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# WPF Fundamentals

**Duration: 3 Days**

## Overview:

Windows Presentation Foundation (WPF) is Microsoft's next-generation presentation platform. WPF is built into Windows Vista and also runs on Windows XP and Windows Server 2003.

WPF allows rich client applications to take full advantage of the graphical capabilities of a modern PC. Its powerful and flexible programming model integrates support for flexible layout, high-quality text, resolution-independent graphics, animation, video and 3D. While it is designed to exploit the full capabilities of today's high-performance graphics cards, it offers high-level abstractions that offer great power to the developer for less development effort than ever before. Aspect Training's WPF Fundamentals course will introduce practicing .NET developers to the new programming models and UI features introduced by WPF, with practical hands-on labs to reinforce the concepts.

## Prerequisites:

Aspect Training's WPF Fundamentals course is designed for developers with experience in .NET who are interested in learning how to develop applications using the Windows Presentation Foundation.

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## Course Topics:

### Introduction to WPF

Why WPF? (Historical technical context)  
WPF, WinFX, .NET, and Windows. What is WPF and how does it relate to Microsoft's current technology offerings? XAML, Expression Blend, and Visual Studio 2008  
Customization of UI visuals  
Presenting data

### Controls and Layout

Built-in controls, menus  
Layout  
Pages, frames, windows, and navigation  
Eventing and commanding

### Graphics

Resolution independence, transformability  
WPF and modern graphics cards  
Drawing primitives  
Graphics object model  
Integration  
Imaging and video

### Data

Data binding and data contexts  
Data templates  
Master/details  
Data grid  
Hierarchical binding

### Core Types

DependencyObject and Dependency Properties  
Visual  
FrameworkElement  
FrameworkContentElement  
Freezable

### Templates

Customization continuum: properties, templates, custom control  
'Lookless' controls  
ControlTemplate and TemplateBinding Triggers  
The implied contract between a control and its template  
ContentControl idiom  
List control idiom

### Resources

WPF object resource hierarchy  
Binary resource support  
Internationalization

### Reusable UI

Resource-based reuse  
Template-based reuse  
Reusing Xaml with codebehind  
Writing custom lookless controls

### Text

Ubiquitous full-featured text support  
Flow layout  
Integration with other UI elements  
Pagination

### Printing

Printing in WPF  
XPS documents

### Styles

Styles and properties  
Styles and resources  
Triggers

### Connecting WPF Applications to Services

Asynchronous invocation and the WPF threading model  
Data binding and services

### Mixing WPF with Windows Forms and Win32

Windows Forms interop  
Win32 interop  
Mixing HTML and WPF