Matakuliah	Pemrograman Berbasis Komponen dan Framework
Praktikum 7	WPF 1
Instruktur	Batara Parada Siahaan
Tujuan Praktikum	• Praktikan memahami konsep dasar xaml • Praktikan dapat membuat interface sederhana WPF

Daftar Isi
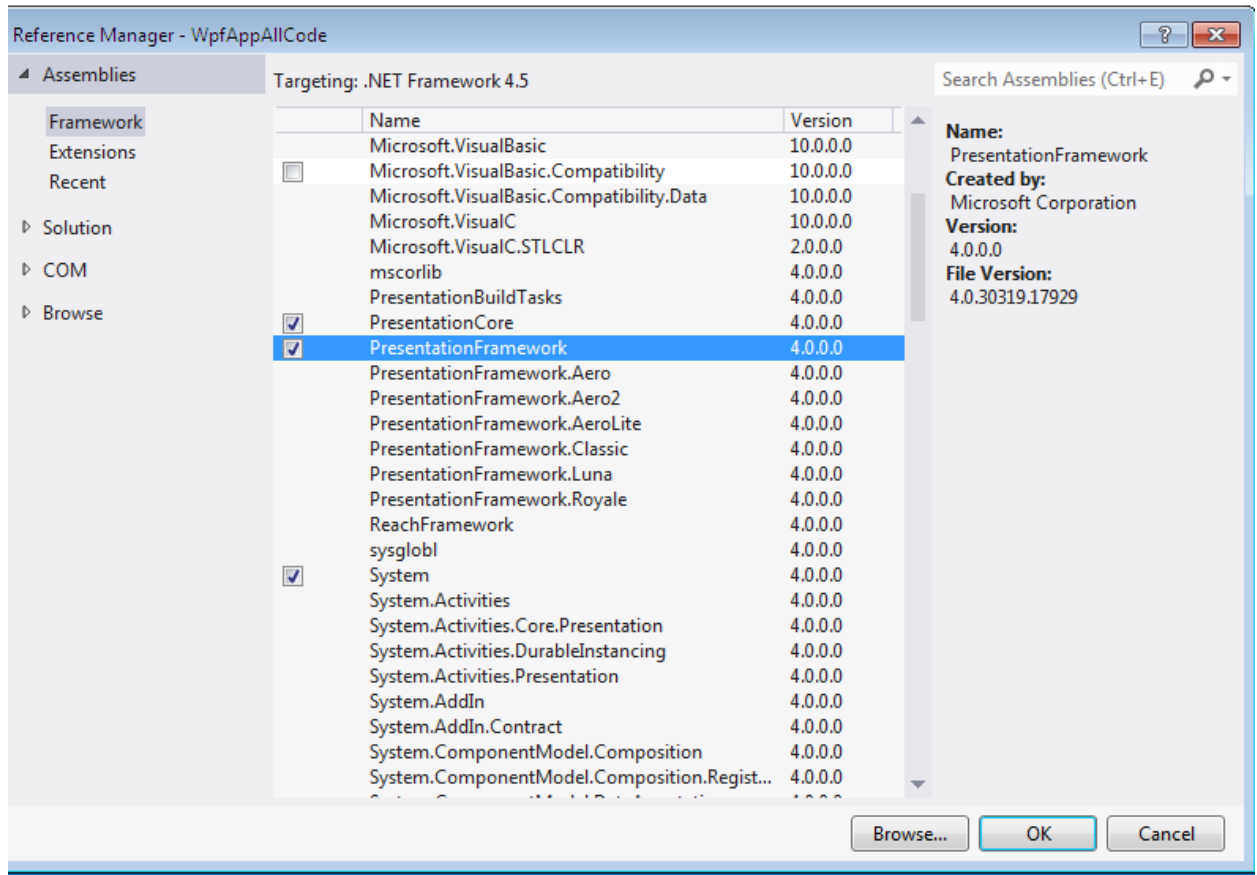
A. WPF WITHOUT XAML

Aplikasi console yang digunakan pada bagian ini disebut *WpfAppAllCode*, codenya sebagai berikut:

```csharp
using System;
using System.Windows;
using System.Windows.Controls;

namespace WpfAppAllCode
{
    class Program : Application
    {
        [STAThread]
        static void Main(string[] args)
        {
            // Handle the Startup and Exit events, and then run the application.
            Program app = new Program();
            app.Startup += AppStartUp;
            app.Exit += AppExit;
            app.Run(); // Fires the Startup event.
        }
        static void AppExit(object sender, ExitEventArgs e)
        {
            MessageBox.Show("App has exited");
        }
        static void AppStartUp(object sender, StartupEventArgs e)
        {
            // Create a Window object and set some basic properties.
            Window mainWindow = new Window();
            mainWindow.Title = "My First WPF App!";
            mainWindow.Height = 200;
            mainWindow.Width = 300;
            mainWindow.WindowStartupLocation = WindowStartupLocation.CenterScreen;
            mainWindow.Show();
        }
    }
}
```
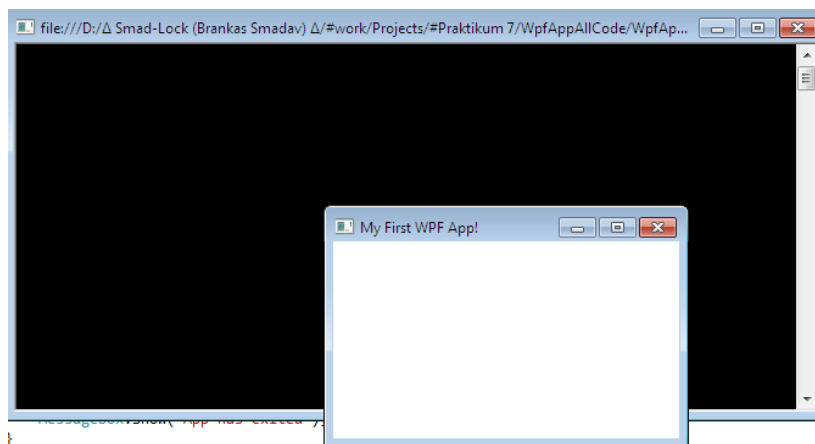
Tambahkan .dll yang telah disediakan oleh visual studio ke project:

- WindowsBase.dll
- PresentationCore.dll
- System.Xaml.dll
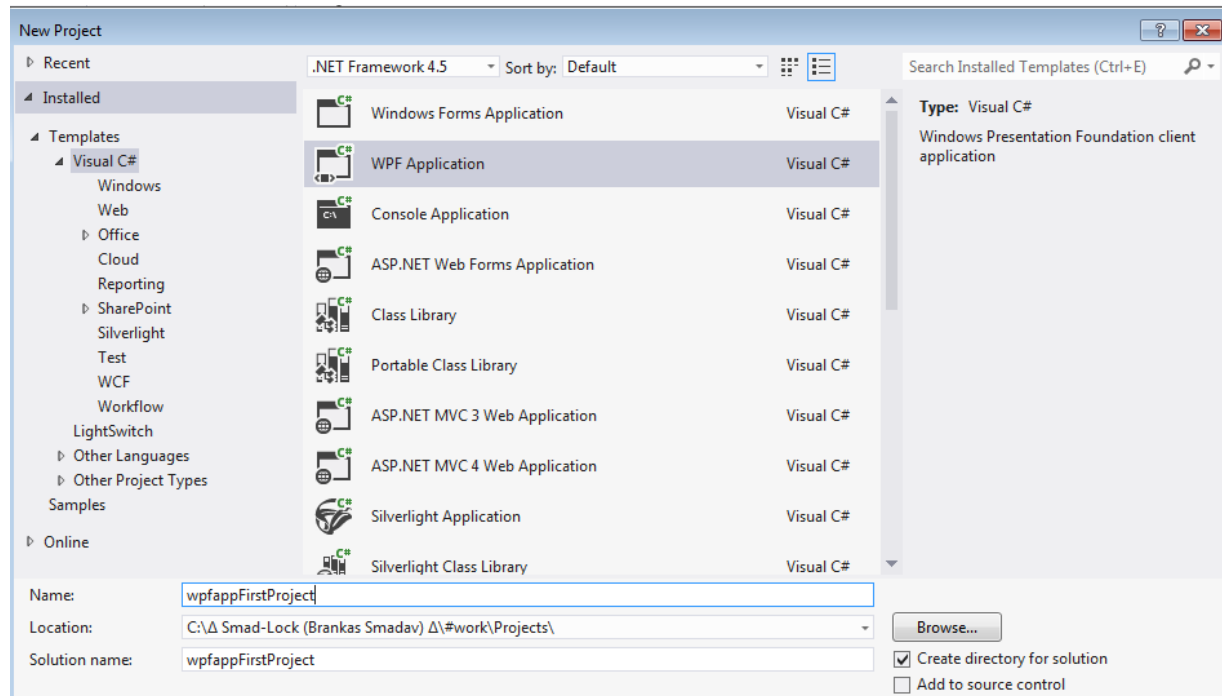- PresentationFramework.dll
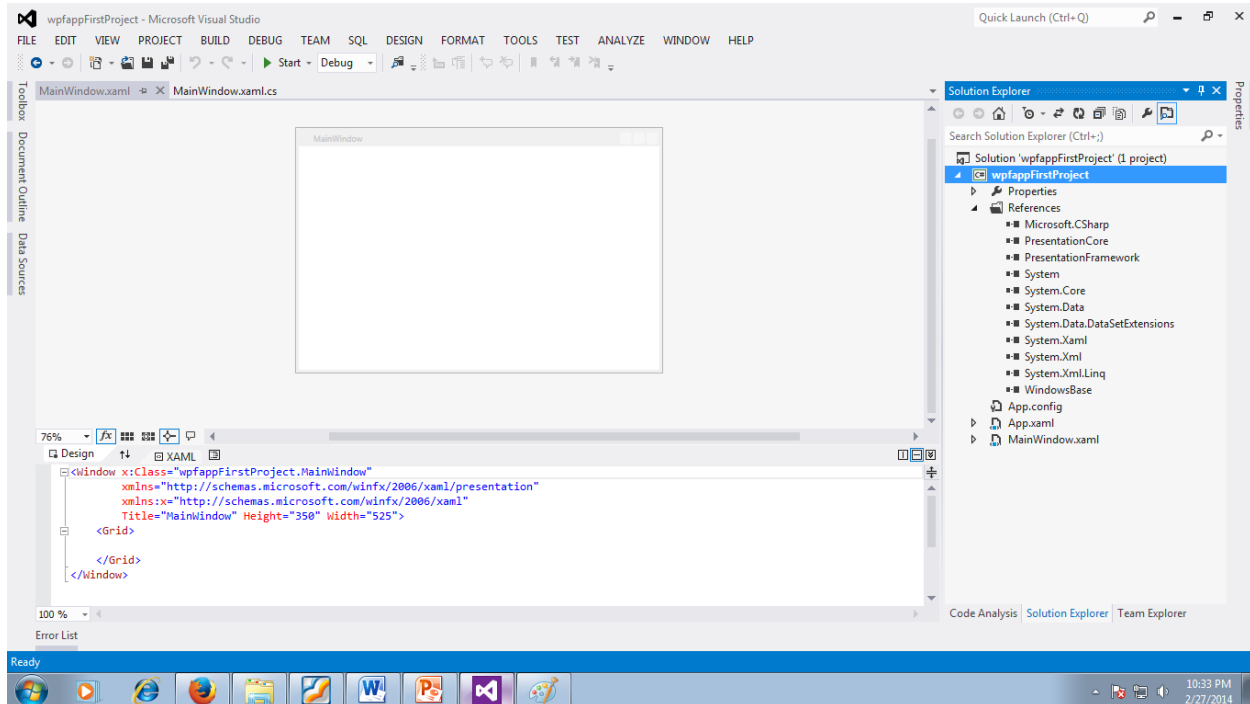
Start Debugging Aplikasi (F5)

B. First WPF Project

Pada bagian ini akan dibuat project baru WPF Application dan diberi nama *wpfappFirstProject*

Setelah project terbentuk akan diperoleh hasil sebagai berikut:

Code XAML yang terbentuk sebagai berikut:

```
Window x:Class="wpfappFirstProject.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="MainWindow" Height="350" Width="525">
    <Grid>

    </Grid>
</Window>
```

Ubah menjadi seperti berikut:

```
Window x:Class="wpfappFirstProject.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="IT DeL" Height="350" Width="525">
    <Grid>

    </Grid>
</Window>
```

Jalankan Aplikasi tersebut

C. Navigation Window Base Application

Buatlah sebuah aplikasi WPF dengan nama *ExpenseIt*, kemudian bukalah App.xaml dari solution explore isi akan seperti berikut:

```
<Application x:Class="ExpenseIt.App"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             StartupUri="MainWindow.xaml">
    <Application.Resources>

    </Application.Resources>
</Application>
```

Kemudian buka MainWindow.xaml dan ubahlah codenya menjadi sebagai berikut (perhatikan code yang berubah):
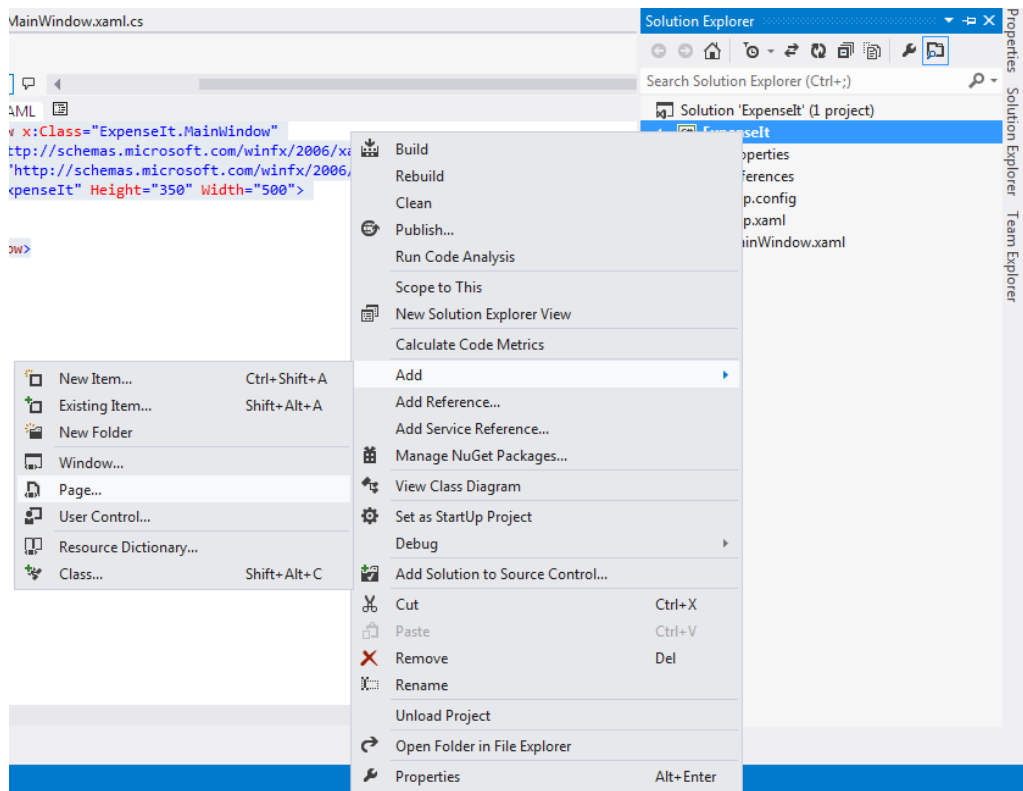
```
<NavigationWindow x:Class="ExpenseIt.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="ExpenseIt" Height="350" Width="500">


</NavigationWindow>
```
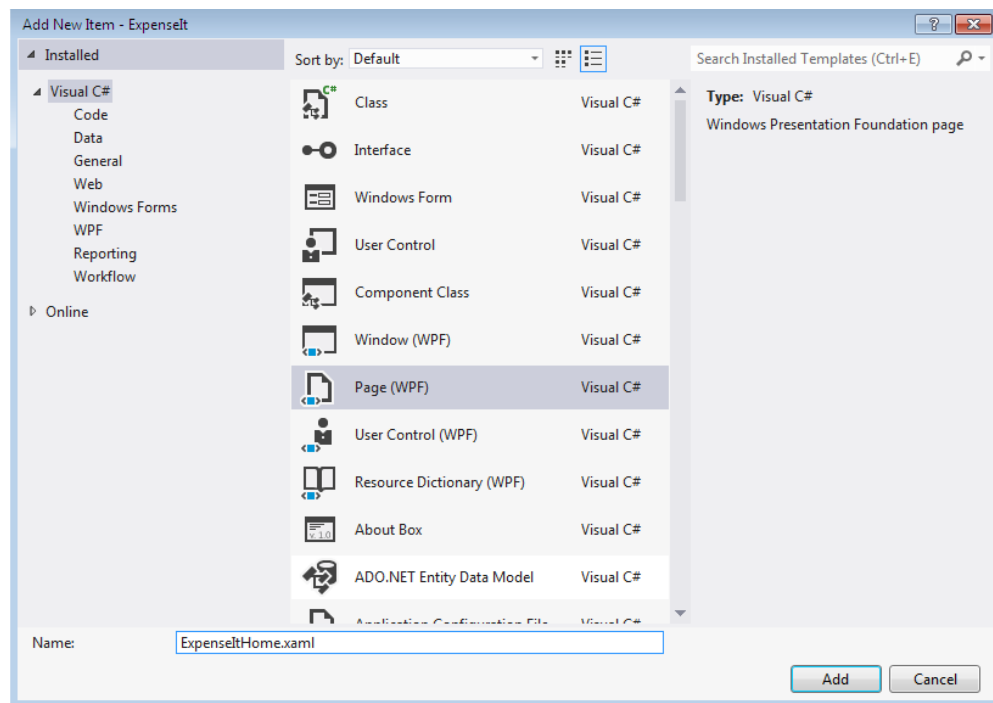
Bukalah *MainWindow.xaml.cs* file ini merupakan code behind untuk menangani event pada M*ainWindow.xaml* , ubahlah codenya menjadi sebagai berikut:

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Navigation;
using System.Windows.Shapes;

namespace ExpenseIt
{
    /// <summary>
    /// Interaction logic for MainWindow.xaml
    /// </summary>
    public partial class MainWindow : NavigationWindow
    {
        public MainWindow()
        {
            InitializeComponent();
        }
    }
}
```
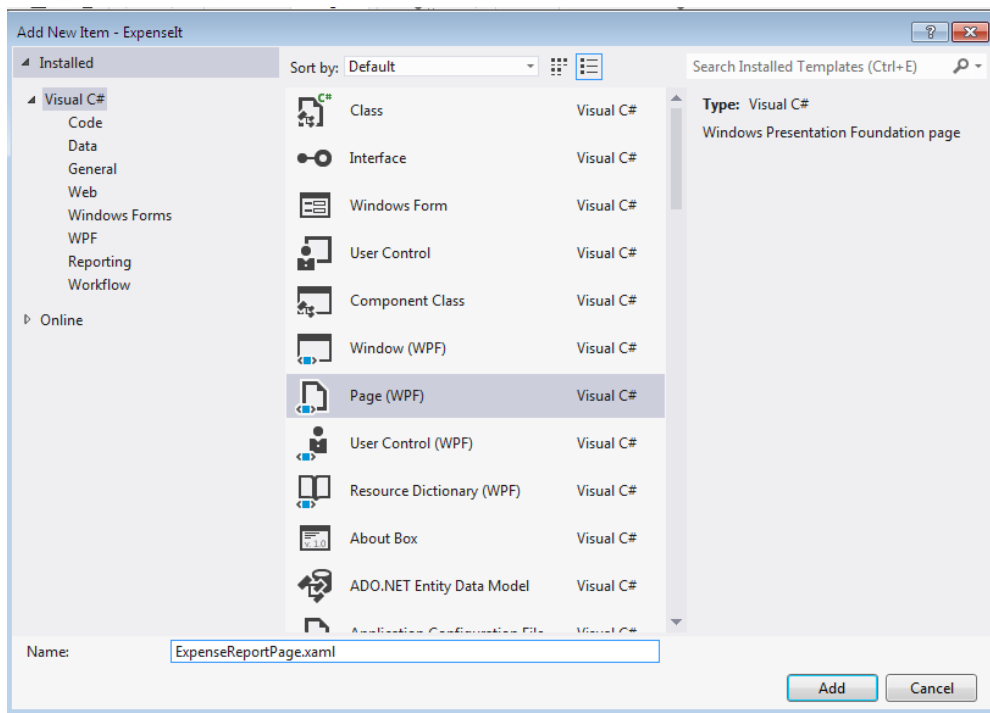
Tambahkan Page(WPF) dengan nama ExpenseITHome.xaml

Buka kembali MainWindow.xaml dan tambahkan property source: Source="ExpenseItHome.xaml,
penambahan bertujuan supaya waktu pertama kali aplikasi dijalankan maka yang dibuka
pertamkali adalah ExpenseItHome.xaml

```xml
<NavigationWindow x:Class="ExpenseIt.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="ExpenseIt" Height="350" Width="500" Source="ExpenseItHome.xaml>


</NavigationWindow>
```
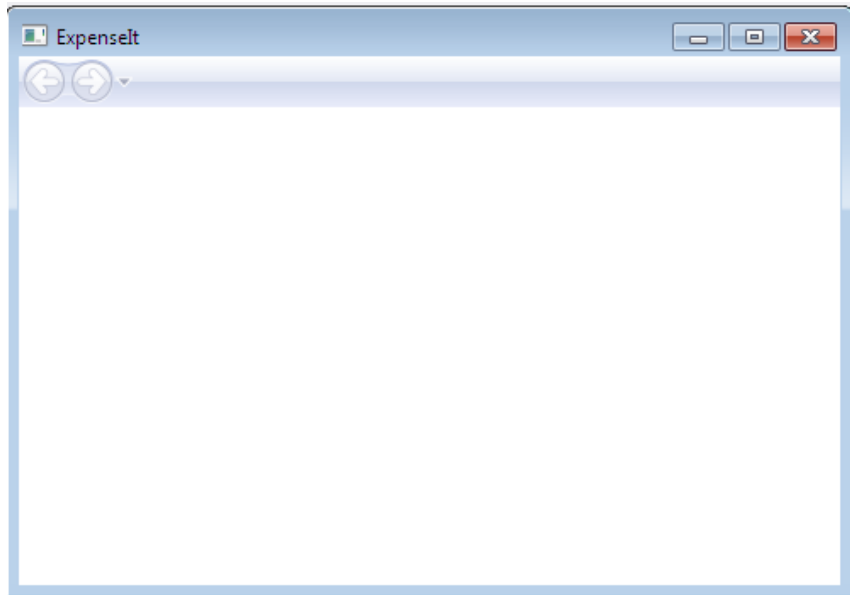
Tambahkan sebuah page baru dengan nama *ExpenseReportPage.xaml*

Kita telah menambahkan dua page ke project kita Open *ExpenseItHome.xaml* dan
ExpenseReportPage.xaml. Kedua page kita akan otomatis memiliki code behind yang akan mengontrol
event dikedua page tersebut, kelas yang otomatis degenerate adalah *ExpenseItHome.xaml.cs* dan
ExpenseReportPage.xaml.cs.

Jika aplikasi tersebut kita Start Debugging (F5) hasilnya adalah sebagai berikut (perhatikan page pertama yang muncul adalah ExpenseIT):

Buka page ExpenseItHome.xml dan tambahkan kode berikut diantara tag Grid:

```xml
<Grid Margin="10,0,10,10">
    <Grid.ColumnDefinitions>
        <ColumnDefinition />
    </Grid.ColumnDefinitions>
    <Grid.RowDefinitions>
        <RowDefinition Height="Auto"/>
        <RowDefinition />
        <RowDefinition Height="Auto"/>
    </Grid.RowDefinitions>
</Grid>
```

Sehingga xaml pada ExpenseItHome.xml menjadi:

```xml
<Page x:Class="ExpenseIt.ExpenseItHome"
      xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
      xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
      xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
      xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
      mc:Ignorable="d"
      d:DesignHeight="300" d:DesignWidth="300"
       Title="ExpenseIt - Home">

    <Grid>
        <Grid Margin="10,0,10,10">
            <Grid.ColumnDefinitions>
                <ColumnDefinition />
            </Grid.ColumnDefinitions>
            <Grid.RowDefinitions>
                <RowDefinition Height="Auto"/>
                <RowDefinition />
                <RowDefinition Height="Auto"/>
            </Grid.RowDefinitions>
        </Grid>
    </Grid>
</Page>
```
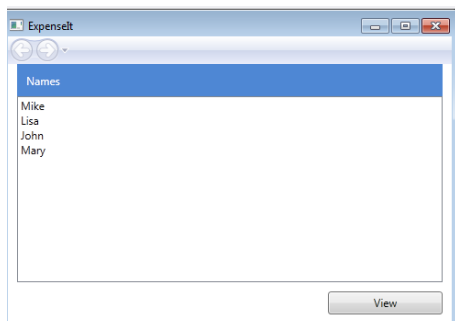
Pada page ExpenseHome.xml akan ditambahkan beberapa control sehingga code pada page tersebut menjadi seperti berikut:

```xml
<Page x:Class="ExpenseIt.ExpenseItHome"
      xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
      xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
      xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
      xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
      mc:Ignorable="d"
      d:DesignHeight="300" d:DesignWidth="300"
       Title="ExpenseIt - Home">

    <Grid Margin="10,0,10,10">
        <Grid.ColumnDefinitions>
            <ColumnDefinition />
        </Grid.ColumnDefinitions>
        <Grid.RowDefinitions>
            <RowDefinition Height="Auto"/>
            <RowDefinition />
            <RowDefinition Height="Auto"/>
        </Grid.RowDefinitions>

        <!-- People list -->
        <Border Grid.Column="0" Grid.Row="0" Height="35" Padding="5"
Background="#4E87D4">
            <Label VerticalAlignment="Center" Foreground="White">Names</Label>
        </Border>
        <ListBox Name="peopleListBox" Grid.Column="0" Grid.Row="1">
            <ListBoxItem>Mike</ListBoxItem>
            <ListBoxItem>Lisa</ListBoxItem>
            <ListBoxItem>John</ListBoxItem>
            <ListBoxItem>Mary</ListBoxItem>
        </ListBox>

        <!-- View report button -->
        <Button Grid.Column="0" Grid.Row="2" Margin="0,10,0,0" Width="125"
Height="25" HorizontalAlignment="Right">View</Button>
    </Grid>
</Page>
```

Tekan F5 (Start Debugging):

D. Navigation Window Base Application Extend

Buka kembali aplikasi wpf pada bagian C (*ExpenseIt*) dan ubahlah codenya menjadi seperti berikut:

App.xaml

```xml
<Application x:Class="ExpenseIt.App"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             StartupUri="MainWindow.xaml">
    <Application.Resources>

        <!-- Header text style -->
        <Style x:Key="headerTextStyle">
            <Setter Property="Label.VerticalAlignment" Value="Center"></Setter>
            <Setter Property="Label.FontFamily" Value="Trebuchet MS"></Setter>
            <Setter Property="Label.FontWeight" Value="Bold"></Setter>
            <Setter Property="Label.FontSize" Value="18"></Setter>
            <Setter Property="Label.Foreground" Value="#0066cc"></Setter>
        </Style>

        <!-- Label style -->
        <Style x:Key="labelStyle" TargetType="{x:Type Label}">
            <Setter Property="VerticalAlignment" Value="Top" />
            <Setter Property="HorizontalAlignment" Value="Left" />
            <Setter Property="FontWeight" Value="Bold" />
            <Setter Property="Margin" Value="0,0,0,5" />
        </Style>

        <!-- DataGrid header style -->
        <Style x:Key="columnHeaderStyle" TargetType="{x:Type DataGridColumnHeader}">
            <Setter Property="Height" Value="35" />
            <Setter Property="Padding" Value="5" />
            <Setter Property="Background" Value="#4E87D4" />
            <Setter Property="Foreground" Value="White" />
        </Style>

        <!-- List header style -->
        <Style x:Key="listHeaderStyle" TargetType="{x:Type Border}">
            <Setter Property="Height" Value="35" />
            <Setter Property="Padding" Value="5" />
            <Setter Property="Background" Value="#4E87D4" />
        </Style>

        <!-- List header text style -->
        <Style x:Key="listHeaderTextStyle" TargetType="{x:Type Label}">
            <Setter Property="Foreground" Value="White" />
            <Setter Property="VerticalAlignment" Value="Center" />
            <Setter Property="HorizontalAlignment" Value="Left" />
        </Style>

        <!-- Button style -->
        <Style x:Key="buttonStyle" TargetType="{x:Type Button}">
            <Setter Property="Width" Value="125" />
            <Setter Property="Height" Value="25" />
            <Setter Property="Margin" Value="0,10,0,0" />
            <Setter Property="HorizontalAlignment" Value="Right" />
        </Style>

    </Application.Resources>
</Application>
```

ExpenseReportPage.xaml

```xml
<Page x:Class="ExpenseIt.ExpenseItHome"
      xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
      xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
      xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
      xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
      mc:Ignorable="d"
      d:DesignHeight="300" d:DesignWidth="300" Title="ExpenseIt - Home" >

    <Grid Margin="10,0,10,10">

        <Grid.ColumnDefinitions>
            <ColumnDefinition Width="230" />
            <ColumnDefinition />
        </Grid.ColumnDefinitions>

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


        <Grid.Resources>

            <!-- Expense Report Data -->
            <XmlDataProvider x:Key="ExpenseDataSource" XPath="Expenses">
                <x:XData>
                    <Expenses xmlns="">
                        <Person Name="Mike" Department="Legal">
                            <Expense ExpenseType="Lunch" ExpenseAmount="50" />
                            <Expense ExpenseType="Transportation" ExpenseAmount="50" />
                        </Person>
                        <Person Name="Lisa" Department="Marketing">
                            <Expense ExpenseType="Document printing" ExpenseAmount="50"/>
                            <Expense ExpenseType="Gift" ExpenseAmount="125" />
                        </Person>
                        <Person Name="John" Department="Engineering">
                            <Expense ExpenseType="Magazine subscription"
ExpenseAmount="50"/>
                            <Expense ExpenseType="New machine" ExpenseAmount="600" />
                            <Expense ExpenseType="Software" ExpenseAmount="500" />
                        </Person>
                        <Person Name="Mary" Department="Finance">
                            <Expense ExpenseType="Dinner" ExpenseAmount="100" />
                        </Person>
                    </Expenses>
                </x:XData>
            </XmlDataProvider>
```

```xml
<!-- Name item template -->
        <DataTemplate x:Key="nameItemTemplate">
            <Label Content="{Binding XPath=@Name}"/>
        </DataTemplate>

    </Grid.Resources>

    <!-- People list -->
    <Label Grid.Column="1" Style="{StaticResource headerTextStyle}" >
        View Expense Report
    </Label>

    <Border Grid.Column="1" Grid.Row="1" Style="{StaticResource listHeaderStyle}">
        <Label Style="{StaticResource listHeaderTextStyle}">Names</Label>
    </Border>

    <ListBox Name="peopleListBox" Grid.Column="1" Grid.Row="2"
     ItemsSource="{Binding Source={StaticResource ExpenseDataSource}, XPath=Person}"
     ItemTemplate="{StaticResource nameItemTemplate}">
    </ListBox>

    <!-- View report button -->
    <Button Grid.Column="1" Grid.Row="3" Click="Button_Click" Style="{StaticResource
buttonStyle}">View</Button>

    </Grid>
</Page>
```

ExpenseReportPage.xaml.cs

```csharp
namespace ExpenseIt
{
    /// <summary>
    /// Interaction logic for ExpenseItHome.xaml
    /// </summary>
    public partial class ExpenseItHome : Page
    {
        public ExpenseItHome()
        {
            InitializeComponent();
        }

        private void Button_Click(object sender, RoutedEventArgs e)
        {
            // View Expense Report
            ExpenseReportPage expenseReportPage = new
ExpenseReportPage(this.peopleListBox.SelectedItem);
            this.NavigationService.Navigate(expenseReportPage);

        }

    }
}
```

ExpenseReportPage.xaml

```xml
<Page x:Class="ExpenseIt.ExpenseReportPage"
      xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
      xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
      xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
      xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
      mc:Ignorable="d"
      d:DesignHeight="300" d:DesignWidth="300"
       Title="ExpenseIt - View Expense">

    <Grid>

        <Grid.ColumnDefinitions>
            <ColumnDefinition Width="230" />
            <ColumnDefinition />
        </Grid.ColumnDefinitions>
        <Grid.RowDefinitions>
            <RowDefinition Height="Auto" />
            <RowDefinition />
        </Grid.RowDefinitions>


        <Label Grid.Column="1" Style="{StaticResource headerTextStyle}">
            Expense Report For:
        </Label>
        <Grid Margin="10" Grid.Column="1" Grid.Row="1">

            <Grid.ColumnDefinitions>
                <ColumnDefinition />
                <ColumnDefinition />
            </Grid.ColumnDefinitions>
            <Grid.RowDefinitions>
                <RowDefinition Height="Auto" />
                <RowDefinition Height="Auto" />
                <RowDefinition />
            </Grid.RowDefinitions>

            <!-- Name -->
            <StackPanel Grid.Column="0" Grid.ColumnSpan="2" Grid.Row="0"
Orientation="Horizontal">
                <Label Style="{StaticResource labelStyle}">Name:</Label>
                <Label Style="{StaticResource labelStyle}" Content="{Binding
XPath=@Name}"></Label>
            </StackPanel>

            <!-- Department -->
            <StackPanel Grid.Column="0" Grid.ColumnSpan="2" Grid.Row="1"
Orientation="Horizontal">
                <Label Style="{StaticResource labelStyle}">Department:</Label>
                <Label Style="{StaticResource labelStyle}" Content="{Binding
XPath=@Department}"></Label>
            </StackPanel>

            <Grid Grid.Column="0" Grid.ColumnSpan="2" Grid.Row="2"
VerticalAlignment="Top" HorizontalAlignment="Left">
                <!-- Expense type and Amount table -->
```

```xml
<DataGrid ItemsSource="{Binding XPath=Expense}" ColumnHeaderStyle="{StaticResource
columnHeaderStyle}" AutoGenerateColumns="False" RowHeaderWidth="0" >

    <DataGrid.Columns>
        <DataGridTextColumn Header="ExpenseType" Binding="{Binding XPath=@ExpenseType}"
/>
        <DataGridTextColumn Header="Amount" Binding="{Binding XPath=@ExpenseAmount}" />
    </DataGrid.Columns>

</DataGrid>

            </Grid>
        </Grid>

    </Grid>
</Page>
```

ExpenseReportPage.xaml.cs

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Navigation;
using System.Windows.Shapes;

namespace ExpenseIt
{
    /// <summary>
    /// Interaction logic for ExpenseReportPage.xaml
    /// </summary>
    public partial class ExpenseReportPage : Page
    {
        public ExpenseReportPage()
        {
            InitializeComponent();
        }

        // Custom constructor to pass expense report data
        public ExpenseReportPage(object data)
            : this()
        {
            // Bind to expense report data.
            this.DataContext = data;
        }
    }
}
```
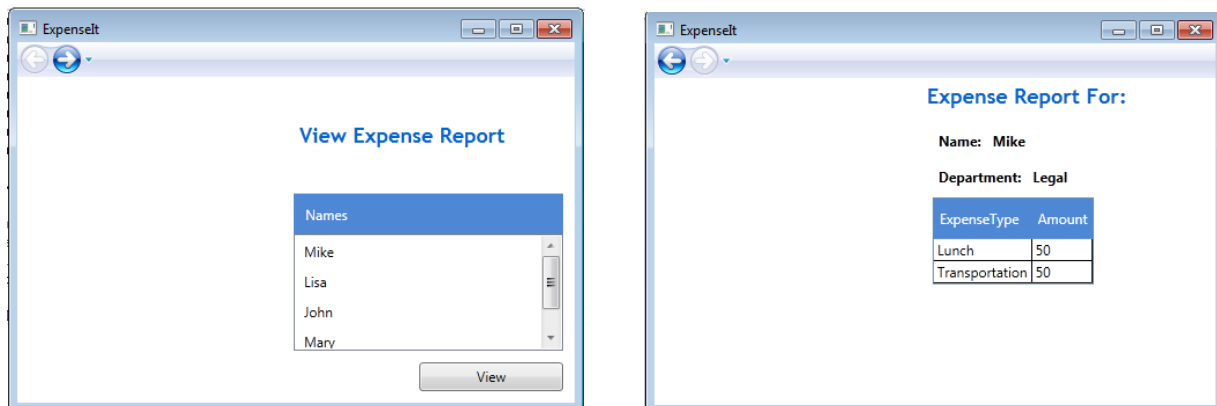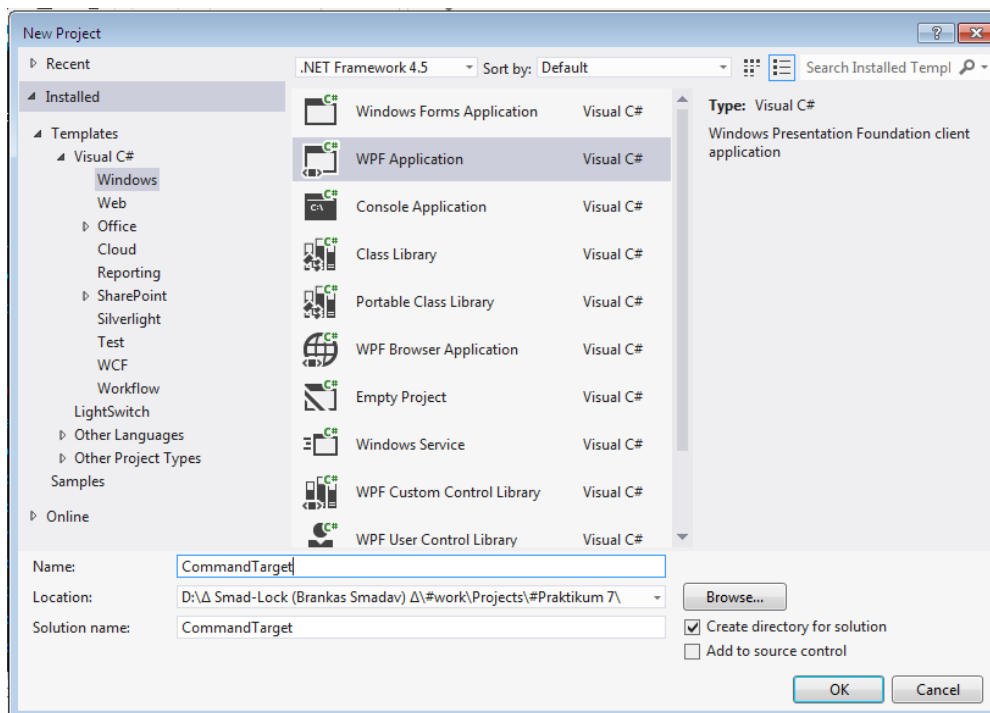
Tekan F5 (Start Debugging)

E. Create Menu

Bangunlah sebuah aplikasi WPF dengan nama *CommandTarget* :

Setelah itu bukalah file MainWindow.xaml dan tambahkan DockPanel sehingga code pada file ini menjadi:
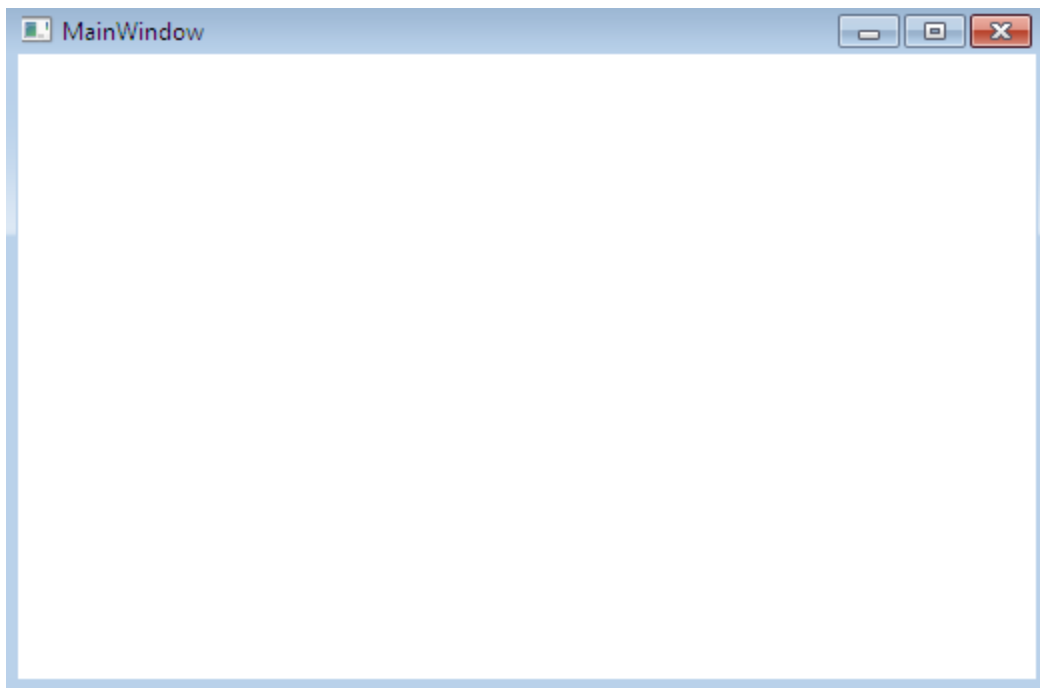
```xml
<Window x:Class="CommandTarget.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="MainWindow" Height="350" Width="525">

    <DockPanel>

        <Grid>

        </Grid>
    </DockPanel>
</Window>
```

Jalankan aplikasi (F5) sehingga dan akan diperoleh tampilan sebagai berikut:

Dibawah DockPanel tambahkan code sehingga code akhir pada file ini:

```xml
<Window x:Class="CommandTarget.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="MainWindow" Height="350" Width="525">

    <DockPanel>
        <Menu DockPanel.Dock="Top">
            <MenuItem Header="Edit">
                <MenuItem Command="ApplicationCommands.Copy"/>
                <MenuItem Command="ApplicationCommands.Cut"/>
                <MenuItem Command="ApplicationCommands.Paste"/>
                <Separator/>
                <MenuItem Command="ApplicationCommands.Undo"/>
                <MenuItem Command="ApplicationCommands.Redo"/>
            </MenuItem>
        </Menu>
        <Grid>

        </Grid>
    </DockPanel>
</Window>
```
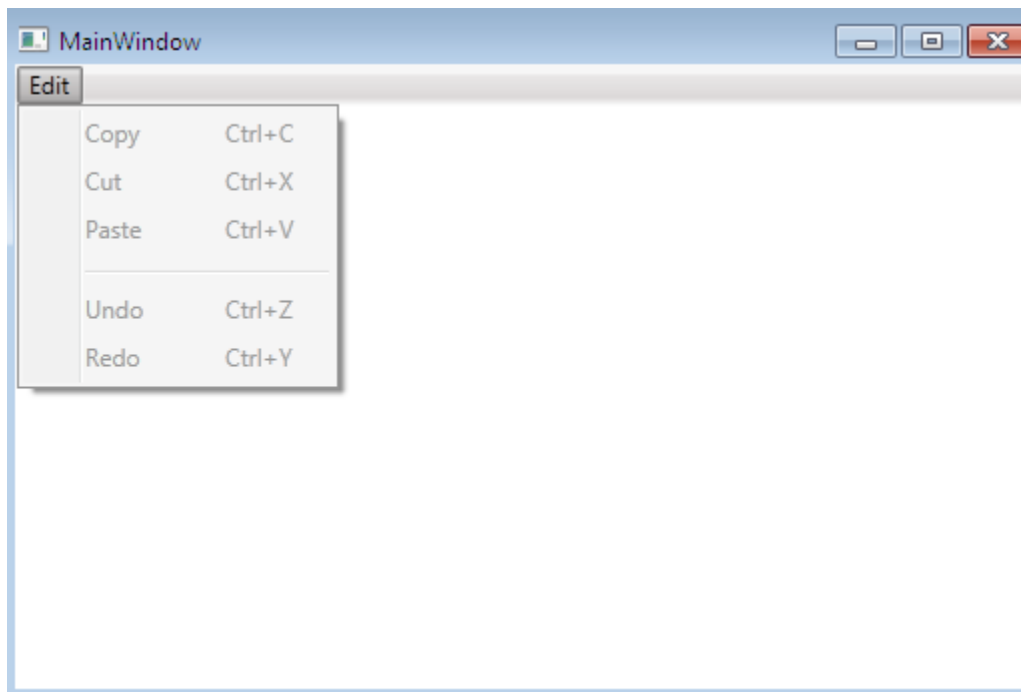
Tampilan dari aplikasi jika dijalankan (F5):

Kemudian didalam grid tambahkan dua row dan dua text box, sehingga file WindowMain.xaml menjadi:

```xml
<Window x:Class="CommandTarget.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="MainWindow" Height="350" Width="525">

  <DockPanel>
        <Menu DockPanel.Dock="Top">
            <MenuItem Header="Edit">
                <MenuItem Command="ApplicationCommands.Copy"/>
                <MenuItem Command="ApplicationCommands.Cut"/>
                <MenuItem Command="ApplicationCommands.Paste"/>
                <Separator/>
                <MenuItem Command="ApplicationCommands.Undo"/>
                <MenuItem Command="ApplicationCommands.Redo"/>
            </MenuItem>
        </Menu>

        <Grid>
            <Grid.RowDefinitions>
                <RowDefinition Height="*"/>
                <RowDefinition Height="*"/>
            </Grid.RowDefinitions>

            <TextBox Name="txtTop" Grid.Row="0" Grid.Column="0" Margin="10"
TextWrapping="Wrap"
                     Text="Institut Teknologi Del"/>
            <TextBox Name="txtBottom" Grid.Row="1" Margin="10,0,10,10"
TextWrapping="Wrap"
                     Text="Institut Teknologi Del"/>

        </Grid>
    </DockPanel>
</Window>
```
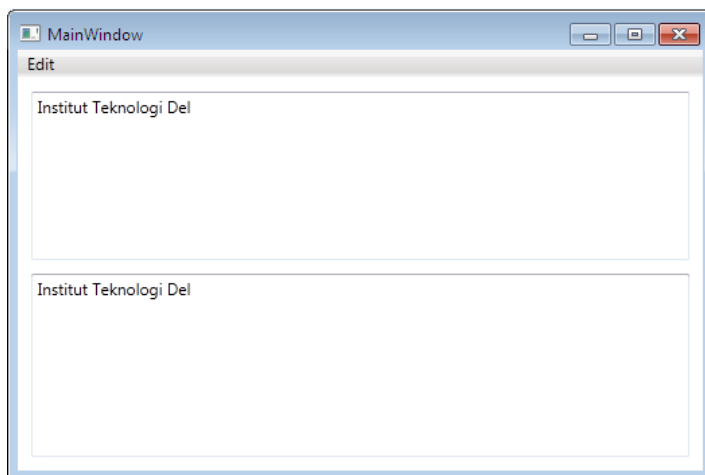
Tampilan dari aplikasi jika Start Debuging (F5):

Menu aplikasi akan ditambahkan menu close :

```xml
<Window x:Class="CommandTarget.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="MainWindow" Height="350" Width="525">

  <DockPanel>
        <Menu DockPanel.Dock="Top">

            <MenuItem Header="File">
                <MenuItem Header="Exit" Command="Close"/>
            </MenuItem>


            <MenuItem Header="Edit">
                <MenuItem Command="ApplicationCommands.Copy"/>
                <MenuItem Command="ApplicationCommands.Cut"/>
                <MenuItem Command="ApplicationCommands.Paste"/>
                <Separator/>
                <MenuItem Command="ApplicationCommands.Undo"/>
                <MenuItem Command="ApplicationCommands.Redo"/>
            </MenuItem>
        </Menu>

        <Grid>
            <Grid.RowDefinitions>
                <RowDefinition Height="*"/>
                <RowDefinition Height="*"/>
            </Grid.RowDefinitions>

            <TextBox Name="txtTop" Grid.Row="0" Grid.Column="0" Margin="10"
TextWrapping="Wrap"
                    Text="Institut Teknologi Del"/>
            <TextBox Name="txtBottom" Grid.Row="1" Margin="10,0,10,10"
TextWrapping="Wrap"
                    Text="Institut Teknologi Del"/>

        </Grid>
    </DockPanel>
</Window>
```
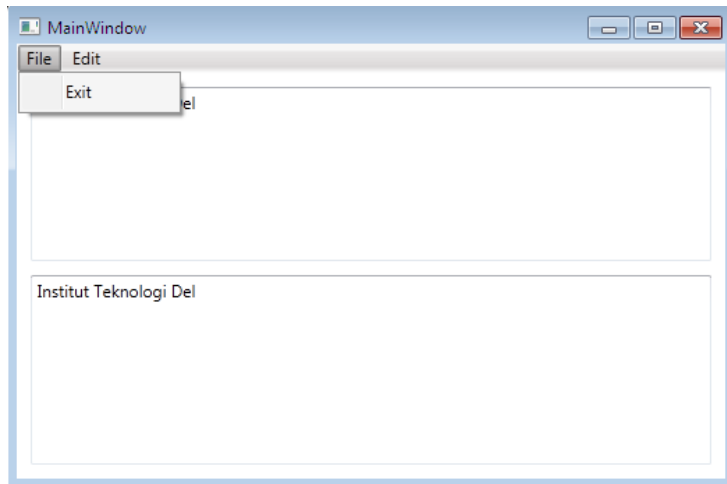
Jika dijalankan hasilnya sebagai berikut:

Menu exit belum berfungsi, supaya berfungsi tambahkan code diatas DockPanel:

```xml
<Window x:Class="CommandTarget.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        Title="MainWindow" Height="350" Width="525">

    <Window.CommandBindings>
        <CommandBinding Command="Close" Executed="closeCommand_Executed" />
    </Window.CommandBindings>

    <DockPanel>

        <Menu DockPanel.Dock="Top">
            <MenuItem Header="File">
                <MenuItem Header="Exit" Command="Close"/>
            </MenuItem>

            <MenuItem Header="Edit">
                <MenuItem Command="ApplicationCommands.Copy"/>
                <MenuItem Command="ApplicationCommands.Cut"/>
                <MenuItem Command="ApplicationCommands.Paste"/>
                <Separator/>
                <MenuItem Command="ApplicationCommands.Undo"/>
                <MenuItem Command="ApplicationCommands.Redo"/>
            </MenuItem>

        </Menu>

        <Grid>
            <Grid.RowDefinitions>
                <RowDefinition Height="*"/>
                <RowDefinition Height="*"/>
            </Grid.RowDefinitions>

            <TextBox Name="txtTop" Grid.Row="0" Grid.Column="0" Margin="10"
TextWrapping="Wrap"
                    Text="Institut Teknologi Del"/>
            <TextBox Name="txtBottom" Grid.Row="1" Margin="10,0,10,10"
TextWrapping="Wrap"
                    Text="Institut Teknologi Del"/>

        </Grid>
    </DockPanel>
</Window>
```

Dan bukalah Code Behind di file WindowMain.xaml.cs dan tambahkan code berikut:

```csharp
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Navigation;
using System.Windows.Shapes;

namespace CommandTarget
{
    /// <summary>
    /// Interaction logic for MainWindow.xaml
    /// </summary>
    public partial class MainWindow : Window
    {
        public MainWindow()
        {
            InitializeComponent();
        }

        private void closeCommand_Executed( object sender,  ExecutedRoutedEventArgs e )
        {
            Application.Current.Shutdown();
        }
    }
}
```

Cobalah aplikasi tersebut, seharusnya ketika pilih menu exit maka aplikasi akan menutup

F. Daftar Pustaka

Deitel, Paul. Deitel, Harvey, C# 2010 For Programmers, Fourth edition Deitel

http://archive.msdn.microsoft.com/wpfsamples