

CSharp

XML

```
<?xml version="1.0" encoding="utf-8"?>
<ArrayOfPerson xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema">
  <Person>
    <Name>John</Name>
    <Surname>Jones</Surname>
    <PhoneNo>33333333111</PhoneNo>
    <Country>Germany</Country>
  </Person>
  <Person>
    <Name>Ben</Name>
    <Surname>Benny</Surname>
    <PhoneNo>22222222111</PhoneNo>
    <Country>Spain</Country>
  </Person>
  <Person>
    <Name>Jack</Name>
    <Surname>Jacks</Surname>
    <PhoneNo>55555555111</PhoneNo>
    <Country>Italy</Country>
  </Person>
</ArrayOfPerson>
```

```
namespace WpfApp
{
    9 references
    public class Person
    {
        [XmlElement("Name")]
        1 reference
        public string Name { get; set; }

        [XmlElement("Surname")]
        1 reference
        public string Surname { get; set; }

        [XmlElement("PhoneNo")]
        1 reference
        public string PhoneNo { get; set; }

        [XmlElement("Country")]
        3 references
        public string Country { get; set; }

        1 reference
        public override string ToString()
        {
            return Name + Surname + PhoneNo + Country;
        }
    }
}
```

```
XmlSerializer xs = new XmlSerializer(typeof(ObservableCollection<Person>));
using (StreamReader rd = new StreamReader(@"data.xml"))
{
    personList = new ObservableCollection<Person>((IEnumerable<Person>)xs.Deserialize(rd));
}
this.dataGrid.DataContext = personList;
```

```
List<Person> query1 =
(from person in personList
 where (person.Country.Equals(countryBox.SelectedValue))
 select person).ToList();
this.dataGrid.DataContext = query1;
```

```
<DataGrid AutoGenerateColumns="False" IsReadOnly="True" HorizontalAlignment="Left" Height="135" Margin="10,37,0,0" VerticalAlignment="Top"
Width="385" x:Name="dataGrid" SelectionChanged="DataGrid_SelectionChanged" ItemsSource="{Binding}">
  <DataGrid.Columns>
    <DataGridTextColumn Header="Name" Binding="{Binding Path=Name}" />
    <DataGridTextColumn Header="Surname" Binding="{Binding Path=Surname}" />
    <DataGridTextColumn Header="Phone no" Binding="{Binding Path=PhoneNo}" />
    <DataGridTextColumn Header="Country" Binding="{Binding Path=Country}" />
  </DataGrid.Columns>
</DataGrid>
```

WCF

```
namespace WcfService
{
    [ServiceContract]
    1 reference
    public interface IService1
    {
        [OperationContract]
        1 reference
        NoteInformations CheckDigits(string controlNumber,
    }

    [DataContract]
    3 references
    public class NoteInformations
    {
        [DataMember]
        2 references
        public bool Correct { get; set; }
        [DataMember]
        1 reference
        public string ControlNumber { get; set; }
        [DataMember]
        1 reference
        public string PlateCode { get; set; }
        [DataMember]
        1 reference
        public Country Country { get; set; }
        [DataMember]
        1 reference
        public Bank Bank { get; set; }
    }

    2 references
    public class Country : IName
    {
        [XmlElement("Code")]
        4 references
        public string Code { get; set; }
        [XmlElement("Name")]
        3 references
        public string Name { get; set; }
    }

    2 references
    public class Bank : IName
    {
        [XmlElement("Code")]
        4 references
        public string Code { get; set; }
        [XmlElement("Name")]
    }
}

References
public class Service1 : IService1
{
    1 reference
    public NoteInformations CheckDigits(string controlNumber, string plateCode)
    {
        char[] controlNumberDigits = controlNumber.ToCharArray();
        char[] plateCodeDigits = plateCode.ToCharArray();

        int sum = GetCheckSum(controlNumberDigits);

        NoteInformations nf = new NoteInformations();
        nf.Correct = sum == controlNumberDigits[controlNumberDigits.Length - 1] - 48;

        if (nf.Correct)
        {
            nf.Country = GetCorrect<Country>(@"D:\Dokumente\Schule\HTL-Perg\4AHIF\POS
            nf.Bank = GetCorrect<Bank>(@"D:\Dokumente\Schule\HTL-Perg\4AHIF\POSE\C#\Ü

            nf.ControlNumber = controlNumber;
            nf.PlateCode = plateCode;
        }

        return nf;
    }

    1 reference
    private int GetCheckSum(char[] controlNumberDigits) {...}

    2 references
    private T GetCorrect<T>(string path, string character)
    {
        List<T> list;
        XmlSerializer xs = new XmlSerializer(typeof(List<T>));
        using (FileStream stream = File.OpenRead(path))
        {
            list = (List<T>) xs.Deserialize(stream);
        }

        foreach (T value in list)
        {
            if (((IName) value).Code.Equals(character))
            {
                return value;
            }
        }

        return default(T);
    }
}
```

Tools WCFTestClient

WPF

Add Service Reference (Service URL), Add Reference WcfService (um Klassen zu nutzen)

Give Components in XAML a Name tag to use it in Code

```
1 reference
private void Button_Click(object sender, RoutedEventArgs e)
{
    if (Regex.IsMatch(CheckNumberBox.Text, @"[A-Z][0-9]+[1-9]") && Regex.IsMatch(PlateCodeBox.Text, @"[A-Z][0-9]+[A-Z][0-9]"))
    {
        new Details(CheckNumberBox.Text, PlateCodeBox.Text).ShowDialog();
    }
    else
    {
        ErrorLabel.Visibility = Visibility.Visible;
    }
}

2 references
public partial class Details : Window
{
    1 reference
    public Details(string CheckNumber, string PlateCode)
    {
        ServiceReference1.NoteInformations nf = new ServiceReference1.Service1Client()
            .CheckDigits(CheckNumber, PlateCode);
        InitializeComponent();

        if (nf.Correct)
        {
            controlnumber.Content = nf.ControlNumber + "\n" + nf.Country.Name;
            platecode.Content = nf.PlateCode + "\n" + nf.Bank.Name + "\n" + nf.Bank.Country;
        }
        else
        {
            controlnumber.Content = "Not Correct";
        }
    }
}
```