



ADO.NET Using Visual C#® 2005

Instructors: **Andy Baron** is a nationally recognized industry expert specializing in SQL Server, ADO.NET and SQL Server Business Intelligence. Andy is a Microsoft MVP (Most Valued Professional), an author and editor for some of the industry's top publications, and a sought-after speaker and consultant.

Ken Getz is a nationally renowned speaker and best-selling author who specializes in programming with Visual C# and Visual Basic. He is the author and presenter of some of AppDev's most popular courses, and has been showing developers how to build powerful, robust applications for over 10 years.

Target Audience/Prerequisites: This course assumes that students have some familiarity with Visual Studio 2005, the .NET Framework and the fundamentals of programming with Visual C# 2005.

Total Learning Time: 15-45 hours

Media run time is 15+ hours, total learning time could be up to 45 hours if the courseware, labs and exams are utilized. This course can also be used as quick reference material, with the ability to access just the information you need in a matter of minutes.

Course Description: In this course, learn about the features provided by ADO.NET 2.0. Learn to connect to data sources, retrieve and manipulate data, and perform data updates. Examine the various ADO.NET classes, including Connection, Command, DataReader, DataSet, DataTable, DataRelation, and more. See how to apply constraints and relationships to disconnected data. Learn how to update data, including how to handle stored procedures, parameters, and return values. Understand how to search, sort, and filter data stored in a DataSet or DataTable. Become familiar with strongly typed DataSets and learn their advantages. See how to leverage the power of XML through serialization, Diffgrams, and the XMLDataDocument object. Examine new ADO.NET features that support SQL Server 2005 technologies, including asynchronous commands, Multiple Active Result Sets, bulk inserts, and more.

Course Outline:

Accessing Data with ADO.NET

- The ADO.NET Object Model
- Connecting to Data
- Understanding Connection Pooling
- Using Provider Statistics

Retrieving Data

- Introducing Command Classes
- Working with Data Readers
- Digging Deeper into Commands and DataReaders

Caching Data in DataSets

- Populating a DataTable
- Filling DataSets Using a DataAdapter
- Using the Load Method
- Retrieving Schema Information
- DataSets and XML

Applying Constraints

- Using Constraints
- Foreign Key Constraints
- Other Constraints

Data Relations

- Creating DataRelations
- Navigation Pathways
- Expressions and Relations
- Specifying XML Nesting

Updating Data

- Creating Commands with CommandBuilders
- Creating Custom Commands
- Using Stored Procedures
- Performing Batch Updates

Using Strongly Typed DataSet Classes

- Using a Loosely Typed DataSet
- Creating a Strongly Typed DataSet
- Using a Strongly Typed DataSet
- Issues with Using a Strongly Typed DataSet

Handling Exceptions and Data Errors

- Using Structured Exception Handling
- Handling Provider Errors
- Using Transactions
- Handling Concurrency Conflicts

Searching, Sorting, and Filtering

- The Sample Project
- Working with DataTables
- Working with DataViews

Handling AutoIncrement Columns

- The AutoIncrement Property
- Retrieving New Database Values
- Avoiding Multi-User Conflicts
- Merging Inserted Rows
- Other Considerations

XML Techniques

- ADO.NET and XML
- Saving DataSet Data as XML
- Loading XML Data into a DataSet
- Working with DataSets and XML Together
- Working with XML Data in SQL Server

Features Supporting SQL Server 2005

- Enumerating Servers on a Network
- Asynchronous Processing
- Multiple Active Result Sets (MARS)
- Bulk Copy Operations
- SQL Server Max Data Types
- SQL Server User Defined Types
- SQL Server Snapshot Isolation

Number of Modules	Media Run Time	Total Learning Time	Printable PDF Courseware*	Hands-on Labs	Sample Code	Pre/Post Exams	Supports Microsoft Exam Number
10 Modules	15+ hours	15-45 hours	600+ Pages	Yes	Yes	Yes	70-528, 70-526

* Professionally printed, bound courseware (student manuals) are available. Ask for details.