

Visual Studio 2008 Windows Communication Foundation (MS6461)

Duration: 3 days

Description

This course provides students with the knowledge and skills to build and configure a Windows Communication Foundation (WCF) solution.

Audience

This course is intended for application developers who know how to build and consume Web services in Microsoft .NET Framework 2.0 and how to use the common features of the base class library.

Prerequisites

Before attending this course, students should have intermediate experience of developing applications by using previous versions of Microsoft Visual Studio development system at level 200.

Topics

GETTING STARTED WITH WINDOWS COMMUNICATION FOUNDATION

This module explains how to build a simple WCF service and client.

Lessons

- Designing an Application to Be Part of a Service Oriented Architecture
- Overview of WCF Architecture
- Using a Language-Level Interface As a Service Contract
- Implementing a Simple WCF Service in Visual Studio 2008
- Consuming a simple WCF service in Visual Studio 2008

Lab: Creating a Simple Service

- Creating a Simple WCF Service
- Calling the Simple WCF Service

CONFIGURING AND HOSTING WCF SERVICES

This module explains how to create and configure a WCF service as a managed application and select an appropriate hosting option.

Lessons

- Programmatically Configuring a Managed Application to Host a WCF Service
- Programmatically Configuring a Managed Application to Call a WCF Service
- Defining Client and Service Settings by Using File-Based Configuration
- Selecting a Hosting Option for a WCF Service Deploying a WCF Service

Lab: Configure and Host a WCF Service

- Creating a Programmatically Configured Managed Application to Host a Service
- Calling a Service Hosted in a Managed Application by Using Programmatic Configuration
- Defining Service Settings by Using External Configuration Employing Different Hosting Options for a Service

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ENDPOINTS AND BEHAVIORS

This module explains how to expose a WCF service over different endpoints and add run-time functionality by using behaviors.

Lessons

- Exposing WCF Services Over Different Endpoints
- Adding Behaviors to Services and Endpoints
- Interoperating with Non-WCF Web services
- Exposing Services by Using Different Bindings

Lab: Changing Service Endpoints and Behaviors

- Exposing Services by Using Different Bindings
- Adding Metadata Exchange to a Service
- Creating WCF Clients and Services that Interoperate with Non-WCF Web Services

DEBUGGING AND DIAGNOSTICS

This module explains how to improve debugging capabilities by examining messages and service activity.

Lessons

- Logging Messages
- Activity Tracing

Lab: Message Logging and Activity

- Generating Logging Information for a Service
- Enabling End-to-End Tracing for a Service

DESIGNING AND DEFINING CONTRACTS

This module explains how to define service, operation, and data contracts to meet application requirements.

Lessons

- Designing a Coherent and Cohesive WCF Service Interface Defining a Service Contract
- Defining Operations on a Service
- Defining a Data Contract

Lab: Contracts for Services and Data

- Defining and Implementing a One-Way Operation Contract
- Passing Complex Data with a Data Contract
- Defining and Implementing a Callback Contract

HANDLING ERRORS

This module explains how to add error handling to a WCF application.

Lessons

- Relating .NET Exceptions to Service-Level Faults
- Using Faults in a Service
- Handling Faults and Exceptions on Clients

Lab: Error Handling

- Handling Unexpected Errors in a WCF Service
- Add Fault Handling to a WCF Service and the Service Contract

IMPROVING WCF SERVICE QUALITY

This module explains how to address service quality issues such as performance, availability, concurrency, and instance management.

Lessons

- Managing WCF Service Instances
- Managing Concurrency Issues
- Improving WCF Service Quality

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Lab: Improving WCF Service Quality

- Managing WCF Service Instances
- Managing Concurrency Issues
- Throttling Access to a WCF Service
- Passing Bulk Data Between a WCF Client and Service

IMPLEMENTING WCF SECURITY

This module explains how to implement security in a WCF application.

Lessons

- Overview of Security in WCF
- Applying Overall Security Requirements to a Binding
- Specifying Required Client and Service Credentials
- Working With Security Information

Lab: Protecting a Service

- Applying Security for Internal Network Communication
- Applying Security for Internet Communication

IMPLEMENTING TRANSACTIONS

This module explains how to protect data integrity through correct use of transactions.

Lessons

- Overview of Transactions in a Service-Oriented Application
- Creating Transactional Service Operations
- Enabling the Flow of Transactions from Client to Service

Lab: Implementing Transactions for a Service

- Controlling the Flow of a Transaction from Client to Service
- Forcing a Transaction to Start When a Service Operation Is Called