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Microsoft®
Web Services and WCF

Web Services initiated SOA application development, which is one of the most influential design pattern.

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+91 93925 63949

★ About Web Services and WCF

Web Services initiated SOA application development, which is one of the most influential design pattern. A web service is a standard platform for building interoperable distributed applications. It allows you as a developer, to interact with other information providers without worrying about what they are running either at the backend or even their front-end. Windows Communication Foundation (or WCF) is an application programming interface (API) in the .NET Framework for building 2nd generation Service Oriented Applications. WCF is designed in accordance with service oriented architecture principles to support distributed computing where services are consumed by consumers. Clients can consume multiple services and services can be consumed by multiple clients.

★ Course Objectives

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

- Understand Distributed computing. Comparing DCOM, CORBA and RMI
- Develop and Configure Web services
- Understand the inspiration and architecture of SOA & WCF
- Create WCF client and service
- Expose services using SOAP Protocol
- Understand channels, bindings, and configuration options
- Host a service in Web Server (IIS) or Console Application/Windows Service
- Handle Exception in services
- Implement Security (Authenticate and authorization) access to services
- Manage transactions across service boundaries
- Implement Asynchronous communication using MSMQ Server

★ Prerequisites:

Participant must have decent knowledge of Object Orientation and language C#.

★ WebService & WCF Syllabus

Web Services

- ▶ What is Distributed Application
- ▶ High Level Architecture on how RMI/CORBA/DCOM works
- ▶ Introduction to WebService & SOAP
- ▶ To build an WebService application and client
- ▶ Pass by value and reference behavior
- ▶ Working with SoapHeader Attribute
- ▶ Asynchronous Call to the WebMethod
- ▶ Security in WebService

Introduction to WCF

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

Developing WCF Service Application and Client

- ▶ 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.

Endpoints in configuration file

- ▶ 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

Channel Stacks & Bindings in WCF

- ▶ 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.

Understanding Service and Data Contracts

- ▶ About Service Contract
- ▶ Data Contract & Data Member
- ▶ Versioning using Interface IExtensibleDataObject

Version Tolerance

- ▶ Implications of Modifying Service Operations
- ▶ Implications of Modifying Data Contracts
- ▶ Working with Known Types

Handling WCF Exceptions/Faults

- ▶ Overview
- ▶ Producing Faults
 - ▶ SOAP fault with FaultCode and FaultReason
 - ▶ Culture specific SOAP fault
 - ▶ Strongly Typed SOAP fault
- ▶ Consuming Faults
- ▶ Proxy State for Managed Exceptions Vs SOAP Fault

Message Exchange Patterns

- ▶ Request – Reply Pattern
- ▶ One way Operations
- ▶ Duplex Pattern
- ▶ Duplex Publisher Subscriber Example

Transactions

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

★ Benefits of Availing our courses:

1. Participants will go through real time training as per current standard industry norms.
2. We take you very close to the actual development, which enables the participants to implement in a proper way, when on job.
3. The course modules help the participants to work on real time projects so as to implement whatever is learnt.
4. No need to increase the burden by buying books for reference, as all the course content handouts are prepared after in-depth understanding of the subject, which can be also used for quick reference.
5. We believe in permanent relationship, so our technical experts would be available for to provide you with the required guidance through our live support.
6. Trainers who can outline the subject matter are many but we believe to train the students to have ever lasting expertise on the subject matter.
7. Training with us will provide you with the skills and knowledge necessary for achieving confidence so that the individual can be productive from day one.
8. Our courses are designed such that more comprehensive professional and more practical oriented training.

Deccansoft believes in providing value based training and inline to our corporate vision of quality training Deccansoft will refund the money to students who are not satisfied with the training provided with in one week of starting the classroom training session.

★ For more details please contact us at enquiry@deccansoft.com or support@bestdotnettraining.com

★ Corporate Enquiry

The Above Course Content can be customized for corporate trainings. Contact Corporate Course Coordinator manjula.sk@deccansoft.com