
Deep Dive Data Access (ADO.NET & XML)

Dauer: 3 Tage Kursnummer: M2541-2542

Überblick:

Dieser dreitägige Deep Dive Workshop vermittelt Ihnen sowohl das Fachwissen als auch die Fertigkeiten, welche Sie benötigen, um mit die ausgereiften Datenzugriffsfunktionalitäten und Techniken in Microsoft.NET Framework und Microsoft Visual Studio 2005 einzusetzen. Im Rahmen dieses Kurses werden der Datenzugriff und die Umsetzung von Datenbankfunktionalitäten unter Einsatz von Microsoft ADO.NET 2.0 und Microsoft SQL Server 2005 vermittelt. Darüber hinaus erlernen Sie die Lokalisierung, Editierung und Umwandlung von XML unter Einsatz des XPath and Extensible Style sheet Language for Transformations (XSLT).

Dieser Kurs wird deutschsprachig mit den Original englischsprachigen MOC Kursunterlagen 2541 und 2542 vorgetragen.

Kursformat: 65 % Theorie, 35 % Praxis

Wer soll teilnehmen?:

Softwareentwickler, die sich in spezifischen Technologiebereichen des Distributed Application Developments weiterbilden möchten.

Kursziel:

- Zugriff auf und Lesen von Daten in Datenbanken
 - Die Erstellung von Abfragen und Durchführung von Aktualisierungen
 - Durchführung von Transaktionen
 - Durchführung von disconnected operations
 - Durchführung von disconnected operations unter Einsatz des Visual Studio 2005 Wizards
 - Lesen und Schreiben von XML Daten
 - Verarbeitung von XML Daten unter Einsatz des Object Model DOM
 - Minimierung und Handhabung von Konflikten bei Datenbankprozessen
 - Handhabung großer Objekte
 - Verbesserung der Leistung der Datenbank
 - Schaffung von managed code objects für SQL Server 2005
 - XML Abfragen unter Einsatz von XPath
 - Umwandlung von XML unter Einsatz von XSLT Style Sheets.
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Voraussetzungen:

- Erfahrung im Umgang mit IDE
 - Grundlegendes Verständnis von und Programmierkenntnisse in .NET Framework 2.0
 - Grundlegendes Verständnis von relationalen Datenbankkonzepten
 - Einsatz und Verständnis von SQL Eingabebefehlen
 - Gute Kenntnisse in XML
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Folgekurse:

- Take off to LINQ (GKLINQ)
 - Developing ASP.NET Web Applications with Visual Studio 2005 (M2543-2544)
 - Take off to WPF (GKTOWPF)
 - Take off to WCF (GKTOWCF)
 - Take off to WF (GKTOWF)
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Detaillierte Kursbeschreibung:

Modul 1: Connecting to Databases and Reading Data

This unit introduces the fundamental skills required to connect to a database and read data from the database. It describes how to use ADO.NET data providers to connect to various different kinds of databases, and how to execute a query that returns a scalar value from the database. It also describes how to use connection pooling to achieve scalability, and how to handle connection events and exceptions.

- What Is ADO.NET?
- The Process for Connecting to a Database and Reading Data
- What Is Connection Pooling?

Modul 2: Querying and Updating Databases by Using Commands

This unit describes how to create and run commands that return a scalar value, return a result set, update data in the database, or update the schema of the database. It also describes how to create and run parameterized commands.

- ADO.NET Commands
- The Process for Passing Parameters into Commands

Modul 3: Performing Transactional Operations

This unit describes how to manage transactions in a .NET application at the middle tier. It describes how to write ADO.NET code to start, commit, and rollback local transactions. It also describes how to specify an appropriate isolation level for a transaction, and how to enlist in distributed transactions.

- What Is a Transaction?
- The Process for Managing Local Transactions
- The Process for Managing Distributed Transactions
- Isolation Levels
- Lab: Performing Transactional Operations

Modul 4: Performing Disconnected Operations Programmatically

This unit describes how to create and use DataSets programmatically. It describes how to create DataSet, DataTable, and DataColumn objects, how to populate a DataSet manually, and how to load and save data by using a DataAdapter. It also describes how to create in-memory views on data by using a DataView.

- What Is the ADO.NET Disconnected Model?
- The Process for Loading and Saving Data in a DataSet
- What Are DataViews?

Modul 6: Performing XML Operations on Disconnected Data

This unit describes how to read and write DataSets in XML format. It describes how to read and write data only, schema only, or a combination of the two. It also describes how to read and write a DataSet as a DiffGram, so that modifications to the data can be retained when the DataSet is serialized to XML format.

- XML Representations of DataSets
- What Are DiffGrams?
- Lab: Performing XML Operations on Disconnected Data

Modul 7: Reading and Writing XML Data

This unit describes how to use the XmlReader and XmlWriter classes to serially read and write XML data. It describes how to read elements, attributes, and text content in an XML document, and perform validation against an XML schema. It also describes how to create an XML document and write elements, attributes, namespace declarations, and text content.

- The Process for Serially Reading XML Data
- The Process for Serially Writing XML Data
- Lab: Reading and Writing XML Data

Modul 8: Processing XML Data by Using DOM

This unit describes how to process XML data in memory by using the Document Object Model (DOM). It describes how to load an XML document into a DOM tree, and validate the XML document against an XML schema. It also describes how to read existing XML content, modify XML content, and save the DOM tree to an XML document.

- What Is DOM?
- What Are DOM Trees?
- Types of XML Nodes in a DOM Tree
- Lab: Processing XML Data by Using DOM

Modul 9: Minimizing and Handling Database Operation Conflicts

This unit describes how to minimize data access conflicts, and how to handle these conflicts when they occur. It describes how to implement optimistic concurrency in the ADO.NET disconnected model, and how to implement optimistic concurrency by using the various isolation levels available in SQL Server 2005.

- Why Do Data Conflicts Arise?
- Isolation Levels Available in SQL Server 2005

Modul 11: Enhancing Database Performance

This unit describes how to enhance database performance by using new features available in ADO.NET 2.0. The unit describes how to perform asynchronous data operations, create multiple active result sets, perform batch updates, and perform bulk copies.

- ADO.NET Enhancements in the .NET Framework 2.0
- SQL Server Provider Statistics
- Lab: Enhancing Database Performance

Modul 12: Creating Managed Code Objects for SQL Server 2005

This unit describes how to create database objects for SQL Server 2005 in a .NET Framework programming language. It describes how to create stored procedures, triggers, user-defined functions, aggregates, and user-defined types in managed code. Additionally, it describes how to deploy an assembly that contains managed objects into SQL Server 2005, and how to declare database objects to reference the managed objects.

- The Benefits of Creating Managed Code Objects
- Demonstration: The Process for Importing an Existing Assembly into SQL Server 2005
- Demonstration: The Process for Implementing Managed Code Objects in SQL Server 2005
- Lab: Creating Managed Code Objects for SQL Server 2005

Modul 13: Querying XML by Using XPath

This unit describes how to use XPath in a .NET Framework application. It describes how to create an XPathNavigator object on an XML document, and how to locate content and evaluate expressions by using the XPathNavigator object. Additionally, it describes how to edit XML data by using the XPathNavigator object.

- The XPath Data Model
- The Process for Selecting and Editing XML Data by Using XPathNavigator
- The Process for Evaluating XPath Expressions by Using XPathNavigator
- Lab: Querying XML by Using XPath

- Lab: Performing Disconnected Operations Programmatically

Modul 5: Performing Disconnected Operations by Using Visual Studio 2005 Wizards

This unit describes how to create typed DataSets, DataAdapters, and TableAdapters by using the TableAdapter Configuration Wizard and the Data Source Configuration Wizard in Visual Studio 2005. It also describes how to write type-safe code to access data in a typed DataSet.

- Comparing Untyped DataSets with Typed DataSets
- What Are Table Adapters?
- Demonstration: Creating a Typed DataSet by Using Visual Studio 2005 Wizards
- Lab: Performing Disconnected Operations by Using Visual Studio 2005 Wizards

- Guidelines for Using SQL Server 2005 Isolation Levels
- Lab: Minimizing and Handling Database Operation Conflicts

Modul 10: Handling Large Objects

This unit describes how to read and write large values efficiently to a SQL Server database. It describes how to read large binary values and large text values by using SequentialAccess for a SqlDataReader. It also describes how to write large binary values and large text values, and how to conserve resources when writing large values.

- What Are Binary Large Objects and Character Large Objects?
- The Process for Reading Large Objects from a Database
- The Process for Writing Large Objects to a Database
- Lab: Handling Large Objects

Weitere Informationen:

Für weitere Informationen oder Buchung kontaktieren Sie uns bitte unter 01/66 55 655 3000

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