

# From Zero to WPF

Learning XAML for use in Windows Presentation Foundation (WPF) can be a little daunting. This course shows you how to get up to speed quickly and easily. You learn most of the basic controls, working with styles, working with the various list controls and data binding. The Model-View-View-Model (MVVM) design pattern is used throughout this course to show you the correct way to build WPF applications. Several examples of business application forms will be shown to illustrate many of the concepts learned throughout this course.

## Learning Objectives

What is XAML and WPF

Using styles and resource dictionaries

Making the most of the various controls in WPF

Take advantage of data binding and the MVVM design pattern

## Prerequisites

We assume you are familiar with C#, the .NET Framework and Visual Studio and have access to these tools during the course.

## Course Length

4 days

## Module 1: Basics of WPF

XAML Defined

Basic Building Blocks

Layout Options

Sizing

Margin and Padding

User Controls

Namespaces

## Module 2: Using Styles Effectively

How and where to use Styles

Global Styles

Keyed Styles

Overriding Styles

The advantages of using resource dictionaries

Dynamically load resources

Use control templates to define your own controls

Control 'state' using the Visual State Manager

## Module 3: UI Controls in WPF

Learn the control hierarchy in WPF

Learn what common properties are available on controls

See common UI controls used for normal data input

Demos of many WPF controls

## Module 4: More UI Controls in WPF

See more example of UI Controls

Use these for better user input

See demos of these WPF controls

'Content' is not 'Text'

Create new controls out of existing controls

## Module 5: Container Controls in WPF

- Learn about container controls
- Controls to help you group other controls
- Very simple containers to complex containers
- Lots of demos of container controls

## Module 6: It's all About Data Binding

- What is data binding
- Control to control binding
- Binding to classes
- Bind to collection classes
- Collection classes
- Simple view model example
- Object data provider
- XML data provider
- Two-way data binding

## Module 7: List Controls in WPF

- Load list controls with data from SQL Server
- Generically generate a view for a ListView control
- Bind list controls together using two ObjectDataProviders
- Display data in a TreeView control

## Module 8: The Flexible WPF List Box

- Using data templates
- Display two columns
- Multi-line list box

- Automatic text searching
- Horizontal list box
- Change templates on the fly
- Display images
- Use data triggers

## Module 9: More Fun with the WPF List Box

- Learn to use value converters
  - String-to-decimal converter
  - Lower case converter in a data trigger
- Object converter
- Sorting using XAML
- Sorting using code
- Filtering data
- Grouping data

## Module 10: MVVM Made Simple

- Learn to use the MVVM design pattern
- Why you should use MVVM
- Data binding is the key to MVVM
- Create some useful base classes for your view models
- Learn the basics of Commanding

## Module 11: Message Broker

- Why use a message broker
- Create a message broker class
- Send and receive messages

## Module 12: A WPF Architecture

- Create a common library
- Create a WPF common library
- Create an application layer library
- Create a data access library
- Create a view model library

## Module 13: Create a Splash Screen

- Create XAML for a splash screen
- Remove splash screen after a few seconds
- Load resources in the background

## Module 14: Load User Controls Dynamically

- Add some user controls to load
- Use Tag property for the name of control to load
- Create method to load control
- Don't load control twice

## Module 15: Display Status and Informational Messages

- How to handle status messages
- Display status messages for each control you load
- How to display informational messages
- How to make informational messages disappear after a few seconds

## Module 16: Create a Login Screen

Create XAML for a login screen

Create view model for login

## Module 17: Validating Data

Validate username and password

Display validation messages

Modify main window based on login status

## Module 18: Create a User Feedback Screen

Create XAML for user feedback screen

Add validation for user feedback screen

Create data and view model classes

## Module 19: Create a User Maintenance Screen

Create XAML for user maintenance screen

A design pattern for master/detail screen

Create data and view model classes

Managing state for screen

## Module 20: Common Business Application Screens

- Splash screen
- Login Screen
- Feedback screen
- About screen

## Module 21: Dialogs

- Create your own message box
- Styling your message box
- Calling your message box

## Module 22: Creating Borderless and Non-Rectangular Windows

- Create borderless windows
- Remove 'chrome' from window
- Resize mode
- Dragging windows around that have no border
- Creating non-rectangular windows (Ellipse and Polyline)

## Module 23: Animation and Transformation Basics

- Transforms
- Rotating pictures in ListBox
- Triggers
- Animations

Alternate menu layouts  
Animating user controls

## **Module 24: Shapes**

Drawing Shapes with Text Inside  
Using Container Controls  
Using a Canvas  
Creating reusable graphical user control