

WPF,WCF Course Content:35-40hours

Course Outline

WPF Fundamentals

- WPF Architecture
- Types of WPF Applications
- XAML Overview
- Structure of WPF Windows Applications
- The User Interface Classes
- The Application Class
- Building a WPF Windows Application
- using Visual Studio
- Designing the GUI
- Using Controls
- Handling Events
- Passing Command-Line Arguments
- Handling Application Lifetime Events
- Working With Configuration Files

WPF User Interface Basics

- WPF Control Inheritance Hierarchy
- Common Properties
- Common Methods
- Common Events
- Creating Controls at Design Time
- Creating Controls at Run Time
- Classic Properties, Methods and Events
- Dependency Properties
- Configuring a Window
- Controlling Appearance
- Managing Size
- Managing Position
- Managing Alignment
- Managing Visibility
- Using Fonts

- Working with Transformations
- Scale Transformations
- Rotation Transformations
- Skew Transformations

Using WPF Controls

- Button Controls
- Button Characteristics
- RepeatButton
- ToggleButton
- CheckBox
- RadioButton
- Using Labels
- TextBlock
- TextBox
- PasswordBox
- GroupBox
- Image Control
- Using an Expander
- Building Tabbed Windows
- Slider Controls
- Using a ProgressBar
- Adding Tooltips

Working with Dialogs

- Dialog Display/Response Paradigm
- MessageBox Fundamentals
- Using WPF's Common Dialogs
- OpenFileDialog
- SaveFileDialog
- PrintDialog
- Working with Modal Dialogs
- Designing Custom Dialogs
- Displaying Modal Dialogs
- Working with DialogResult
- Accessing Dialog Data
- Validating Dialog Data
- Working with Modeless Dialogs
- Displaying Modeless Dialogs
- Firing Events to Notify the Application that Data is Available for Processing
- Processing Data via a Modeless Dialog

Graphics and Multimedia

- Working with Multimedia Content
- Using the SoundPlayer
- Using the MediaPlayer
- Using the MediaElement
- Working with Images
- Displaying Images
- Painting with Images
- Working with Images in Resource Files
- Programmatically Sizing, Stretching and Rotating Images

Working with Data Binding

- Benefits of Binding Data to Common Language Runtime (CLR) Objects
- Configuring Data Binding
- Binding One Control's Properties to Another Control
- Binding One Control's Properties to Resource Data
- Binding to Data Sources
- Binding to a List
- Binding to an ADO.NET Object
- Binding to an Object
- Binding to XML
- Displaying and Manipulating Data
- Sorting
- Filtering
- Data Templates

Working with XAML

- XAML vs. BAML
- Understanding XAML Markup
- Element and Property Syntax
- XAML Namespaces
- Creating Objects using XAML
- Using Collections in XAML
- Handling Events in XAML
- Working with Resources
- Window vs. Application Resources
- Static vs Dynamic Binding
- Defining and Using Styles

Using WPF Layout Controls

- Advantages of WPF Layout Controls
- Using the Grid Control
- Defining Rows and Columns
- Placing Controls
- Using the UniformGrid Control
- Using the StackPanel Control
- Using the WrapPanel Control
- Using the DockPanel Control
- Using the Canvas Control
- Adding Scrolling Capabilities to Container Controls
- Accessing Child Controls Programmatically

Using WPF Item Controls

- Working with Controls that Manage Items
- ListBox
- ComboBox
- TreeView
- Menus
- ContextMenus
- Toolbars
- StatusBars

Commands and Routed Events

- Working with Commands
- Purpose and Benefits of Commands
- Using Built-In WPF Commands
- Associating a Command with a Command Source
- Writing a Command Handler
- Binding Commands to Command Handlers
- Defining Custom Commands
- Specifying Key Gestures
- Implementing WPF Routed Events
- Common Routed Events
- Tunneling Events
- Bubbling Events
- Stopping the Tunneling and Bubbling process

Working with ADO.NET

- The ADO.NET Object Model
- Working with Connected vs.
- Disconnected Access
- Using a Connection to Connect to a
- Data Source
- Using a Command to Execute Queries
- and Stored Procedures
- Using a DataReader to Work with
- Cursors
- Passing Parameters to Stored
- Procedures
- Using the DataSet with Disconnected
- Data
- Using DataAdapters with DataSets

Deploying WPF Applications

- Understanding WPF Deployment
- Options
- Using XCOPY Deployment
- Using Setup Projects to Create
- Windows Installer Packages
- Using ClickOnce to Publish SelfUpdating Applications

WCF

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

Configuring and Hosting WCF Services

- 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

Endpoints and Behaviors

- Exposing WCF Services Over Different Endpoints

- Adding Behaviors to Services and Endpoints
- Interoperating with Non-WCF Web services

Debugging and Diagnostics

- Logging Messages
- Activity Tracing

Designing and Defining Contracts

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

Handling Errors

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

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

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