

# Deccansoft Software Services

(A Microsoft Learning Partner)

## WCF

### Module 1: Introduction to WCF

In this module, You will learn about the Evolution and Architecture of SOA & WCF .

- ❖ Evolution of WCF
- ❖ Evolution of Service Oriented Architecture (SOA)
- ❖ Four Tenets of SOA
- ❖ What is WCF
- ❖ WCF Architecture
- ❖ Where does WCF Services fit in application Development?

### Module 2: Developing WCF Service Application and Client

In this module, You will learn about the Creating WCF service and host in IIS Webserver or Self host Console based application

- ❖ Hosting WCF Service in IIS/ASP.NET Development Server
- ❖ Using a Service in the client application
- ❖ Understand Contracts in the service.
- ❖ ServiceContract.
- ❖ OperationContract.
- ❖ DataContract.
- ❖ Understand Instancing behavior in the service.
- ❖ Single
- ❖ PerCall
- ❖ PerSession
- ❖ Building WCF Library based Host and Client application

### Module 3: Endpoints in configuration file

In this module, You will learn about the role of End Point – ABC of WCF Service.

- ❖ End points in Configuration File.
- ❖ ABC - Address, Binding & Contract of the service in Configuration File.

- ❖ Understanding importance of base address.
- ❖ Importance of IMetadataExchange Contract / Endpoint.
- ❖ Configuring service behavior in configuration file
- ❖ WCF Service Configuration Editor
- ❖ Creating Endpoints through Code / Programming

#### **Module 4: Channel Stacks & Bindings in WCF**

In this module, You will learn about the channels, bindings, and configuration options..

- ❖ Understanding Channel Stack
- ❖ Introduction to Binding
- ❖ Types of Bindings.
- ❖ Binding Comparison
- ❖ Thumb rules in choosing endpoint binding
- ❖ Configuring a Service and Client for Multiple Bindings
- ❖ Binding Class Properties.

#### **Module 5: Understanding Service and Data Contracts**

In this module, You will learn about the Service Contracts, Operation Contracts and Data Contracts..

- ❖ Service and Data Contracts
- ❖ About Service Contract
- ❖ Operation Overloading
- ❖ Serialization
- ❖ Data Contract & Data Member
- ❖ Data Contract Equivalence
- ❖ Versioning using Interface IExtensibleDataObject
- ❖ Version Tolerance
  - Implications of Modifying Service Operations
  - Implications of Modifying Data Contracts
- ❖ Working with Known Types
  - Data Contract hierarchy
  - Contract Inheritance
  - Delegates
  - Data Sets and Tables

- Generics
- Collections
- ❖ Service Contracts Factoring and Design

#### **Module 6: Handling WCF Exceptions/Faults**

In this module, You will learn about the Handle and interoperate Exceptions between client and server..

- ❖ Exceptions and Faults

#### **Module 7: Message Exchange Patterns**

In this module, You will learn about the Message patterns and Duplex Patterns.

- ❖ Message Patterns & Oneway Operations
- ❖ Duplex Pattern (Callback)
- ❖ Duplex Publisher Subscriber Example
- ❖ Events
- ❖ Streaming

#### **Module 8: Transactions in WCF**

In this module, You will learn about the transactions across service boundaries.

- ❖ What is Transaction and ACID
- ❖ How to enable Transaction in WCF Service
- ❖ TransactionScope in to begin a transaction.
- ❖ Transaction Isolation
- ❖ Transactions and Sessions

#### **Module 9: MSMQ**

In this module, You will learn about the Implementing Asynchronous communication using MSMQ Server

- ❖ Introduction
- ❖ Advantages of using MSMQ
- ❖ Transactional Queues
- ❖ Steps to follow to Build a MSMQ application

#### **Module 10: -- Security in WCF**

In this module, You will learn about the Implementing Security (Authenticate and authorization) access to services.

- ❖ Concepts.

- ❖ Security Mechanisms.
- ❖ Default Security Settings.
- ❖ Demonstrate how Messages are encrypted.
- ❖ Authentication
  - Windows Authentication
  - HTTPS / SSL Authentication.
  - ASP.NET Membership Authentication
  - Custom Authentication
- ❖ Authorization
  - Windows Group/Role based Authorization
  - Custom Role based Authorization
  - ASP.NET Role Provider

**Module 11: Routing**

In this module, You will learn about the Hosting the Routing Service and Configuring Routing Services.

**Module 12: WCF Data Service**

In this module, You will learn about the Creating services using the Open Data Protocol (OData) and consume data over the Web

**Module 13: REST Services**

In this module, You will learn about the Implementing Rest Services using GET, POST, PUT, Delete.