



## Aspect Training

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YOUR COURSE, YOUR WAY - MORE EFFECTIVE IT TRAINING

# Windows Presentation Foundation for .NET Developers

**Duration: 5 days**

## Overview:

Aspect Training's Windows Presentation Foundation for .NET Developers shows you how WPF really works.

It provides you with the no-nonsense, practical advice that you need in order to build high-quality WPF applications quickly and easily.

## Prerequisites:

Previous Knowledge and experience of developing applications with .NET.

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## Topics:

### 1 - Introducing WPF

The Evolution of Windows Graphics

WPF: A Higher-Level API

Resolution Independence

The Architecture of WPF

### 2 - XAML

Understanding XAML

XAML Basics

Properties and Events in XAML

Using Types from Other Namespaces

Loading and Compiling XAML

### 3 - Layout

Understanding Layout in WPF

Simple Layout with the StackPanel

The WrapPanel and DockPanel

The Grid

Coordinate-Based Layout with the Canvas

## **4 - Dependency Properties**

Understanding Dependency Properties

Property Validation

## **5 - Routed Events**

Understanding Routed Events

Event Routing

WPF Events

Keyboard Input

Mouse Input

Multitouch Input

## **6 - Controls**

The Control Class

Content Controls

Specialized Containers

Headered Content Controls

Text Controls

List Controls

Range-Based Controls

Date Controls

## **7 - The Application**

The Application Life Cycle

Application Tasks

Assembly Resources

Localization

## **8 - Element Binding**

Binding Elements Together

Binding to Objects That Aren't Elements

## **9 - Commands**

Understanding Commands

The WPF Command Model

Executing Commands

Advanced Commands

## **10 - Resources**

Resource Basics

Resource Dictionaries

## **11 - Styles and Behaviors**

Style Basics

Triggers

Behaviors

## **12 - Shapes, Brushes, and Transforms**

Understanding Shapes

Brushes

Transforms

Transparency

## **13 - Geometries and Drawings**

Paths and Geometries

Drawings

Effects and Visuals

Visuals

Effects

The WriteableBitmap Class

## **14 - Animation Basics**

Understanding WPF Animation

Basic Animation

Storyboards

Animation Easing

Animation Performance

## **15 - Advanced Animation**

Animation Types Revisited

Key Frame Animation

Path-Based Animation

Frame-Based Animation

Storyboards in Code

## **16 - Control Templates**

Understanding Logical Trees and Visual Trees

Understanding Templates

Creating Control Templates

Organizing Template Resources

Building More Complex Templates

Visual States

View Sample

## **17 - Custom Elements**

Understanding Custom Elements in WPF

Building a Basic User Control

Creating a Lookless Control

Supporting Visual States

Custom Panels

Custom-Drawn Elements

## **18 - Data Binding**

Binding to a Database with Custom Objects

Binding to a Collection of Objects

Improving Performance in Large Lists

Validation

Data Providers

Formatting Bound Data

Data Binding Redux

Data Conversion

List Controls

List Styles

Data Templates

The ComboBox

## **19 - Data Views**

The View Object

Filtering, Sorting, and Grouping

## **20 - Lists, Grids, and Trees**

The ListView

The TreeView

The DataGrid

## **21 - Windows**

The Window Class

Window Interaction

Nonrectangular Windows

The Aero Glass Effect

Programming the Windows Taskbar

## **22 - Pages and Navigation**

Understanding Page-Based Navigation

Page-Based Interfaces

The Page History

The Navigation Service

XAML Browser Applications

The WebBrowser Control

## **23 - Menus, Toolbars, and Ribbons**

Menus

Toolbars and Status Bars

Ribbons

## **24 - Sound and Video**

Playing WAV Audio

The MediaPlayer

The MediaElement

Speech

## **25 - 3-D Drawing**

3-D Drawing Basics

Deeper into 3-D

Interactivity and Animations

## **26 - Documents**

Understanding Documents

Flow Documents

Read-Only Flow Document Containers

Fixed Documents

Annotations

## **27 - Printing**

Basic Printing

Custom Printing

Print Settings and Management

Printing Through XPS

## **28 - Interacting with Windows Forms**

Assessing Interoperability

Mixing Windows and Forms

Creating Windows with Mixed Content

The Last Word

## **29 - Multithreading**

Multithreading

## **30 - The Add-in Model**

Choosing Between MAF and MEF

The Add-in Pipeline

An Application That Uses Add-Ins

Interacting with the Host

Visual Add-Ins

## **31 - ClickOnce Deployment**

Understanding Application Deployment

A Simple ClickOnce Publication

Additional ClickOnce Options