WPF CNC HMI Plugin

https://github.com/graemepeek/UIControlDemo

Set Output Type

Set Path of CNC C# HMI

Xaml Config File


```xml
<?xml version="1.0"?>
<!--
Config file is located in "System\IoCConfig". It is automatically loaded from Unity.
Example: Name of Control: UIControl1
-->


<configuration>
  <configSections>
    <section name="unity" type="Microsoft.Practices.Unity.Configuration.UnityConfigurationSection, Microsoft.Practices.Unity.Configuration" />
  </configSections>
  <unity>
    <alias alias="Object" type="System.Object, mscorlib" />
    <alias alias="singleton" type="Microsoft.Practices.Unity.ContainerControlledLifetimeManager, Microsoft.Practices.Unity" />
    <container>

      <!-- UI Control Demo-->
      <register type="Object" mapTo="UILaserControl.LaserControl1, UILaserControl" name="UILaserControl">
        <property name="DataContext" >
          <dependency type="Object" name="LaserControlVM" />
        </property>
      </register>
      <register type="Object" mapTo="UILaserControl.LaserControlVM, UILaserControl" name="LaserControlVM">
        <constructor>
          <param name="iocContainer" />
        </constructor>
      </register>

    </container>
  </unity>
</configuration>
```

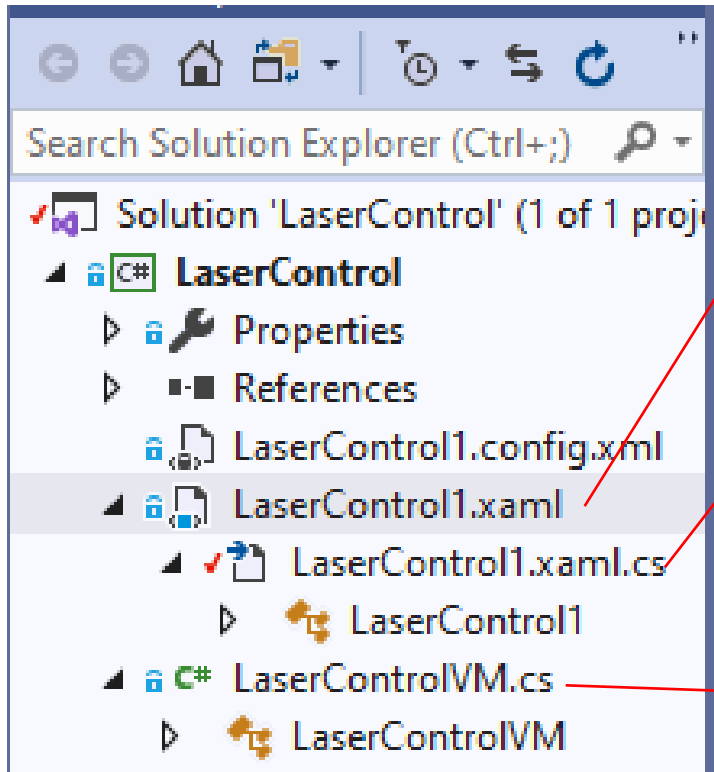This file sets the name of the control the CNC HMI will look for.
In this case UILaserControl

Copy Config File to HMI directory

HMI 2.4.2.x › TcApplication › System › IocConfig

· UIControlDemo › bin › Debug

Copy the XAML config file from ../bin/debug folder to ../System/IocConfig folder

Project Files

LaserControl1.Xaml holds WPF form

LaserControl1.Xaml.cs holds form event code (button clicks etc)

LaserControlVM.Xaml is view model module which handles C# code for ADS
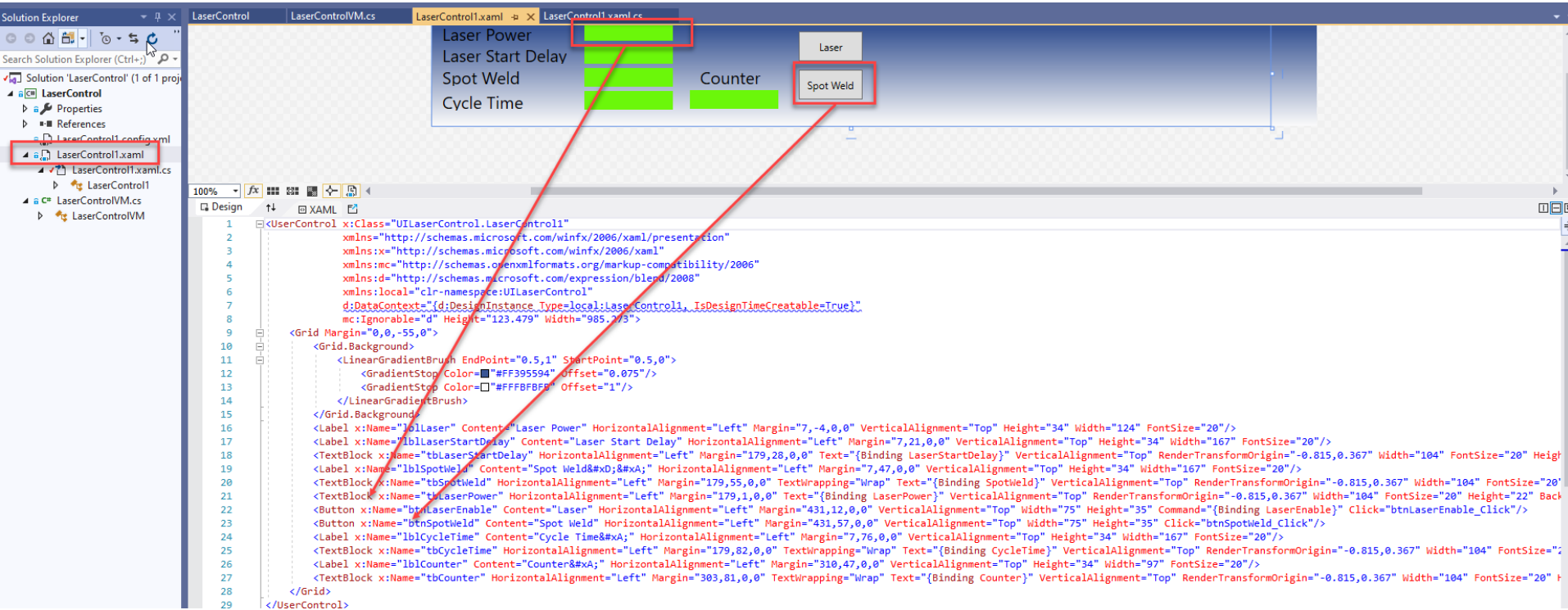
Xaml.cs file

Solution Explorer

Search Solution Explorer (Ctrl+;)

- Solution 'LaserControl' (1 of 1 project)
  - **LaserControl**
    - Properties
    - References
    - LaserControl1.config.xml
    - LaserControl1.xaml
      - **LaserControl1.xaml.cs**
        - LaserControl1
    - LaserControlVM.cs
      - LaserControlVM

LaserControl | **LaserControlVM.cs** | **LaserControl1.xaml** | **LaserControl1.xaml.cs**

LaserControl — UILaserControl.LaserControl1 — tbSpotWeld

```csharp
44          }
45          _spotweld = _plcClient.ReadSymbol<bool>("Global_HMI.bSpotWeldEnable");
46          if (_spotweld)
47          {
48              btnSpotWeld.Background = Brushes.Red;
49          }
50          else
51          {
52              btnSpotWeld.Background = Brushes.Green;
53          }
54      }
55

56      private void btnLaserEnable_Click(object sender, RoutedEventArgs e)
57      {
58          _laserenable = !_laserenable; // Invert laser enable state
59          _plcClient.WriteSymbol("Global_HMI.bLaserEnable", _laserenable);
60          if (_laserenable)
61          {
62              btnLaserEnable.Background = Brushes.Red;
63          }
64          else
65          {
66              btnLaserEnable.Background = Brushes.Green;
67          }
68
69      }
70

71      private void btnSpotWeld_Click(object sender, RoutedEventArgs e)
72      {
73          _spotweld = !_spotweld; // Invert spotweld enable state
74          _plcClient.WriteSymbol("Global_HMI.bSpotWeldEnable", _spotweld);
75          if (_spotweld)
76          {
77              btnSpotWeld.Background = Brushes.Red;
78          }
79          else
80          {
81              btnSpotWeld.Background = Brushes.Green;
82          }
83      }
84  }
85 }
```

WPF Form Control
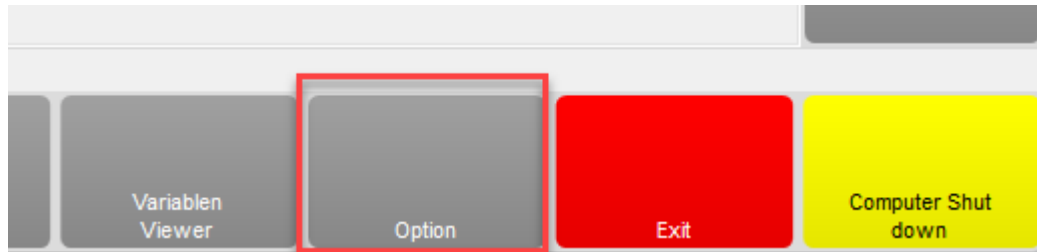
Copy Control Dll File to HMI directory

Copy the control dll file from ../bin/debug folder to ../Plugins folder

In this example it is called UILaserControl.dll

Run program within CNC HMI

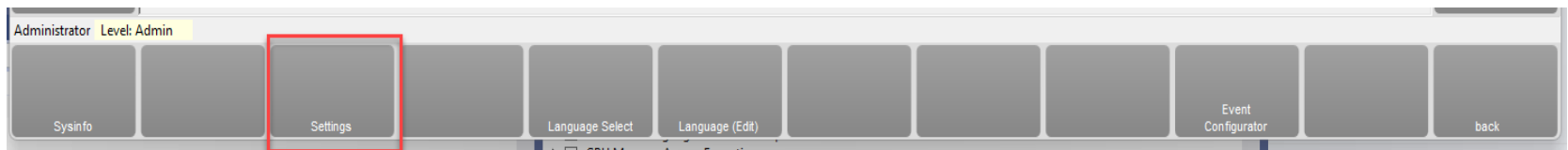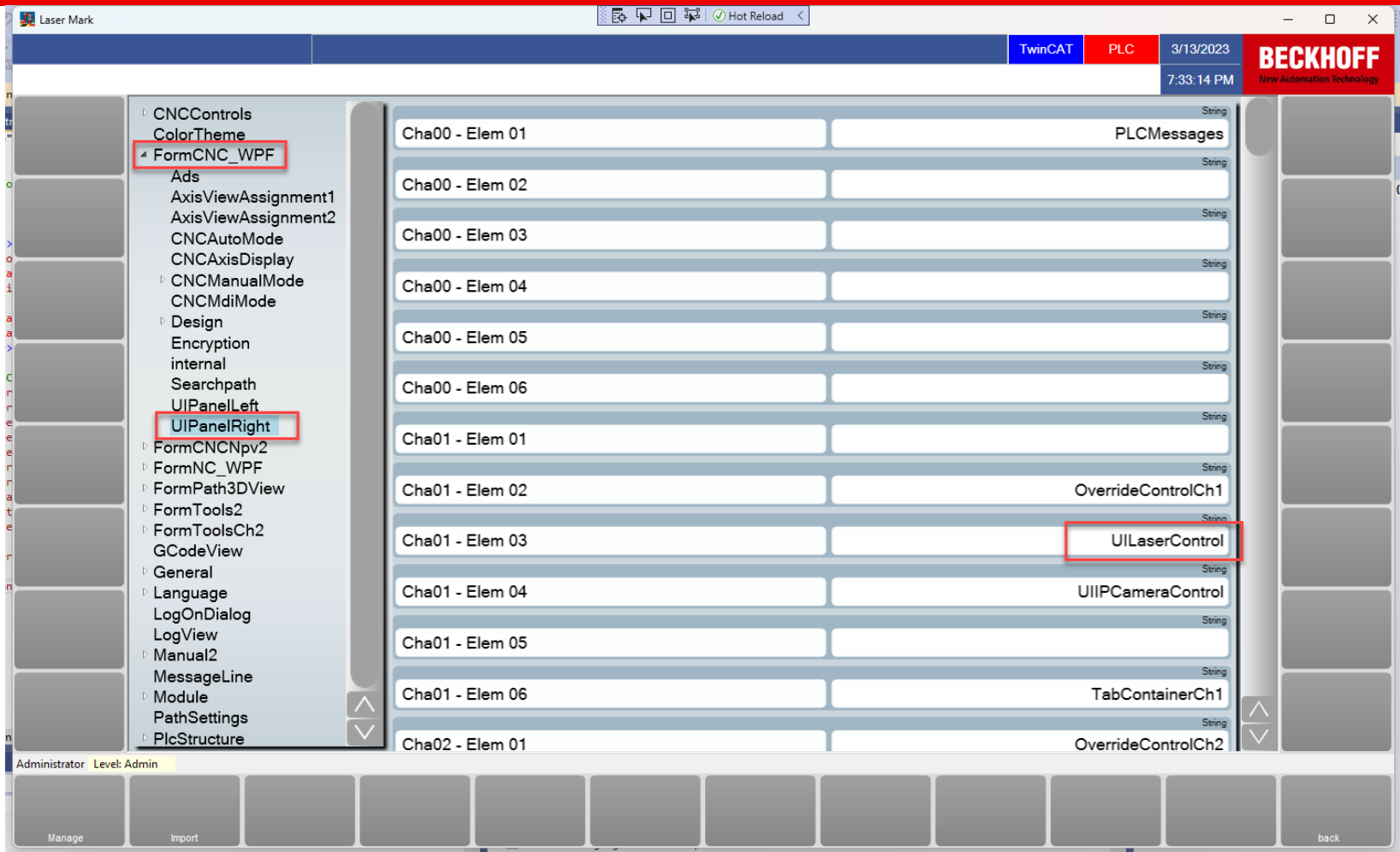Start program
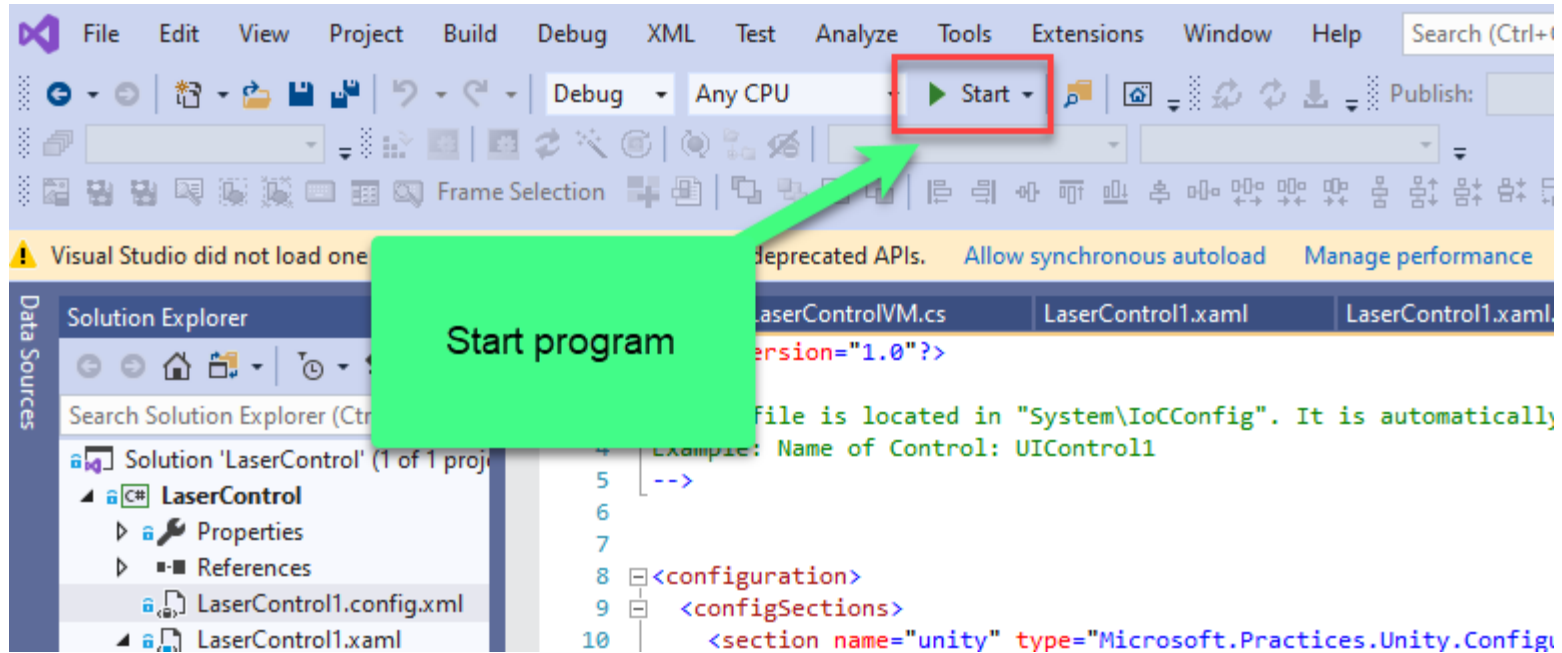
Setup Calling of UI within CNC HMI

Select Option button

Select Settings button

Add the Control to Right Panel

In this example our control is called UILaserControl, taken from XAML config file.

Questions ?