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10263A

Developing Windows® Communication Foundation Solutions with Microsoft® Visual Studio® 2010

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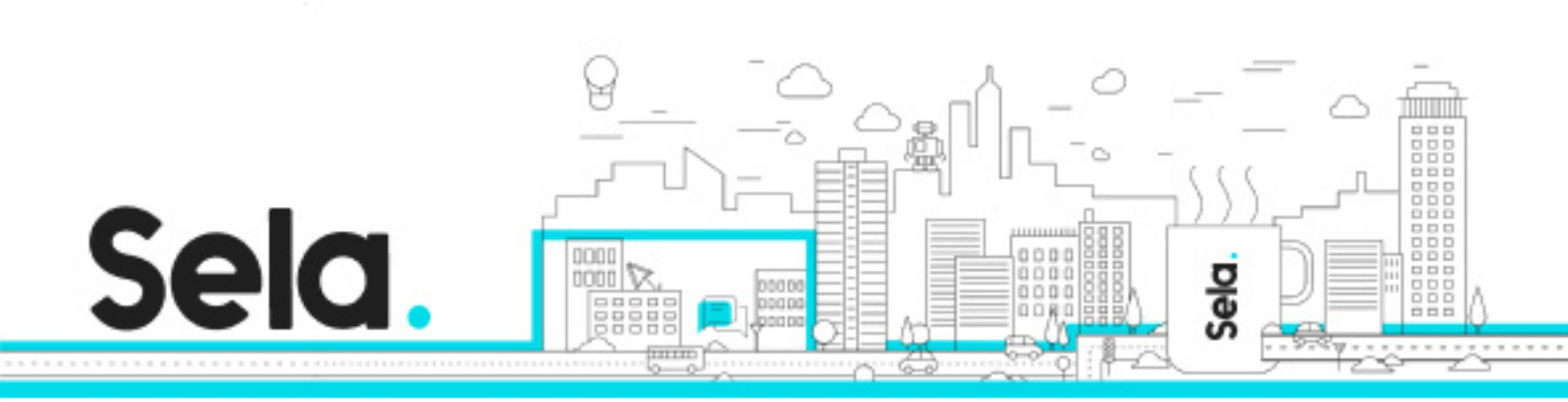


Developing Windows® Communication Foundation Solutions with Microsoft® Visual Studio® 2010

10263A - Version: 1

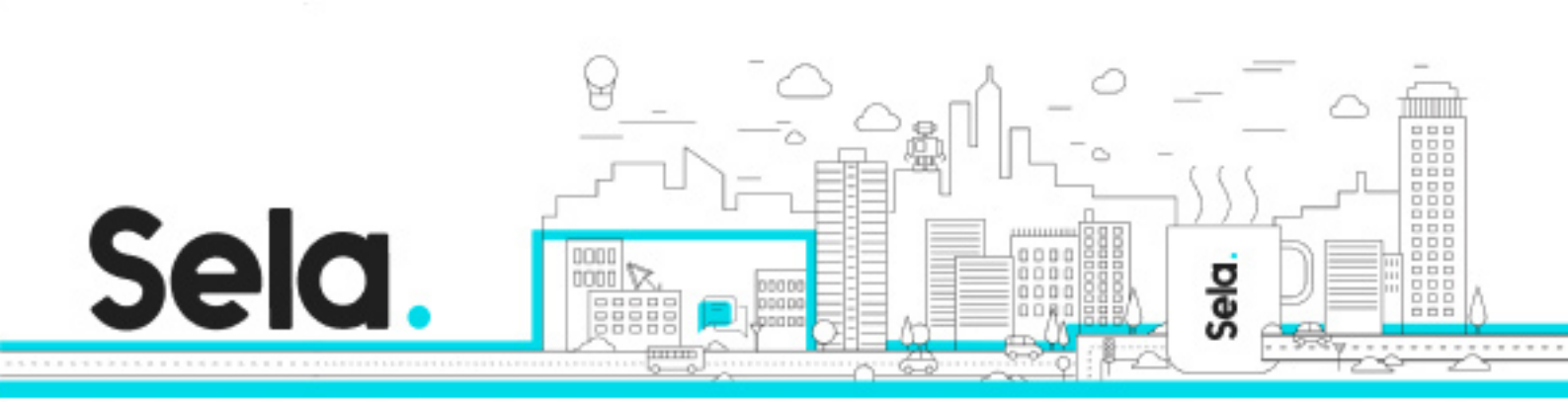
4 days Course

Description:

In this course, students will learn to develop Windows Communication Foundation applications using .NET Framework 4 and Visual Studio 2010. Service Oriented Application design considerations will also be included as part of this training. This course will help students prepare for certification exam 70-513.
Notice: This course is designed for experienced .NET developers. For classrooms that include less experienced students, instructors may choose to adjust the course timings and establish a slower pace through the training material.

Intended audience:

This course is intended for professional .NET programmers who use Microsoft® Visual Studio® in a team-based, medium-sized to large development environment. Students should have experience consuming services within their Web and/or Windows® client applications and be interested in learning to develop service-oriented applications (SOA) using WCF. Students should be experienced users of Microsoft® Visual Studio® 2008 SP1, as well as cursory familiarity with Microsoft® Visual Studio® 2010 for Windows® client or Web application development.



Prerequisites:

Understanding of the problem-solving techniques that apply to software development.
General understanding of the purpose, function, and features of the .NET Framework.
Experience developing software using Visual Studio®
2008 or Visual Studio®
2010.
Experience in object-oriented design and development using the C# programming language.
Experience in n-tier application design and development.

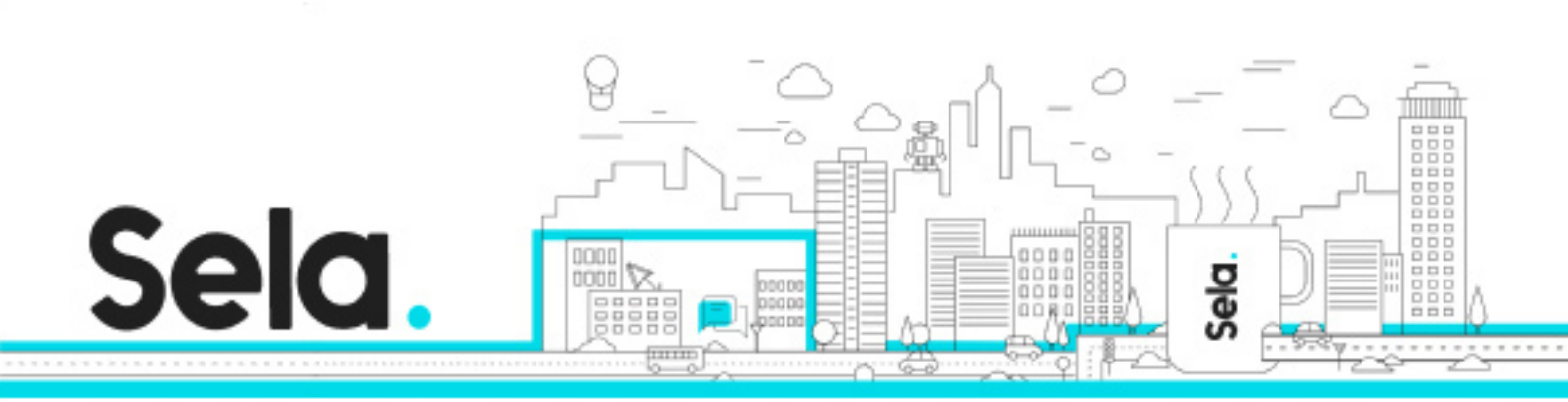
Objectives:

Implement Service-Oriented Architecture tenets in WCF services
Host WCF services in a variety of Windows® hosts
Define and implement WCF service contracts, data contracts, and message contracts
Use multiple endpoints with various messaging patterns
Test, troubleshoot, monitor, and diagnose WCF services
Ensure service reliability using transactions and message queues
Secure WCF services using message and transport security
Extend WCF using behaviors, dispatchers, inspectors, and formatters

Topics:

Module 1: Service-Oriented Architecture

- What Is SOA?
- The Benefits of SOA
- Scenarios and Standards
- Introduction to WCF
- Lab : Service-Oriented Architecture
    - Practice the SOA Tenets
    - Implement Service Agility and Scalability



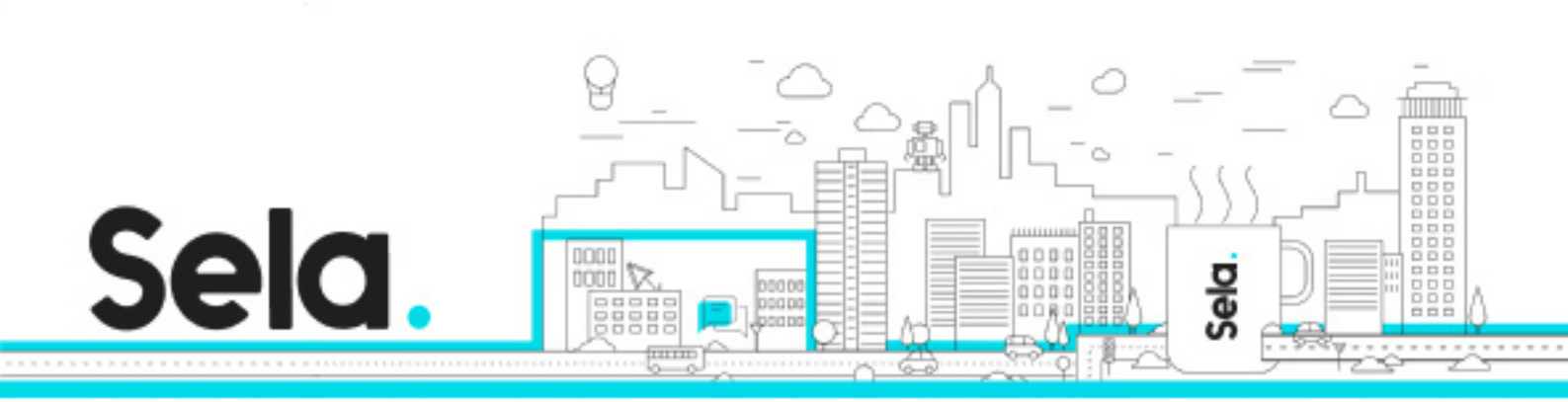
- º Interoperability with Other SOA Technologies
- º Use REST Services

Module 2: Getting Started with Microsoft® Windows Communication Foundation Development

- Service Contract and Implementation
- Hosting WCF Services
- WCF Behaviors
- Consuming WCF Services
- Lab : Service Development Lifecycle
  - º Define Service and Data Contracts
  - º Create a Service Implementation
  - º Configure the Service
  - º Consume the Service Using Channel Factories
  - º Consume the Service Using Service References

Module 3: Hosting Microsoft® Windows Communication Foundation Services

- WCF Service Hosts
- ServiceHost
- Hosting WCF Services in Windows® Services
- IIS, WAS, and AppFabric
- Configuring WCF Hosts
- Service Hosting Best Practices
- Lab : Hosting WCF Services
  - º Use Windows Server AppFabric
  - º Use Windows Services



- º Hosting

Services in a Windows Application

- º Using Performance Counters for Service Monitoring

Module 4: Defining and Implementing Microsoft® Windows Communication Foundation Contracts

- What Is a Contract?
- Contract Types
- Messaging Patterns
- Designing WCF Contracts
- Lab : Contract Design and Implementation
  - º Creating Service Contracts
  - º Creating Data Contracts
  - º Implementing Message Exchange

Module 5: Endpoints and Behaviors

- Multiple Endpoints and Interoperability
- WCF Discovery
- WCF Default Endpoints
- Instancing and Concurrency
- Reliability
- Lab : WCF

Endpoints and Behaviors

- º Exposing

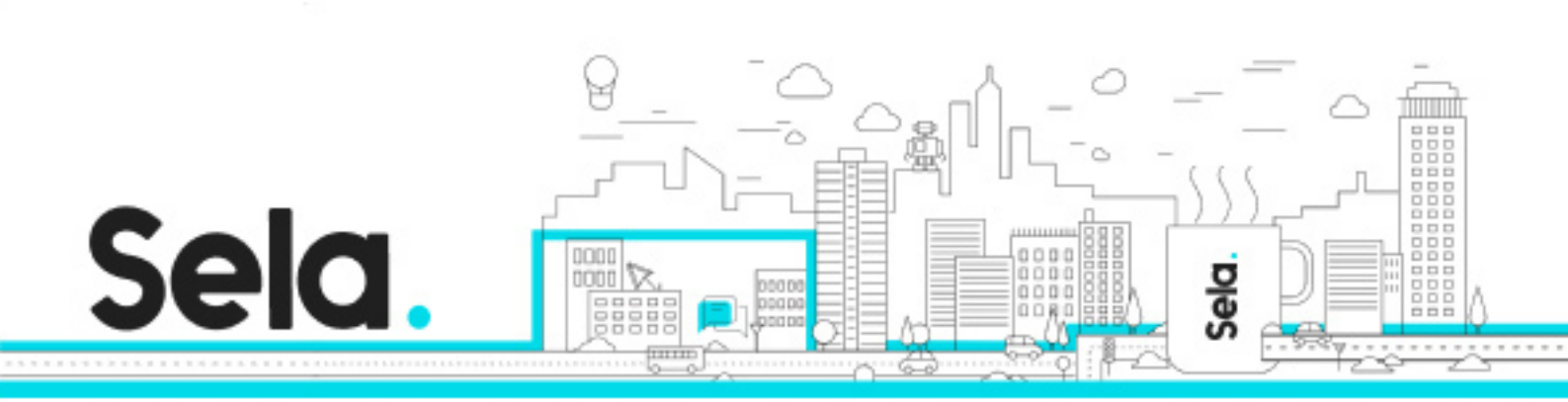
Multiple Endpoints

- º Using

Queued Services

- º Using

Transactions

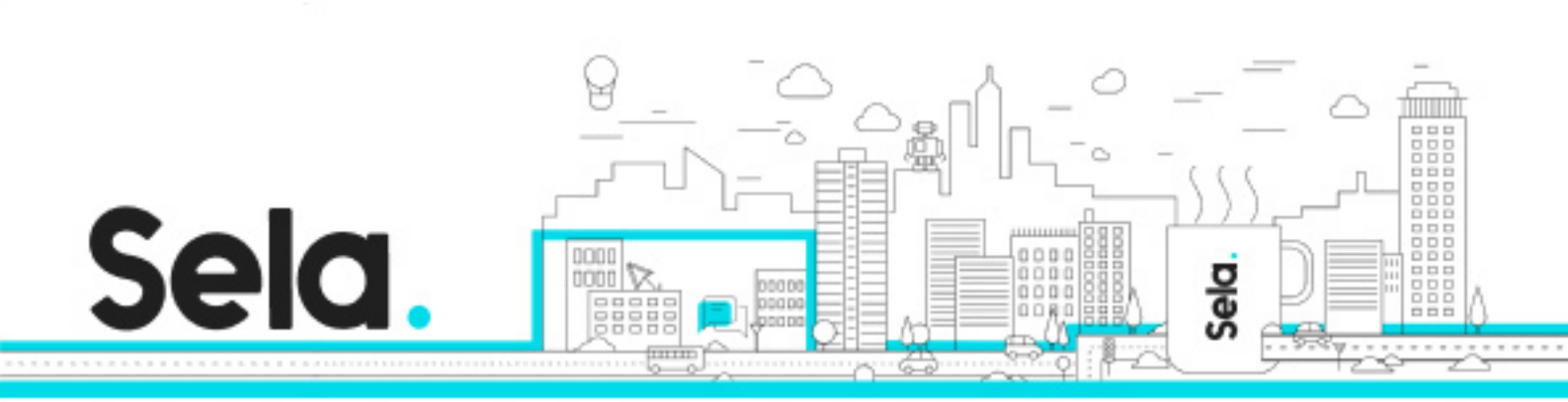


- º Using
  Reliable Messaging
- º Configuring
  Instancing and Concurrency
- º Using
  WCF Discovery
- º Verifying
  MSMQ Topology

Module 6: Testing and Troubleshooting Microsoft® Windows Communication Foundation Services

- Errors and Symptoms
- WCF Faults
- Debugging and Diagnostics Tools
- Runtime Governance
- Lab : Testing and Troubleshooting WCF Services
  - º Viewing
    Unplanned SOAP Faults
  - º Using
    Fault Contracts
  - º Using
    Error Handlers and Handling Faults
  - º Using
    WCF Message Logging and Tracing
  - º Supporting
    Large Messages

Module 7: Security



- Introduction to Application Security
- The WCF Security Model
- Transport and Message Security
- Authentication and Authorization
- Claim-Based Identity
- Lab : Implementing WCF Security
    - º Implementing Security Policy
    - º Configuring Client
    - º Verifying Security

Module 8: Introduction to Advanced Microsoft® Windows Communication Foundation Topics

- The Asynchronous Invocation Pattern
- Extending WCF
- Routing
- Workflow Services
- Lab : Advanced Topics
    - º Using Message Inspectors and Behaviors
    - º Attaching and Access Host Extensions
    - º Configuring and Use Routing
    - º Implementing Asynchronous Invocation
    - º Implementing Workflow Services

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