

Introduction to WCF Using C#

Course Summary

Description

Windows Communication Foundation (WCF) is Microsoft's new framework for building distributed systems. It unifies and builds on the diverse set of existing distribution mechanisms, which include ASP.NET Web services and .NET Remoting. WCF enables developers to produce highly configurable, secure, reliable and transactional services using a single simplified programming model. And since WCF supports the WS-* series of Web service standards, it enables simple interoperation with other platforms and technologies. This course covers the essentials of the technology and includes a large number of working examples and lab exercises.

Objectives

At the end of this course, students will be able to:

- Learn what WCF is, and how it unites existing distribution mechanisms
- Gain an understanding of what ABC (Address, Binding, Contract) means for WCF services
- Learn how to implement WCF services and clients

Topics

- Introduction to WCF
- Addresses and Bindings
- Service Contracts
- Instance Management
- Data Contracts
- More about Service Contracts
- Handling Errors

Prerequisites

Students should have a good working knowledge of building .NET applications with C#. Knowledge of building distributed systems and Web services will also be an advantage.

Duration

Three days

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Course Outline

I. Introduction to WCF

- A. What is WCF?
- B. Address, Binding and Contract
- C. WCF Services and Clients
- D. IIS Hosting
- E. WCF Architecture

II. Addresses and Bindings

- A. Addresses
- B. Bindings
- C. Message Exchange Patterns
- D. Configuring Bindings
- E. Interoperating with ASMX Web Services
- F. Hosting in a Console Application
- G. Channel Factories
- H. Multiple Endpoints

III. Service Contracts

- A. Defining Service Contracts
- B. Defining Operation Contracts
- C. Services With Multiple Contracts
- D. Contract Inheritance
- E. Operation Overloading

IV. Instance Management

- A. Using Per-Call Services
- B. Using Per-Session Services
- C. Using Singleton Services
- D. Configuring Behaviors

V. Data Contracts

- A. Implementing Data Contracts
- B. Mapping Data Contracts to XSD Schema
- C. Serialization
- D. Arrays and Generic Collections
- E. Enums
- F. Versioning Data Contracts

VI. More about Service Contracts

- A. Versioning Service Contracts
- B. Implementing Message Exchange Patterns
- C. Oneway Contracts
- D. Duplex Contracts
- E. Asynchronous Proxies

VII. Handling Errors

- A. Faults and Exceptions
- B. Generating and Handling Faults
- C. Fault Contracts
- D. Faults and Sessions