

WPF Containers

Nội dung chính

- ❑ Tọa độ tuyệt đối: **Canvas**
- ❑ Xếp chồng lên nhau:
 - ❑ **StackPanel, DockPanel, WrapPanel**
 - ❑ Control con vào trước sẽ ở đầu
- ❑ Theo tỉ lệ hoặc dòng / cột:
 - ❑ **Grid, UniformGrid**

Canvas

- Thứ tự: Canvas.ZIndex. Số càng lớn càng ở trên

Attached properties

```
<Canvas>
  <Rectangle Width="30" Height="30"
    Canvas.Left="100" Canvas.Top="30"
    Fill="Red"></Rectangle>
</Canvas>
```

```
<Canvas>
  <Rectangle Width="30" Height="30"
    Canvas.Left="100" Canvas.Top="30"
    Fill="Red" Canvas.ZIndex="2"></Rectangle>
  <Ellipse Width="30" Height="30"
    Canvas.Left="75" Canvas.Top="30"
    Fill="Yellow" Canvas.ZIndex="1"></Ellipse>
</Canvas>
```

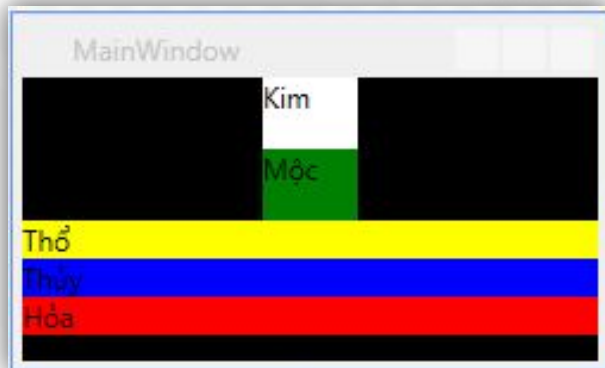


Quiz:



StackPanel

```
<StackPanel Background="Black">  
    <TextBlock Text="Kim" Background="White" Width="40"></TextBlock>  
    <TextBlock Text="Mộc" Background="Green" Width="40"></TextBlock>  
    <TextBlock Text="Thổ" Background="Yellow"></TextBlock>  
    <TextBlock Text="Thủy" Background="Blue"></TextBlock>  
    <TextBlock Text="Hỏa" Background="Red"></TextBlock>  
</StackPanel>
```



Mặc định:



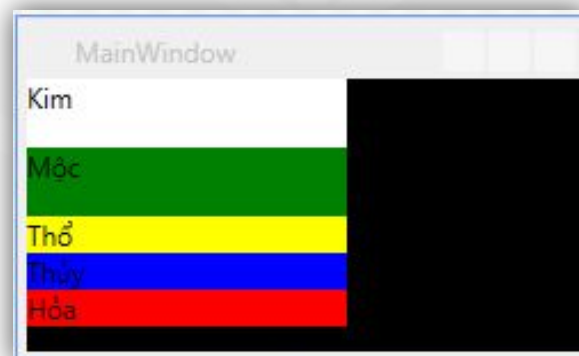
Orientation="Horizontal"

WrapPanel

```
<WrapPanel Background="Black">  
  <TextBlock Text="Kim" Background="White" Width="140" Height="30"></TextBlock>  
  <TextBlock Text="Mộc" Background="Green" Width="140" Height="30"></TextBlock>  
  <TextBlock Text="Thổ" Background="Yellow"></TextBlock>  
  <TextBlock Text="Thủy" Background="Blue"></TextBlock>  
  <TextBlock Text="Hỏa" Background="Red"></TextBlock>  
</WrapPanel>
```



Orientation="Vertical"



Mặc định: Orientation="Horizontal"

DockPanel

- Khi thay đổi kích thước vị trí tương đối không đổi
- Chú ý thuộc tính **LastChildFill**

```
<DockPanel Background="Black" LastChildFill="True">  
    <TextBlock Text="Kim" Background="White" DockPanel.Dock="Top"></TextBlock>  
    <TextBlock Text="Mộc" Background="Green" DockPanel.Dock="Left"></TextBlock>  
    <TextBlock Text="Thổ" Background="Yellow" DockPanel.Dock="Right"></TextBlock>  
    <TextBlock Text="Thủy" Background="Blue" DockPanel.Dock="Bottom"></TextBlock>  
    <TextBlock Text="Hỏa" Background="Red"></TextBlock>  
</DockPanel>
```



Grid

- ❑ Sắp xếp theo kiểu **bảng**
- ❑ Cần định nghĩa cột và dòng trước

```
<Grid Background="Black" >
  <Grid.RowDefinitions>
    <RowDefinition Height="30"></RowDefinition>
    <RowDefinition Height="30"></RowDefinition>
    <RowDefinition ></RowDefinition>
  </Grid.RowDefinitions>
  <Grid.ColumnDefinitions>
    <ColumnDefinition Width="100"></ColumnDefinition>
    <ColumnDefinition Width="51*" ></ColumnDefinition>
    <ColumnDefinition Width="20*" />
  </Grid.ColumnDefinitions>
```



Grid - Thứ tự trong grid

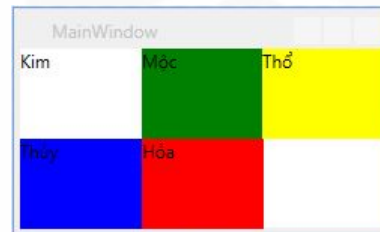
```
<TextBlock Text="Kim" Background="White" Grid.Row="0" Grid.Column="0"></TextBlock>  
<TextBlock Text="Mộc" Background="Green" Grid.Row="0" Grid.Column="1" Grid.ColumnSpan="2"></TextBlock>  
<TextBlock Text="Thổ" Background="Yellow" Grid.Row="1" Grid.Column="0"></TextBlock>  
<TextBlock Text="Thủy" Background="Blue" Grid.Row="1" Grid.Column="1" Grid.ColumnSpan="2"></TextBlock>  
<TextBlock Text="Hỏa" Background="Red" Grid.Row="2" Grid.Column="0"></TextBlock>
```



UniformGrid

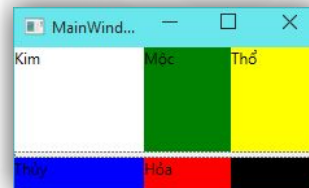
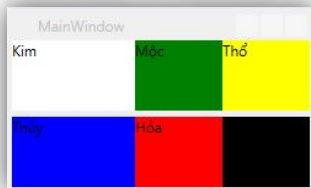
- ❑ Tất cả các ô cùng kích thước
- ❑ Tự lấp đầy các thành phần dựa vào số dòng / số cột
- ❑ FlowDirection: LeftToRight, RightToLeft

```
<UniformGrid Columns="3">  
    <TextBlock Text="Kim" Background="White" ></TextBlock>  
    <TextBlock Text="Mộc" Background="Green" ></TextBlock>  
    <TextBlock Text="Thổ" Background="Yellow"></TextBlock>  
    <TextBlock Text="Thủy" Background="Blue" ></TextBlock>  
    <TextBlock Text="Hỏa" Background="Red" ></TextBlock>  
</UniformGrid>
```



GridSplitter

☐ Cho phép người dùng chỉnh kích thước



```
<Grid Background="Black" >
  <Grid.RowDefinitions>
    <RowDefinition Height="*"></RowDefinition>
    <RowDefinition Height="5"></RowDefinition>
    <RowDefinition ></RowDefinition>
  </Grid.RowDefinitions>
  <Grid.ColumnDefinitions>
    <ColumnDefinition Width="100"></ColumnDefinition>
    <ColumnDefinition Width="*" ></ColumnDefinition>
    <ColumnDefinition Width="*" ></ColumnDefinition>
  </Grid.ColumnDefinitions>
  <TextBlock Text="Kim" Background="White" Grid.Row="0" Grid.Column="0"></TextBlock>
  <TextBlock Text="Mộc" Background="Green" Grid.Row="0" Grid.Column="1"></TextBlock>
  <TextBlock Text="Thổ" Background="Yellow" Grid.Row="0" Grid.Column="2"></TextBlock>
  <TextBlock Text="Thủy" Background="Blue" Grid.Row="2" Grid.Column="0" ></TextBlock>
  <TextBlock Text="Hỏa" Background="Red" Grid.Row="2" Grid.Column="1"></TextBlock>
  <GridSplitter Grid.Row="1" Grid.ColumnSpan="3" HorizontalAlignment="Stretch"></GridSplitter>
</Grid>
```

Tips – Auto size

- ❑ **HorizontalAlignment="Stretch"**
- ❑ **VerticalAlignment="Stretch"**

Border

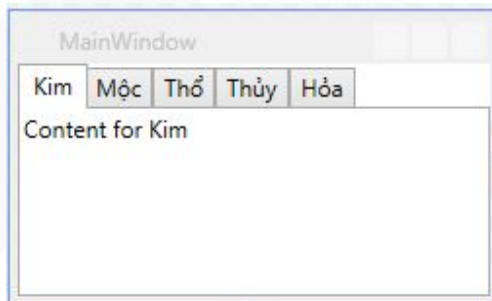
- ❑ Chỉ chứa một control con
- ❑ Một số thuộc tính quan trọng
 - ❑ BorderBrush
 - ❑ BorderThickness
 - ❑ CornerRadius



```
WindowStyle="None" Background="Transparent" AllowsTransparency="True">
<Border BorderThickness="5" Background="Transparent" CornerRadius="10" Padding="10">
  <Border.BorderBrush>
    <LinearGradientBrush StartPoint="0, 0" EndPoint="0, 1">
      <GradientStop Color="Blue" Offset="0.2"></GradientStop>
      <GradientStop Color="DarkBlue" Offset="0.8"></GradientStop>
    </LinearGradientBrush>
  </Border.BorderBrush>
```

TabControl

- ❑ Dùng chuyển đổi giữa nhiều trang

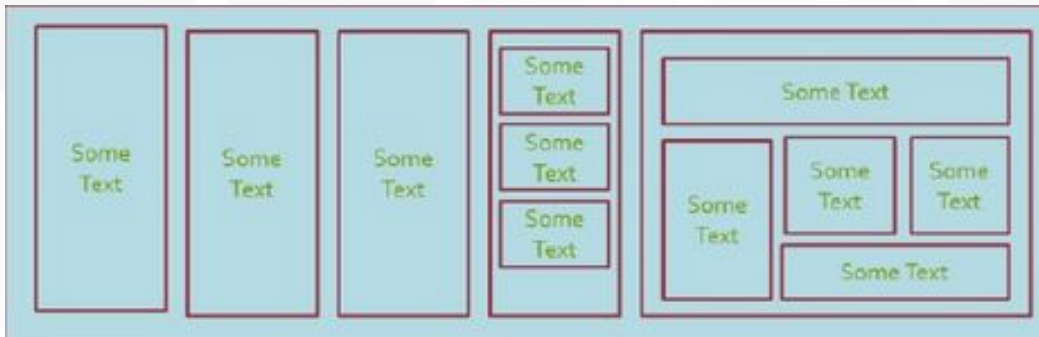


```
<TabControl>
  <TabItem Header="Kim"> Content for Kim </TabItem>
  <TabItem Header="Mộc">Content for Mộc</TabItem>
  <TabItem Header="Thổ">Content for Thổ</TabItem>
  <TabItem Header="Thủy">Content for Thủy</TabItem>
  <TabItem Header="Hỏa">Content for Hỏa</TabItem>
</TabControl>
```

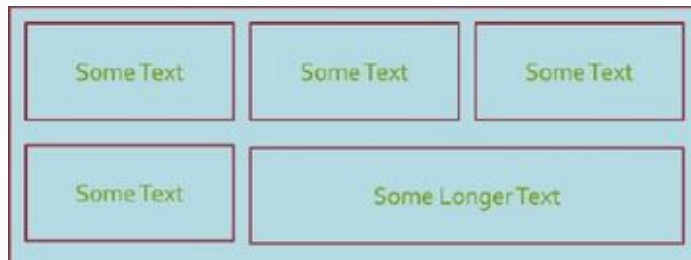
Hoạt động

- ❑ Viết mã nguồn xaml tạo giao diện gần giống như hình
- ❑ Chú ý: có nhiều cách giải

1



2



Hoạt động (tiếp theo)

3

