types
   - Result Sets
   - Running queries
   - Running scalar queries
   - Running nonqueries
   - Parameters
4. **DataReaders and Connected Access**
   - DataReader Classes
   - Retrieving Data
   - Updating Data
5. **Data Sets and Disconnected Access**
   - DataSet
   - DataAdapter
   - Command Objects
   - DataTable
   - DataColumn
   - DataRow
   - Editing Columns
   - Row States and Versions
   - Sorting and Searching DataTables
   - Events
6. **Navigating the DataSet**
   - DataRelations
   - Constraints
   - Accept or Reject Changes
   - More about the DataAdapter
   - DataMapping
7. **Concurrency and Transaction**
   - Concurrency Overview
   - Transaction
   - Transaction and DataAdapter
   - Isolation Levels
8. **XML and ADO.NET**
   - Strong coupling between ADO.NET and XML
   - Typed DataSet
   - Rendering XML from a DataSet
   - Reading XML into a DataSet
   - Synchronized DataSet
9. **Data Binding**
   - DataView
   - Data Binding in Windows Forms
   - Simple Data Binding
   - DataGrid Binding
   - Master Detail Binding
   - Data Binding in Web Forms

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Keane partners with businesses and government agencies to *optimize* IT investments by delivering exceptional evolution, operation, and maintenance of mission-critical systems and business processes. A US company with a large offshore capability, Keane combines local knowledge and local senior leadership with scalable global delivery that results in low-risk, actionable, cost-effective services and solutions – and a partnership that feels like an extension of your organization.

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