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Lab 16

This is a lab that I completed when learning about the model view controller. The application allowed users to add employees to an employee object.

Main Window

```xml
<Window x:Class="DubeLab16.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
        xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
        xmlns:local="clr-namespace:DubeLab16"
        mc:Ignorable="d"
        Title="Lab16" Height="500" Width="500">

    <DockPanel>
        <StackPanel DockPanel.Dock="Left" >
            <ListBox Name="lbEmp" ItemsSource="{Binding ElementName=employees,
Path=Items}"
                     SourceUpdated="lbEmp_SourceUpdated"
SelectionChanged="lbEmp_SelectionChanged">
                <ListBox.ItemTemplate>
                    <DataTemplate>
                        <StackPanel Orientation="Horizontal">
                            <TextBlock Name="lbfn" Padding="5,0,5,0" Text="{Binding
empFname}" />
                            <TextBlock Text=", " />
                            <TextBlock Name="lbln" Padding="5,0,5,0" Text="{Binding
empLname}" />
                        </StackPanel>
                    </DataTemplate>
                </ListBox.ItemTemplate>
            </ListBox>
            <Button Name="btnAdd" Click="btnAdd_Click"  Content="Add" Width="100"
Margin="10,10,0,0"/>
        </StackPanel>
        <StackPanel>
            <TextBlock Text="Employee Information:" FontWeight="Bold"/>
            <Grid HorizontalAlignment="Left" VerticalAlignment="Top">
                <Grid.RowDefinitions>
                    <RowDefinition/>
                    <RowDefinition Height="Auto"/>
                    <RowDefinition Height="Auto"/>
                    <RowDefinition Height="Auto"/>
                </Grid.RowDefinitions>
                <Grid.ColumnDefinitions>
```

```xml
                    <ColumnDefinition Width="Auto"/>
                    <ColumnDefinition Width="Auto"/>
                </Grid.ColumnDefinitions>
                <TextBlock Text="Employee ID: " Grid.Column=" 0" Grid.Row="0"/>
                <TextBox Name="tbEmpId" Grid.Column="1" Grid.Row="0" Width="150"/>
                <TextBlock Text="Employee First Name: " Grid.Column=" 0" Grid.Row="1"/>
                <TextBox Name="tbEmpFname" Grid.Column="1" Grid.Row="1" />
                <TextBlock Text="Employee Last Name: " Grid.Column=" 0" Grid.Row="2"/>
                <TextBox Name="tbEmpLname" Grid.Column="1" Grid.Row="2"/>
                <TextBlock Text="Employee Salary: " Grid.Column=" 0" Grid.Row="3"/>
                <TextBox Name="tbEmpSal" Grid.Column="1" Grid.Row="3"/>
            </Grid>
        </StackPanel>
    </DockPanel>
</Window>
```

```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 DubeLab16
{
    /// <summary>
    /// Interaction logic for MainWindow.xaml
    /// </summary>
    public partial class MainWindow : Window
    {
        Employees employeeList;
        public MainWindow()
        {
            InitializeComponent();
            employeeList = new Employees();
            lbEmp.ItemsSource = employeeList;
        }

        private void lbEmp_SelectionChanged(object sender, SelectionChangedEventArgs e)
        {
            Employee selectedEmp = (Employee)lbEmp.SelectedItem;
            Binding eidBinding = new Binding("Id");
            eidBinding.Source = selectedEmp;
            tbEmpId.SetBinding(TextBox.TextProperty, eidBinding);
            Binding fnBinding = new Binding("FirstName");
            fnBinding.Source = selectedEmp;
            tbEmpFname.SetBinding(TextBox.TextProperty, fnBinding);
```

```
                Binding lnBinding = new Binding("LastName");
                lnBinding.Source = selectedEmp;
                tbEmpLname.SetBinding(TextBox.TextProperty, lnBinding);
                Binding slBinding = new Binding("Salary");
                slBinding.Source = selectedEmp;
                tbEmpSal.SetBinding(TextBox.TextProperty, slBinding);
        }

        private void lbEmp_SourceUpdated(object sender, DataTransferEventArgs e)
        {

        }

        private void btnAdd_Click(object sender, RoutedEventArgs e)
        {
            Employee emp = new Employee(tbEmpId.Text,
                tbEmpFname.Text, tbEmpLname.Text, tbEmpSal.Text);
            employeeList.Add(emp);
        }
    }
}
```

Employee.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Linq;
using System.Runtime.CompilerServices;
using System.Text;
using System.Threading.Tasks;

namespace DubeLab16
{
    class Employee : INotifyPropertyChanged
    {
        public string empId { get; set; }
        public string empFname { get; set; }
        public string empLname { get; set; }
        public string empSal { get; set; }
        public Employee() {

        }
        public Employee(string i, string f, string l, string s)
        {
            empId = i;
            empFname = f;
            empLname = l;
            empSal = s;
        }
        private string id(){
```

```csharp
            return empId;
        }
        private void setId(string i)
        {
            empId = i;
        }
        private string getFirst()
        {
            return empFname;
        }
        private void setFirst(string f)
        {
            empFname = f;
        }
        private string getLast()
        {
            return empLname;
        }
        private void setLast(string l)
        {
            empLname = l;
        }
        private void setSal(string s)
        {
            empSal = s;
        }
        private string getSal()
        {
            return empSal;
        }

        public event PropertyChangedEventHandler PropertyChanged;
        private void NotifyPropertyChanged([CallerMemberName] String propertyName = "")
        {
            PropertyChanged?.Invoke(this, new PropertyChangedEventArgs(propertyName));
        }
    }
}
```

Employees.cs

```csharp
using System;
using System.Collections.Generic;
using System.Collections.ObjectModel;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace DubeLab16
```

```csharp
{
    class Employees : ObservableCollection<Employee>
    {
        public Employees()
        {
            Employee myEmp = new Employee
            {
                empId = "000001",
                empFname = "John",
                empLname = "Doe",
                empSal = "1.00"
            };
            Add(myEmp);
            myEmp = new Employee
            {
                empId = "000002",
                empFname = "John",
                empLname = "Smith",
                empSal = "1.00"
            };
            Add(myEmp);
            myEmp = new Employee
            {
                empId = "000003",
                empFname = "Sally",
                empLname = "Jones",
                empSal = "1.00"
            };
            Add(myEmp);
            myEmp = new Employee
            {
                empId = "000004",
                empFname = "Jack",
                empLname = "DeRipper",
                empSal = "1.00"
            };
            Add(myEmp);
            myEmp = new Employee
            {
                empId = "000005",
                empFname = "Alexander",
                empLname = "Romanov",
                empSal = "1.00"
            };
            Add(myEmp);
        }
    }
}
```

Lab16

John , Doe
John , Smith
Sally , Jones
Jack , DeRipper
Alexander , Romanov
Anna , Dube

Add

Employee Information:

Employee ID: 333

Employee First Name: Anna

Employee Last Name: Dube

Employee Salary: 444