# WPF

## Chapter 1: Introduction to WPF

* WPF What is WPF and .NET Desktop Development Overview
* Comparison WinForms vs WPF vs UWP vs MAUI
* Setting up Visual Studio for WPF
* WPF Application Architecture
* WPF Project Structure and Entry Point

## Chapter 2: XAML Fundamentals

* WPF Introduction to XAML
* WPF Basic Syntax, Elements and Attributes
* WPF Namespaces and Markup Extensions
* WPF Code behind vs XAML UI
* WPF Resources and Styles in XAML

## Chapter 3: WPF Layout System

* WPF Layout Panels Grid, StackPanel
* WPF Layout WrapPanel, Canvas
* WPF Layout DockPanel, UniformGrid
* WPF Grid with RowDefinitions and ColumnDefinitions
* WPF Margin, Padding, and Alignment
* WPF Using Viewbox and ScrollViewer
* WPF Dynamic Layouts and Responsive Design

## Chapter 4: Controls in WPF

* WPF Common Controls Button, TextBox
* WPF Common Controls Label, ComboBox
* WPF Common Controls CheckBox, RadioButton
* WPF Advanced Controls ListBox, DataGrid
* WPF Advanced Controls TreeView, TabControl
* WPF Advanced Controls Expander
* WPF Custom Controls and UserControls
* WPF Control Templates and Styling
* WPF Tooltips, Context Menus
* WPF Popup Controls

## Chapter 5: Data Binding and MVVM Pattern

* WPF Understanding Data Binding OneWay, TwoWay
* WPF Understanding Data OneTime, OneWayToSource
* WPF DataContext and BindingContext
* WPF INotifyPropertyChanged and ObservableCollection
* WPF Command Binding and RelayCommand
* WPF MVVM Design Pattern Model, View, ViewModel Separation

## Chapter 6: Events, Commands and Behaviors

* WPF Routed Events and Bubbling and Tunneling
* WPF Event Handlers vs Commands
* WPF Using ICommand Interface
* WPF EventTriggers and Interaction.Behaviors
* WPF Attached Behaviors for UI Logic Separation

## Chapter 7: Styles, Templates and Themes

* WPF Defining and Using Styles in Resource Dictionaries
* WPF StaticResource vs DynamicResource
* WPF Control Templates and Data Templates
* WPF Using Themes and Skins
* WPF Visual State Manager in WPF

## Chapter 8: DataGrid and Data Presentation

* WPF Binding Collections to DataGrid
* WPF Customizing Columns and Templates
* WPF Sorting, Filtering and Grouping
* WPF Editable DataGrid and Validation
* WPF MVVM Friendly DataGrid Patterns

## Chapter 9: Advance Integration

* WPF Firebase database and api
* WPF Google map
* WPF Push Notification

## Chapter 10: Deployment and Application Packaging

* WPF Building EXE and Installer with ClickOnce
* WPF Deployment Options MSIX, MSI, Self-Contained
* WPF Working with App config and Environment Settings
* WPF Managing Application Updates
* WPF Using Certificates for Signed Applications
* WPF Data Access and API Integration
* WPF Creating Installer and Deployment