

WINDOWSPROGRAMMERING

LEKTION 2

Mahmud Al Hakim
mahmud@alhakim.se
www.alhakim.se

GRID

Grid är en rutnätslayout med rader och kolumner.



GRID — DEFINIERA RADER

```
<Grid>
  <Grid.RowDefinitions>
    <RowDefinition Height="100" />
    <RowDefinition Height="Auto" />
    <RowDefinition />
  </Grid.RowDefinitions>
</Grid>
```

3

GRID — DEFINIERA KOLUMNER

```
<Grid>
  <Grid.ColumnDefinitions>
    <ColumnDefinition Width="*" />
    <ColumnDefinition Width="2*" />
  </Grid.ColumnDefinitions>
</Grid>
```

2*
betyder dubbelt
så stort

4

GRID — PLACERA INNEHÅLL

Attached properties

```
<Rectangle Fill="Red" Grid.Row="0" />  
<Rectangle Fill="Orange" Grid.Row="0" Grid.Column="1"/>  
<Label FontSize="24" Grid.Row="1" Grid.ColumnSpan="2">  
Lite text som sträcker sig över 2 kolumner  
</Label>  
<Rectangle Fill="Yellow" Grid.Row="2" />  
<Rectangle Fill="Green" Grid.Row="2" Grid.Column="1"/>
```

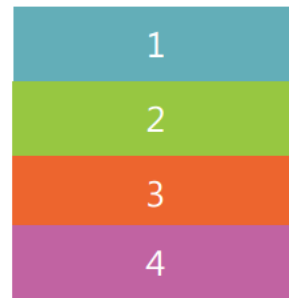
5

EXEMPEL PÅ RESULTATET



6

STACKPANEL



7

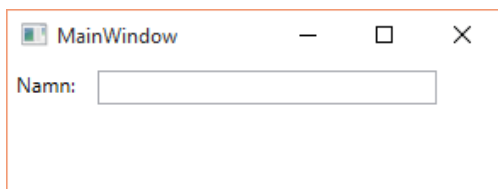
STACKPANEL — EXEMPEL 1

```
<StackPanel>  
  <Rectangle Width="50" Height="50" Fill="#FF63AEB8" />  
  <Rectangle Width="50" Height="50" Fill="#FF97C741" />  
  <Rectangle Width="50" Height="50" Fill="#FFED652E" />  
  <Rectangle Width="50" Height="50" Fill="#FFC163A2" />  
</StackPanel>
```

8

STACKPANEL — EXEMPEL 2

```
<StackPanel Orientation="Horizontal">  
  <TextBlock Text="Namn: " Margin="5" />  
  <TextBox Width="200" Height="20" Margin="5" VerticalAlignment="Top" />  
</StackPanel>
```

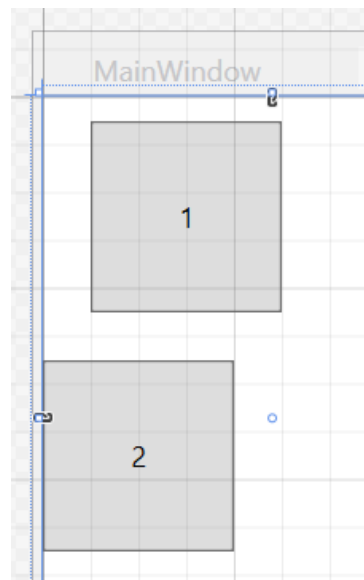


9

MER OM MARGIN

```
<StackPanel>  
  <Button Content="1"  
    Height="80" Width="80"  
    Margin="20,10,0,20"  
    HorizontalAlignment="Left"/>  
  <Button Content="2"  
    Height="80" Width="80"  
    HorizontalAlignment="Left" />  
</StackPanel>
```

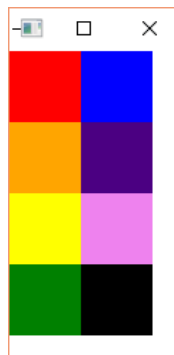
Margin="left,top,right,bottom"



10

WRAPPANEL — EXEMPEL

```
<WrapPanel Orientation="Vertical">  
  <Rectangle Fill="Red" Height="50" Width="50" />  
  <Rectangle Fill="Orange" Height="50" Width="50" />  
  <Rectangle Fill="Yellow" Height="50" Width="50" />  
  <Rectangle Fill="Green" Height="50" Width="50" />  
  <Rectangle Fill="Blue" Height="50" Width="50" />  
  <Rectangle Fill="Indigo" Height="50" Width="50" />  
  <Rectangle Fill="Violet" Height="50" Width="50" />  
  <Rectangle Fill="Black" Height="50" Width="50" />  
</WrapPanel>
```



11

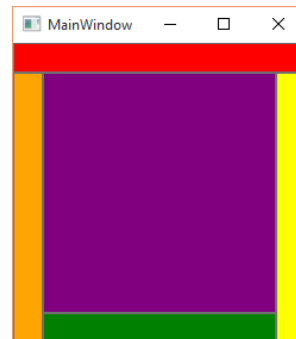
WRAPPANEL — EXEMPEL 2

```
<Grid>  
  <Button>  
    <Button.FontWeight>Bold</Button.FontWeight>  
    <Button.Content>  
      <WrapPanel Orientation="Vertical">  
        <TextBlock Foreground="Blue">Färgglad</TextBlock>  
        <TextBlock Foreground="Red">knapp</TextBlock>  
      </WrapPanel>  
    </Button.Content>  
  </Button>  
</Grid>
```

12

DOCKPANEL — EXEMPEL 1

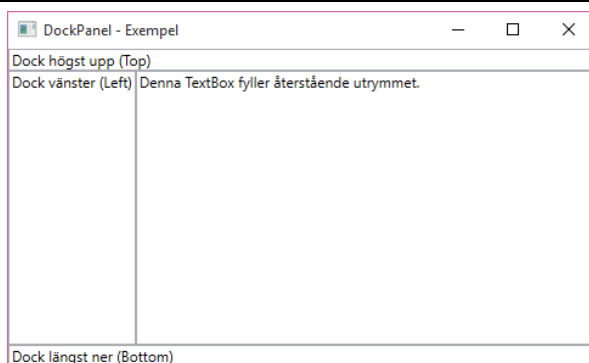
```
<DockPanel>
<Button Background="Red" Height="25" DockPanel.Dock="Top" />
<Button Background="Orange" Width="25" DockPanel.Dock="Left" />
<Button Background="Yellow" Width="25" DockPanel.Dock="Right" />
<Button Background="Green" Height="25" DockPanel.Dock="Bottom" />
<Button Background="Purple" />
</DockPanel>
```



13

DOCKPANEL — EXEMPEL 2

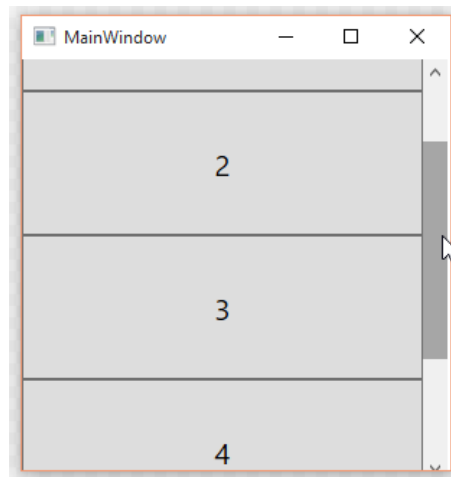
```
<DockPanel>
<TextBox DockPanel.Dock="Top">Dock högst upp (Top) </TextBox>
<TextBox DockPanel.Dock="Bottom">Dock längst ner (Bottom)</TextBox>
<TextBox DockPanel.Dock="Left">Dock vänster (Left)</TextBox>
<TextBox>Denna TextBox fyller återstående utrymmet</TextBox>
</DockPanel>
```



14

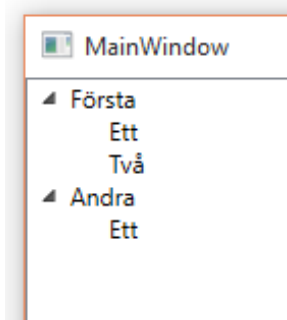
SCROLLVIEWER

```
<ScrollViewer>
  <StackPanel>
    <Button Height="100" FontSize="20">1</Button>
    <Button Height="100" FontSize="20">2</Button>
    <Button Height="100" FontSize="20">3</Button>
    <Button Height="100" FontSize="20">4</Button>
    <Button Height="100" FontSize="20">5</Button>
  </StackPanel>
</ScrollViewer>
```



15

TREEVIEW



```
<TreeView>
  <TreeViewItem>
    <TreeViewItem.Header>
      <TextBlock>Första</TextBlock>
    </TreeViewItem.Header>
    <TreeViewItem Header="Ett" />
    <TreeViewItem Header="Två" />
  </TreeViewItem>
  <TreeViewItem>
    <TreeViewItem.Header>
      <TextBlock>Andra</TextBlock>
    </TreeViewItem.Header>
    <TextBlock Text="Ett" />
  </TreeViewItem>
</TreeView>
```

16

MER OM LABEL

```
<Label
  Content="Datum: "
  Margin="20" Padding="20"
  HorizontalAlignment="Center" VerticalAlignment="Center"
  Background="Beige" FontSize="30"
  Loaded="Label_Loaded"/>

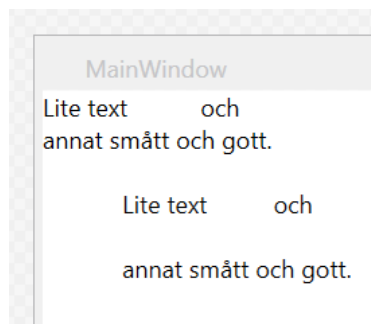
private void Label_Loaded(object sender, RoutedEventArgs e)
{
  ((Label)sender).Content += DateTime.Now.ToShortDateString();
}
```

17

TEXTBLOCK RADBRYTNING OCH MELLANRUM

```
<StackPanel>
  <TextBlock>
    Lite text &#160; &#160; &#160; &#160; &#160; och
  <LineBreak />
    annat smått och gott.
  </TextBlock>
  <TextBlock xml:space="preserve">
    Lite text      och

    annat smått och gott.
  </TextBlock>
</StackPanel>
```



18

TEXTBLOCK SPAN OCH RUN

```
<TextBlock >
```

```
  Lite normal text...<LineBreak />
```

```
  <Span FontWeight="Bold" FontFamily="Gill sans ">
```

```
    Formatering i span.
```

```
  </Span>
```

```
  <LineBreak />
```

```
    Normal text igen.
```

```
</TextBlock>
```

Byt ut Span mot Run
Titta i dokumentationen.

MainWindow

Lite normal text...

Formatering i span.

Normal text igen.

19

TEXTBLOCK BOLD OCH ITALIC

```
<TextBlock >
```

```
  Lite normal text...
```

```
  <Bold>lite fet</Bold>
```

```
  <Italic>och lite kursivt...</Italic>
```

```
  Normal text igen.
```

```
</TextBlock>
```

20

TEXTWRAPPING

```
<TextBlock TextWrapping="Wrap">
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."

```
</TextBlock>
```

21

PASSWORDBOX

```
<StackPanel Margin="10">
```

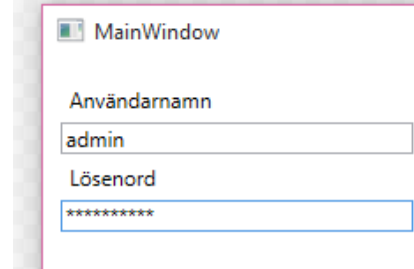
```
<Label>Användarnamn</Label>
```

```
<TextBox Width="200" HorizontalAlignment="Left"/>
```

```
<Label>Lösenord</Label>
```

```
<PasswordBox MaxLength="10" PasswordChar="*"
  Width="200" HorizontalAlignment="Left" />
```

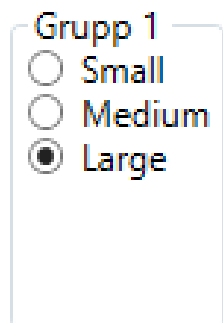
```
</StackPanel>
```



22

GROUPBOX

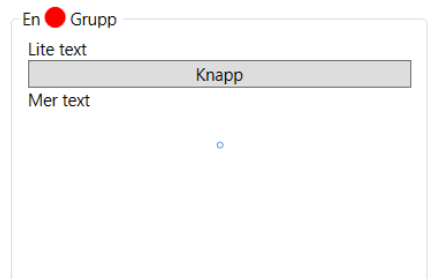
```
<StackPanel Orientation="Horizontal">
  <GroupBox Header="Grupp 1" Margin="10">
    <StackPanel>
      <RadioButton Content="Small" />
      <RadioButton Content="Medium" />
      <RadioButton Content="Large" IsChecked="True" />
    </StackPanel>
  </GroupBox>
</StackPanel>
```



23

GROUPBOX — EXEMPEL 2

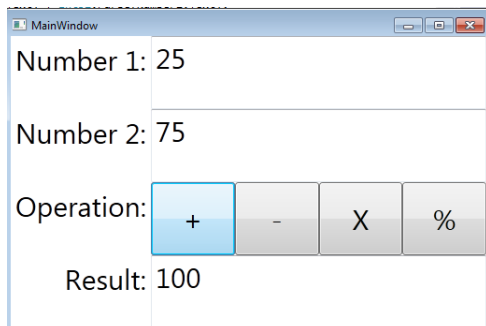
```
<GroupBox Width="300" Height="200">
  <GroupBox.Header>
    <StackPanel Orientation="Horizontal">
      <TextBlock Text="En " />
      <Ellipse Fill="Red" Width="15" Height="15" />
      <TextBlock Text=" Grupp" />
    </StackPanel>
  </GroupBox.Header>
  <StackPanel Margin="7">
    <TextBlock Text="Lite text" />
    <Button Content="Knapp" />
    <TextBlock Text="Mer text" />
  </StackPanel>
</GroupBox>
```



24

ÖVNING

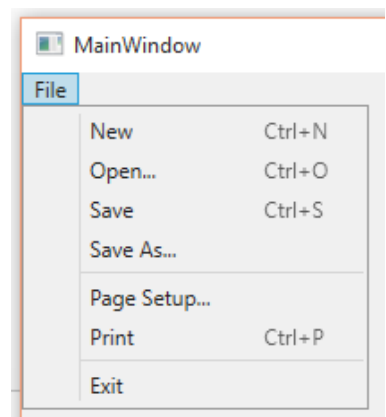
Skapa en enkel kalkylator enligt figuren nedan



25

MENYER

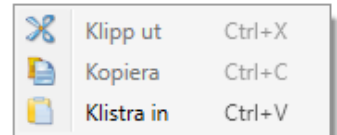
```
<Menu>
<MenuItem Header="_File">
<MenuItem Header="_New" InputGestureText="Ctrl+N" />
<MenuItem Header="_Open..." InputGestureText="Ctrl+O" />
<MenuItem Header="_Save" InputGestureText="Ctrl+S" />
<MenuItem Header="Save _As..." />
<Separator />
<MenuItem Header="Page Set_up..." />
<MenuItem Header="_Print" InputGestureText="Ctrl+P" />
<Separator />
<MenuItem Header="E_xit" />
</MenuItem>
</Menu>
```



26

CONTEXTMENU

```
<RichTextBox>
  <RichTextBox.ContextMenu>
    <ContextMenu>
      <MenuItem Command="Cut">
        <MenuItem.Icon> <Image Source="Images/cut.png" />
      </MenuItem>
      <MenuItem Command="Copy">
        <MenuItem.Icon><Image Source="Images/copy.png" />
      </MenuItem>
      <MenuItem Command="Paste">
        <MenuItem.Icon> <Image Source="Images/paste.png" />
      </MenuItem>
    </ContextMenu>
  </RichTextBox.ContextMenu>
</RichTextBox>
```



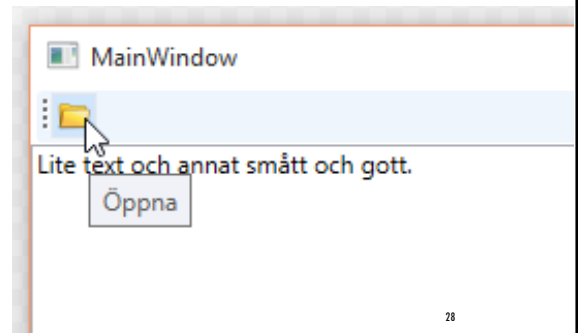
Tips <http://www.readyicons.com/iconset-preview.php?id=4>

27

VERKTYGSRAD – TOOLBAR

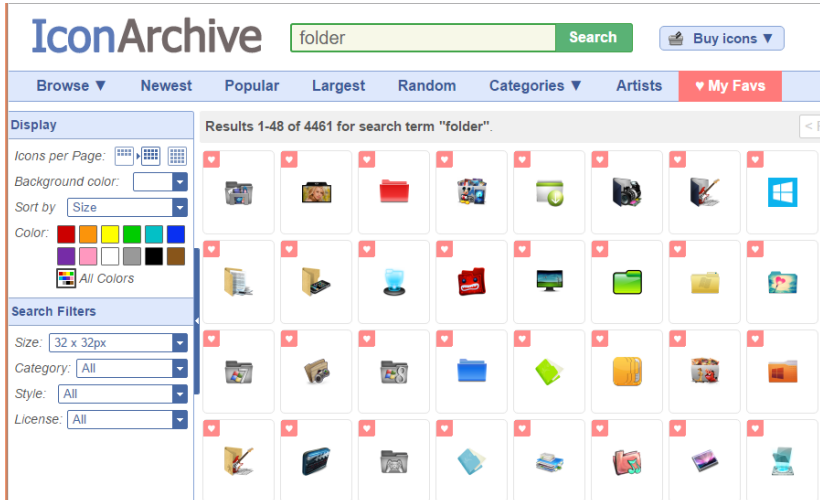
```
<DockPanel>
  <ToolBar DockPanel.Dock="Top">
    <Button ToolTip="Öppna" ToolTipService.ShowDuration="2000">
      <Button.Content>
        <Image Source="/Images/folder.png" Width="16" Height="16" />
      </Button.Content>
    </Button>
  </ToolBar>

  <TextBox>
    Lite text och annat smått och gott.
  </TextBox>
</DockPanel>
```



28

TIPS: WWW.ICONARCHIVE.COM



29

SKAPA ETT FORMULÄR

The screenshot shows a web form titled 'MainWindow' with the following fields and options:

- Namn:
- Jag söker jobb på: Heltid Deltid
- Jag kan: C# C++ Java
- Jag vill arbeta som:
- Jag kan tidigast börja:

Below the 'Jag kan tidigast börja' field is a calendar widget for 'november 2015'. The calendar shows the days of the week (mån, tisd, onsd, tors, fred, lö, sö) and the dates from 1 to 31. The date 24 is highlighted.

At the bottom of the form is a 'Skicka' button.

30

FORMULÄR STEG 1

DEFINIERA RADER OCH KOLUMNER

```
<Grid>  <Grid.RowDefinitions>
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
    <RowDefinition Height="Auto" />
</Grid.RowDefinitions>
<Grid.ColumnDefinitions>
    <ColumnDefinition Width="*" />
    <ColumnDefinition Width="2*" />
</Grid.ColumnDefinitions> </Grid>
```

31

FORMULÄR STEG 2

TEXTBLOCK OCH TEXTBOX

```
<TextBlock Text="Namn"
    HorizontalAlignment="Right"
    Margin="5" />
<TextBox Grid.Column="1"
    Width="250" Height="20"
    HorizontalAlignment="Left"
    Margin="5" />
```

32

FORMULÄR STEG 3

RADIOBUTTON

```
<TextBlock Grid.Row="1" HorizontalAlignment="Right" Margin="5"
Text="Jag söker jobb på" />
<StackPanel Orientation="Horizontal" Grid.Row="1" Grid.Column="1"
VerticalAlignment="Stretch" HorizontalAlignment="Stretch">
  <RadioButton GroupName="heltid" Content="Heltid" Margin="5"
IsChecked="True" />
  <RadioButton GroupName="heltid " Content="Deltid" Margin="5" />
</StackPanel>
```

33

FORMULÄR STEG 4

CHECKBOX

```
<TextBlock Grid.Row="2" Text="Jag kan" HorizontalAlignment="Right"
VerticalAlignment="Bottom" Margin="5" />
<StackPanel Grid.Row="2" Grid.Column="1" Orientation="Horizontal"
VerticalAlignment="Bottom" HorizontalAlignment="Left">
  <CheckBox Content="C#" Margin="5" />
  <CheckBox Content="C++" Margin="5" />
  <CheckBox Content="Java" Margin="5" />
</StackPanel>
```

34

FORMULÄR STEG 5 COMBOBOX

```
<TextBlock Text="Jag vill arbeta som" Grid.Row="3"
HorizontalAlignment="Right" Margin="5" />
<ComboBox Grid.Row="3" Grid.Column="1" HorizontalAlignment="Left"
VerticalAlignment="Bottom" Margin="5">
    <ComboBoxItem Content="Programmerare" />
    <ComboBoxItem Content="Designer" />
    <ComboBoxItem Content="Webbutvecklare" />
    <ComboBoxItem Content="DBA" />
</ComboBox>
```

35

FORMULÄR STEG 6 CALENDAR

```
<TextBlock Text="Jag kan tidigast börja" Grid.Row="4"
HorizontalAlignment="Right" VerticalAlignment="Top" Margin="5" />

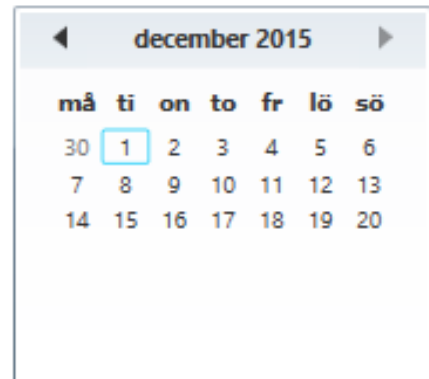
<Calendar Grid.Row="4" Grid.Column="1" Margin="5"
HorizontalAlignment="Left" />

<Button Grid.Row="5" Grid.Column="1" Height="30" Width="100"
HorizontalAlignment="Left" Margin="5">Skicka</Button>
```

36

MER OM CALENDAR DISPLAYDATESTART OCH DISPLAYDATEEND

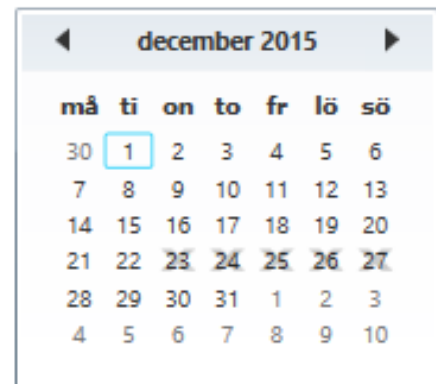
```
<Calendar  
  DisplayDateStart="2015/01/01"  
  DisplayDateEnd="2015/12/20" />
```



37

BLACKOUTDATES

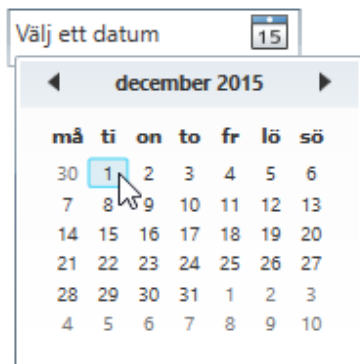
```
<Calendar>  
  <Calendar.BlackoutDates>  
    <CalendarDateRange  
      Start="2015/12/23"  
      End="2015/12/27" />  
  </Calendar.BlackoutDates>  
</Calendar>
```



38

DATEPICKER

```
<DatePicker Name="datePicker1" Height="25" Width="115" />
```



39

ÖVNING

Koda formuläret till höger från grunden i en helt ny WPF-applikation.

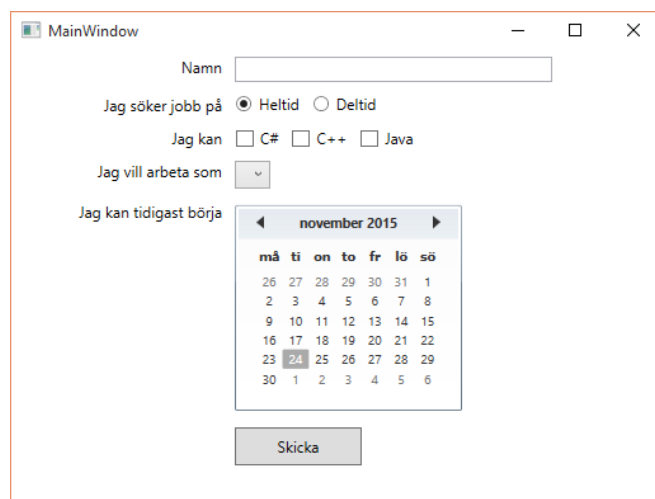
Lägg gärna till flera valfria kontroller.

Spara data i en textfil i CSV-format t.ex.

Mahmud;Deltid;C#;Java;Programmerare;2016-01-01

VG-Övning

Spara data i en databas.



40