

Advanced Data Access with Microsoft Visual Studio 2005

Workshop 2542: Two days; Instructor-Led

Introduction

This two-day instructor-led workshop provides students with the knowledge and skills needed to use advanced data access features and techniques in the Microsoft .NET Framework and Microsoft Visual Studio 2005. The workshop describes how to access data and how to implement database functionality by using Microsoft ADO.NET 2.0 and Microsoft SQL Server 2005. The workshop also describes how to locate, edit, and transform XML by using XPath and Extensible Style sheet Language for Transformations (XSLT).

Audience

This workshop is intended for corporate and Independent Software Vendor (ISV) application developers who have a desire to learn more about specific technology areas in distributed application development.

Objectives

After completing this workshop, students will be able to:

- Minimize and handle database operation conflicts.
- Handle large objects.
- Enhance database performance.
- Create managed code objects for SQL Server 2005.
- Query XML by using XPath.
- Transform XML by using XSLT style sheets.

Prerequisites

Before attending this workshop, students must:

- Have attended or studied Workshop 2541, Core Data Access with Microsoft Visual Studio 2005, or possess equivalent knowledge and skills.
- Know how to use delegates.
- Be able to use database stored procedures, triggers, and aggregates.
- Be able to explain XPath concepts and basic syntax.
- Be able to explain XSLT style sheet concepts.

Workshop Outline

Unit 1: 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.

Unit 2: 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.

Unit 3: 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.

Unit 4: 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.

Unit 5: 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.

Unit 6: Transforming XML by Using XSLT Style Sheets

This unit describes how to transform XML documents in a .NET Framework application. It introduces how to load an XSLT style sheet in an application, and how to execute the style sheet to transform an XML document. The unit also describes how to pass parameters into a style sheet, and how to create and use extension objects.