# Module 2

# "Data Binding Properties [Foundation]"

# Agenda

▸ **Introduction to Data Binding**

▸ Change Notification

# The **Binding** Class

▸ `Binding`
  - `ElementName`, `Source`, `RelativeSource`
  - `Path`
  - `XPath`                                    XML sources
  - `Mode`
  - `Delay`
  - `NotifyOnSourceUpdated`          `SourceUpdated` event
  - `NotifyOnTargetUpdated`          `TargetUpdated` event
  - `FallbackValue + TargetNullValue`

▸ Binding can be set
  - Declaratively in XAML
    · Full syntax or markup extension syntax ″`{}`″
  - Programmatically in code

▸ Bindings can be cleared (in code) via
  `BindingOperations.ClearBinding()`

# RelativeSource

▸ You can bind to another element in the visual tree relative to the element being bound
  - use the **RelativeSource** property

▸ RelativeSource
  - Mode
    - FindAncestor
      - AncestorType
      - AncestorLevel
    - Self
    - PreviousData
    - TemplatedParent

# Data Context

▸ It is possible to bind to CLR objects by
- Referencing the namespace and assembly
- Setting the `Binding.Source` property

▸ The can be shared among all child elements by setting the `FrameworkElement.DataContext` property
- Can be set in XAML
- Can be set in code
- Bindings then implicitly refer to the data in `DataContext`
  - `ElementName` or `Source` can then be omitted

# Agenda

▸ Introduction to Data Binding
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# INotifyPropertyChanged

▸ Implement **INotifyPropertyChanged** to propagate modifications to a single element through data binding
  - **PropertyChanged** event
    - Raise event with CLR property name whenever it is changed

# Caller Info Attributes

▸ C# 5.0 introduced three types of caller info attributes
  - `[CallerMemberName]`
  - `[CallerFilePath]`
  - `[CallerLineNumber]`

```
static void Log(
        [CallerMemberName] string callerName = null,
        [CallerFilePath] string callerFilePath = null,
        [CallerLineNumber] int callerLine = -1 )
{
  ...
}
```

▸ Applicable to default parameters
  - Compiler replaces values at compilation time
  - In `System.Runtime.CompilerServices`

▸ Perfect for **INotifyPropertyChanged**…! ☺

# Summary

▸ Introduction to Data Binding

▸ Change Notification

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