

## **Module3 ADOAndSQL (2)**

### **UNIT 1 ADONET Fundamentals**

1. The ADONET Architecture
2. ADONET Data Providers
3. Standardization in ADONET
4. SQL Server 2005
5. Fundamental ADONET Classes
6. The Connection Class
7. Connection Strings
8. Testing a Connection
9. Connection Pooling
10. Connection Statistics
11. The Command and DataReader Classes
12. Command Basics
13. The DataReader Class
14. The ExecuteReader() Method and the DataReader
15. The ExecuteScalar() Method
16. The ExecuteNonQuery() Method
17. SQL Injection Attacks
18. Using Parameterized Commands
19. Calling Stored Procedures
20. Transactions
21. Transactions and ASPNET Applications
22. Isolation Levels
23. Savepoints
24. Provider-Agnostic Code
25. Creating the Factory
26. Create Objects with Factory
27. A Query with Provider-Agnostic Code

### **UNIT 2 Data Components and the DataSet**

1. Building a Data Access Component
2. The Data Package
3. The Stored Procedures
4. The Data Utility Class
5. Testing the Database Component
6. Disconnected Data
7. Web Applications and the DataSet
8. XML Integration
9. The DataSet
10. The DataAdapter Class
11. Filling a DataSet
12. Working with Multiple Tables and Relationships

13. Searching for Specific Rows
14. Using the DataSet in a Data Access Class
15. Data Binding
16. The DataView Class
17. Sorting with a DataView
18. Filtering with a DataView
19. Advanced Filtering with Relationships
20. Calculated Columns
21. Typed DataSets
22. Custom TableAdapters
23. Creating a Typed DataSet
24. Dissecting the Typed DataSet
25. Using the Typed DataSet

### **UNIT 3 Data Binding**

1. Basic Data Binding
2. Single-Value Binding
3. Other Types of Expressions
4. Repeated-Value Binding
5. Data Source Controls
6. The Page Life Cycle with Data Binding
7. The SqlDataSource
8. Selecting Records
9. Parameterized Commands
10. Handling Errors
11. Updating Records
12. Deleting Records
13. Inserting Records
14. Disadvantages of the SqlDataSource
15. The ObjectDataSource
16. Selecting Records
17. Updating Records
18. Updating with a Data Object
19. The Limits of the Data Source Controls
20. The Problem
21. Adding the Extra Items
22. Handling the Extra Options with the SqlDataSource
23. Handling the Extra Options with the ObjectDataSource

### **UNIT 4 Files and Streams**

1. Working with the File System
2. The Directory and File Classes
3. The DirectoryInfo and FileInfo Classes
4. The DriveInfo Class

5. Working with Attributes
6. Filter Files with Wildcards
7. Retrieving File Version Information
8. The Path Class
9. A File Browser
10. Reading and Writing Files with Streams
11. Text Files
12. Binary Files
13. Uploading Files
14. Making Files Safe for Multiple Users
15. Compression
16. Serialization

## **UNIT 5 LINQ**

1. LINQ Basics
2. Deferred Execution
3. How LINQ Works
4. LINQ Expressions
5. LINQ Expressions “Under the Hood”
6. LINQ to DataSet
7. Typed DataSets
8. Null Values
9. LINQ to SQL
10. Data Entity Classes
11. The DataContext
12. LINQ to SQL Queries “Under the Hood”
13. LINQ to SQL and Database Components
14. Selecting a Single Record or Value
15. Generating Data Classes Automatically
16. Relationships
17. Generating Methods for Stored Procedures
18. Committing Changes
19. The LinqDataSource
20. Displaying Data
21. Getting Related Data
22. Editing Data
23. Validation

## **UNIT 6 XML**

1. When Does Using XML Make Sense
2. An Introduction to XML
3. The Advantages of XML
4. Well-Formed XML
5. XML Namespaces

6. XML Schemas
7. Stream-Based XML Processing
8. Writing XML Files
9. Reading XML Files
10. In-Memory XML Processing
11. The XmlDocument
12. The XPathNavigator
13. The XDocument
14. Searching XML Content
15. Searching with XmlDocument
16. Searching XmlDocument with XPath
17. Searching XDocument with LINQ
18. Validating XML Content
19. A Basic Schema
20. Validating with XmlDocument
21. Validating with XDocument
22. Transforming XML Content
23. A Basic Stylesheet
24. Using XslCompiledTransform
25. Using the Xml Control
26. Transforming XML with LINQ to XML
27. XML Data Binding
28. Nonhierarchical Binding
29. Using XPath
30. Nested Grids
31. Hierarchical Binding with the TreeView
32. Using XSLT
33. Binding to XML Content from Other Sources
34. Updating XML Through the XmlDataSource
35. XML and the ADONET DataSet
36. Converting the DataSet to XML
37. Accessing a DataSet As XML

## **UNIT 7: Creating Databases and Database Files**

1. Creating Databases
2. Creating File groups
3. Creating Schemas
4. Creating Database Snapshots
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## **UNIT 8: Creating Data Types and Tables**

1. Creating Data Types
2. Creating Tables
3. Creating Partitioned Tables

## **UNIT 9: Creating and Tuning Indexes**

1. Planning Indexes
2. Creating Indexes
3. Optimizing Indexes

## **UNIT 10: Implementing Data Integrity by Using Constraints and Triggers**

1. Data Integrity Overview
2. Implementing Constraints
3. Implementing Triggers

## **UNIT 11: Implementing Views**

1. Introduction to Views
2. Creating and Managing Views
3. Optimizing Performance by Using Views

## **UNIT 12: Implementing Stored Procedures**

1. Implementing Stored Procedures
2. Creating Parameterized Stored Procedures
3. Working with Execution

## **UNIT 13: Implementing Functions**

1. Creating and Using Functions
2. Working with Functions

## **UNIT 14: Managing Transactions and Locks**

1. Overview of Transactions and Locks
2. Managing Transactions
3. Understanding SQL Server Locking Architecture
4. Managing Locks