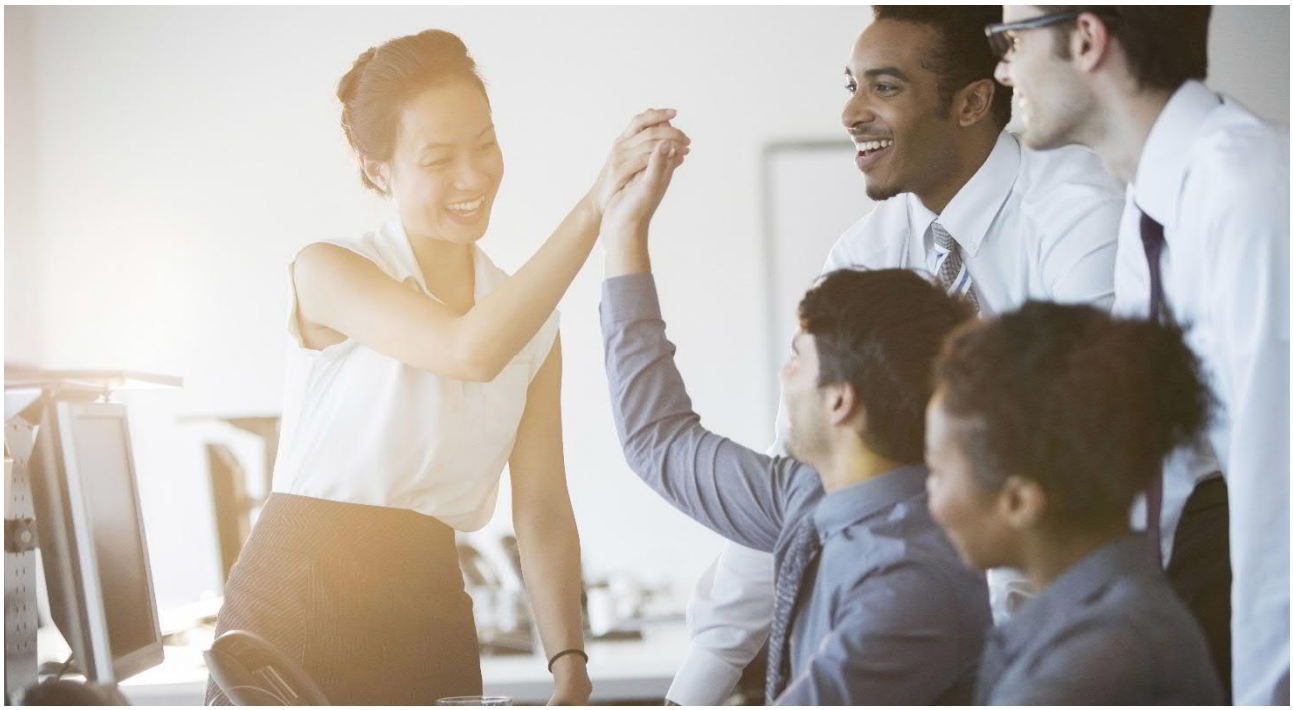


Exercise Solution: User Defined Object

User and Data Interface API

PUBLIC

INTRODUCTION

In this exercise, you will perform the following tasks:

1. Create Use Defined Table
2. Create User Defined Fields
3. Create User Defined Object
4. Insert records to the User Defined Object
5. Bind data on the form
6. Test your Add-On

PREREQUISITE:

- This document is using the **C Sharp** (C#) language
- This document is using the Microsoft Visual Studio 2015
- Continue to work with the project finalized in previous exercise.
- This document is using the SAP Business One Studio for Microsoft Visual Studio 2015
- Use the demo database for SAP Business One, version for SAP HANA or SAP Business One
- Credentials: User code: **manager**

GUIDELINES:

The screenshots provided here are for your reference only and may differ from the actual screenshots in your system.

1. TASK – CREATE USER DEFINED TABLE

1.1. Create new class (name it UDO) in your Visual Studio Project.

1.2. Create a new **CreateUDT** function in Class UDO, which will handle the User Defined Table creation.

```
        public static void CreateUDT(string MyTableName, string MyTableDescription,
SAPbobsCOM.BoUTBTableType MyTableType)
        {
            try
            {
                SAPbobsCOM.UserTablesMD oUDT;

                oUDT =
(SAPbobsCOM.UserTablesMD)Program.diCompany.GetBusinessObject(SAPbobsCOM.BoObjectTypes.oUserT
ables);
                if (oUDT.GetByKey(MyTableName) == false)
                {
                    oUDT.TableName = MyTableName;
                    oUDT.TableDescription = MyTableDescription;
                    oUDT.TableType = MyTableType;
                    int ret = oUDT.Add();

                    if (ret == 0)
                    {
                        Application.SBO_Application.MessageBox("Add Table: " +
oUDT.TableName + " successfull");
                        System.Runtime.InteropServices.Marshal.ReleaseComObject(oUDT);
                        GC.Collect();

                    }
                    else
                        Application.SBO_Application.MessageBox("Add Table error: " +
Program.diCompany.GetLastErrorDescription());
                }
                else
                    Application.SBO_Application.MessageBox("Table: " + MyTableName + "
already exists");
            }
            catch (Exception ex)
            {
                Application.SBO_Application.MessageBox(ex.Message);
            }
        }
```

1.3. Add a User-Defined Table by executing the function **CreateUDT**.

Table name: TB1_CAR
Table description: Car Master Data
Table type: Master Data

```
UDO.CreateUDT("TB1_CAR", "Car Master Data",
SAPbobsCOM.BoUTBTableType.bott_MasterData);
```

1.4. Add a User-Defined Table by executing the function **CreateUDT**.

Table name: TB1_CAR_D
Table description: Car Details

Table type: Master Data Rows

```
UDO.CreateUDT("TB1_CAR_D", "Car Details",
SAPbobsCOM.BoUTBTableType.bott_MasterDataLines);
```

1.5. Add a User-Defined Table by executing the function **CreateUDT**.

Table name: TB1_CAR_D
Table description: Car Details
Table type: Master Data Rows

```
UDO.CreateUDF("TB1_CAR_D", "BODY", "Body Type", SAPbobsCOM.BoFieldTypes.db_Alpha,
30);
```

2. TASK - CREATE USER DEFINED FIELDS

2.1. Create a new **CreateUDF** function in Class UDO, which will handle the User Defined Field creation.

```
       public static void CreateUDF(string MyTableName, string MyFieldName, string
MyFieldDescrition, SAPbobsCOM.BoFieldTypes MyFieldType, int MyFieldSize)
    {
        try
        {
            SAPbobsCOM.UserFieldsMD oUDF;
            oUDF =
(SAPbobsCOM.UserFieldsMD)Program.diCompany.GetBusinessObject(SAPbobsCOM.BoObjectTypes.oUserF
ields);

            oUDF.TableName = MyTableName;
            oUDF.Name = MyFieldName;
            oUDF.Description = MyFieldDescrition;
            oUDF.Type = MyFieldType;
            oUDF.EditSize = MyFieldSize;
            int ret = oUDF.Add();


            System.Runtime.InteropServices.Marshal.ReleaseComObject(oUDF);
            GC.Collect();
        }
        catch (Exception ex)
        {
            Application.SBO_Application.MessageBox("Exception: " + ex.Message);
        }

           }
```

2.2. Add a User-Defined Field by executing the function **CreateUDF**.

Table name: TB1_CAR_D
Field name: MODEL
Field description: Car Model
Field type: Alphanumeric
Field size: 30


```
UDO.CreateUDF("TB1_CAR_D", "MODEL", "Car Model", SAPbobsCOM.BoFieldTypes.db_Alpha,
30);
```

2.3. Add a User-Defined Field by executing the function **CreateUDF**.

Table name: TB1_CAR_D
Field name: FUEL
Field description: Fuel Type
Field type: Alphanumeric
Field size: 30

```
UDO.CreateUDF("TB1_CAR_D", "FUEL", "Fuel Type", SAPbobsCOM.BoFieldTypes.db_Alpha,
30);
```

2.4. Add a User-Defined Field by executing the function **CreateUDF**.

Table name: TB1_CAR_D
Field name: BODY
Field description: Body Type
Field type: Alphanumeric
Field size: 30

```
UDO.CreateUDF("TB1_CAR_D", "BODY", "Body Type", SAPbobsCOM.BoFieldTypes.db_Alpha,
30);
```

2.5. Add a User-Defined Field by executing the function **CreateUDF**.

Table name: TB1_CAR_D
Field name: POWER
Field description: Horse Power
Field type: Alphanumeric
Field size: 30

```
UDO.CreateUDF("TB1_CAR_D", "POWER", "Horse Power", SAPbobsCOM.BoFieldTypes.db_Alpha,
30);
```

3. TASK – CREATE USER DEFINED OBJECT

3.1. Create a new **CreateUDO** function in Class UDO, which will handle the User Defined Object creation.

```
public static void CreateUDO()
{
    try
    {
        SAPbobsCOM.UserObjectsMD oUserObjectMD;

        oUserObjectMD =
(SAPbobsCOM.UserObjectsMD)Program.diCompany.GetBusinessObject(SAPbobsCOM.BoObjectTypes.oUser
ObjectsMD);

        oUserObjectMD.Code = "TB1_CAR";
```

```
                oUserObjectMD.Name = oUserObjectMD.Code;
                oUserObjectMD.ObjectType = SAPbobsCOM.BoUDOObjType.boud_MasterData;
                oUserObjectMD.TableName = "TB1_CAR";

                oUserObjectMD.CanDelete = SAPbobsCOM.BoYesNoEnum.tYES;
                oUserObjectMD.CanFind = SAPbobsCOM.BoYesNoEnum.tYES;

                oUserObjectMD.FindColumns.ColumnAlias = "Code";
                oUserObjectMD.FindColumns.Add();
                oUserObjectMD.FindColumns.ColumnAlias = "Name";
                oUserObjectMD.FindColumns.Add();

                oUserObjectMD.ChildTables.TableName = "TB1_CAR_D";


                int ret = oUserObjectMD.Add();
                if (ret != 0)
                    Application.SBO_Application.MessageBox("error: " +
Program.diCompany.GetLastErrorDescription());

                System.Runtime.InteropServices.Marshal.ReleaseComObject(oUserObjectMD);
                GC.Collect();

            }
            catch (Exception ex)
            {
                Application.SBO_Application.MessageBox(ex.Message);
            }
        }
```

4. TASK - INSERT RECORDS TO THE USER DEFINED OBJECT

4.1. Create a new **InsertToUDO** function in Class UDO, which will insert data into the User Defined Object.

```
          public static void InsertToUDO(string MyCode, string MyName, string MyModel,
      string MyFuel, string MyBody, string MyPower)
        {
            SAPbobsCOM.GeneralService oGeneralService = null;
            SAPbobsCOM.GeneralData oGeneralData = null;
            SAPbobsCOM.GeneralData oChild = null;
            SAPbobsCOM.GeneralDataCollection oChildren = null;
            SAPbobsCOM.GeneralDataParams oGeneralParams = null;
            SAPbobsCOM.CompanyService oCompanyService = null;
            try
            {
                oCompanyService = Program.diCompany.GetCompanyService();
                oGeneralService = oCompanyService.GetGeneralService("TB1_CAR");
                oGeneralData =
((SAPbobsCOM.GeneralData)(oGeneralService.GetDataInterface(SAPbobsCOM.GeneralServiceDataInte
rfaces.gsGeneralData)));
                oGeneralData.SetProperty("Code", MyCode);
                oGeneralData.SetProperty("Name", MyName);
                oChildren = oGeneralData.Child("TB1_CAR_D");
                oChild = oChildren.Add();
```

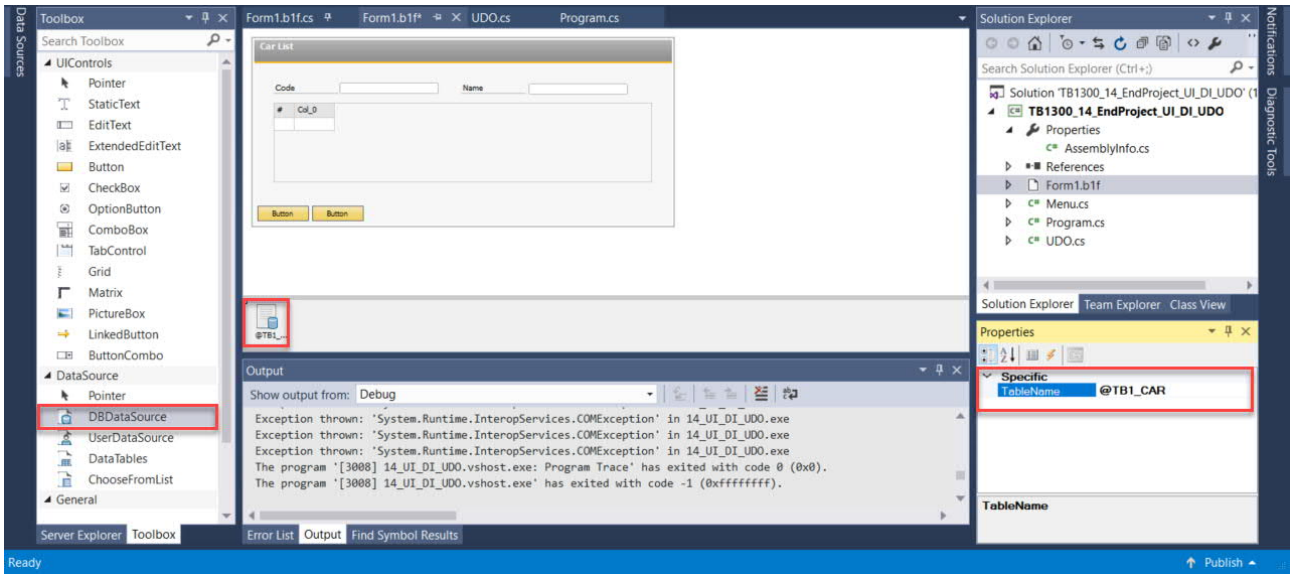
```
            oChild.SetProperty("U_MODEL", MyModel);
            oChild.SetProperty("U_FUEL", MyFuel);
            oChild.SetProperty("U_BODY", MyBody);
            oChild.SetProperty("U_POWER", MyPower);
            oGeneralParams = oGeneralService.Add(oGeneralData);

        }
        catch (Exception ex)
        {
            //Application.SBO_Application.MessageBox(ex.Message);
        }

    }
```

4.2. Add a User-Defined Object record by executing the function **InsertToUDO**.

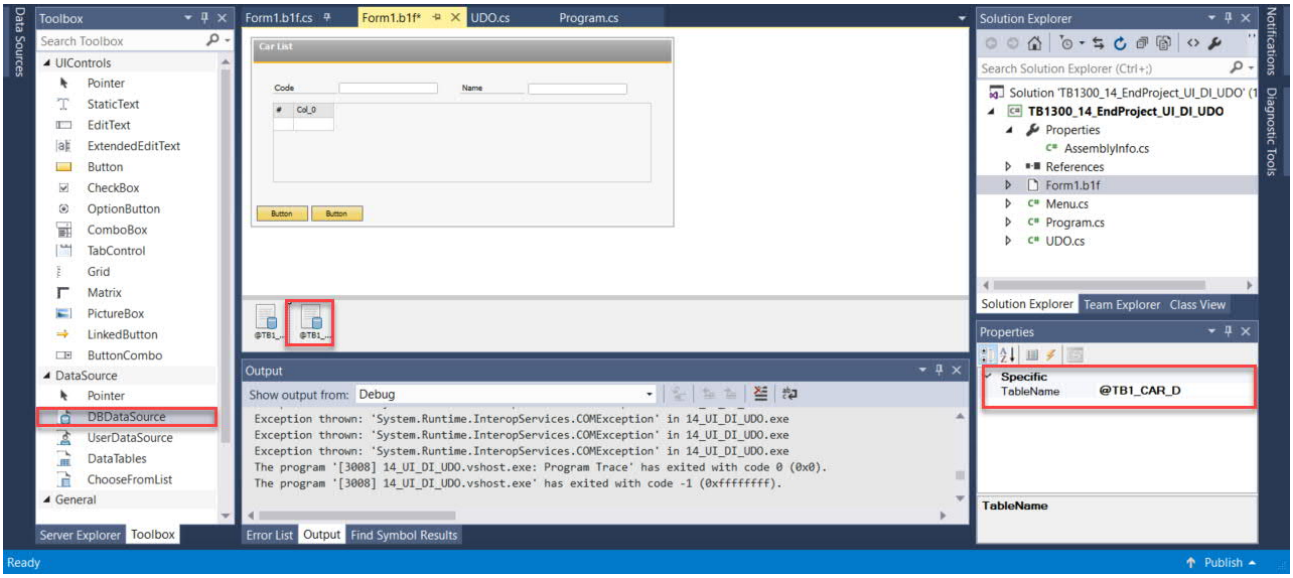
```
UDO.InsertToUDO("01", "BMW", "320i", "Petrol", "Sedan", "110");
UDO.InsertToUDO("02", "Ford", "Focus", "Diesel", "Hatchback", "120");
UDO.InsertToUDO("03", "Kia", "Rio", "Petrol", "Tourer", "130");
UDO.InsertToUDO("04", "Mercedes", "SLS", "Diesel", "Coupe", "140");
UDO.InsertToUDO("05", "Skoda", "Octavia", "Petrol", "Sedan", "150");
UDO.InsertToUDO("06", "Alfa Romeo", "Gulia", "Hybrid", "SUV", "160");
UDO.InsertToUDO("07", "VolksWagen", "Golf", "Petrol", "Coupe", "170");
UDO.InsertToUDO("08", "Peugeot", "Partner", "Diesel", "Van", "180");
UDO.InsertToUDO("09", "Lexus", "IS300", "Hybrid", "Sedan", "190");
UDO.InsertToUDO("10", "Toyota", "Yaris", "Petrol", "Hatchback", "200");
```

5. TASK - BIND DATA ON THE FORM

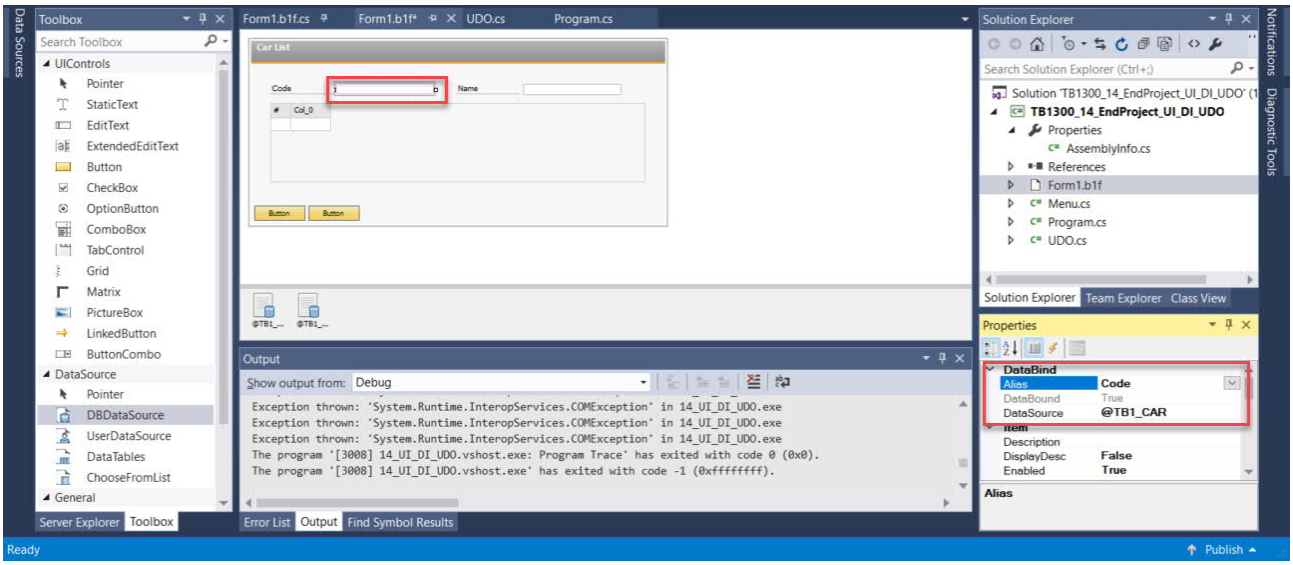
5.1. Add DB Data Source to the form for table **TB1_CAR**.



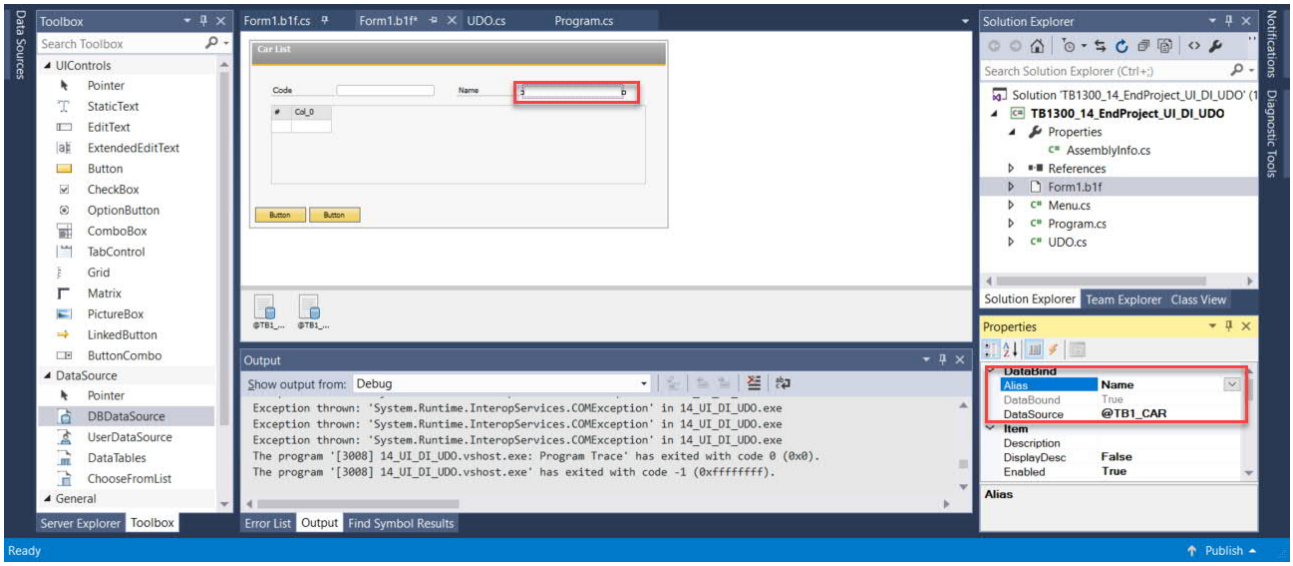
5.2. Add DB Data Source to the form for table **TB1_CAR_D**.



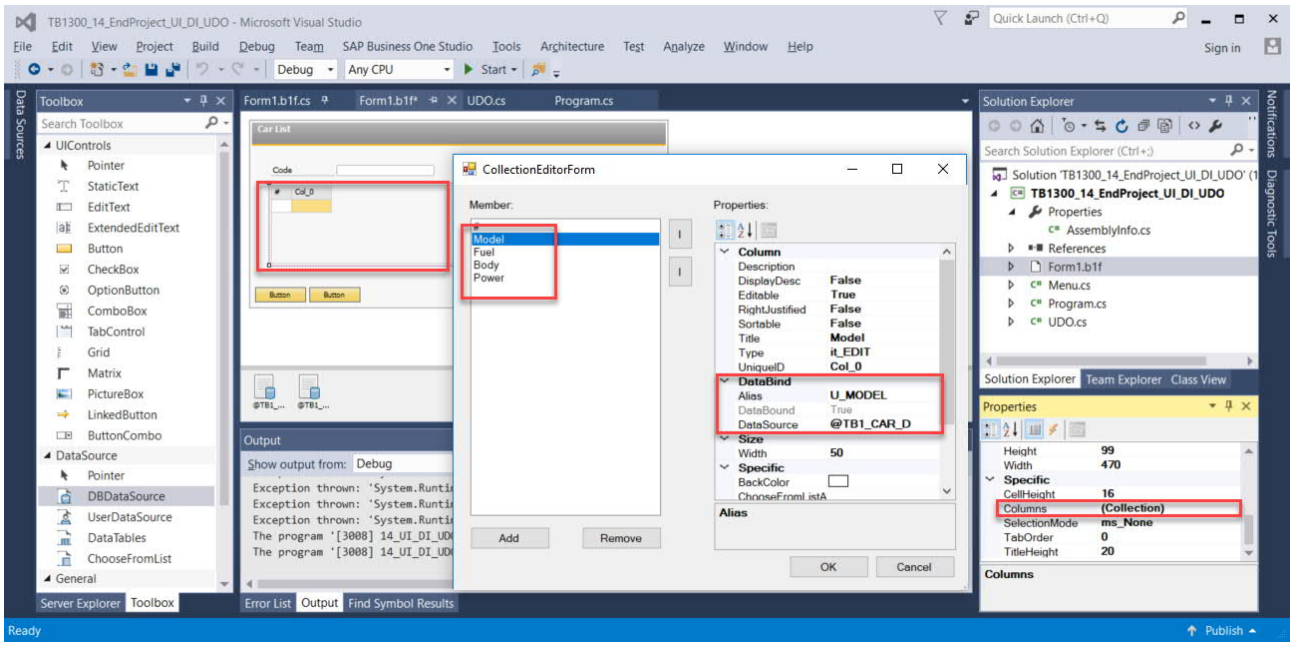
5.3. Defined *Data Binding* properties for the *EditTex* object displaying the Code from table **TB1_CAR**.



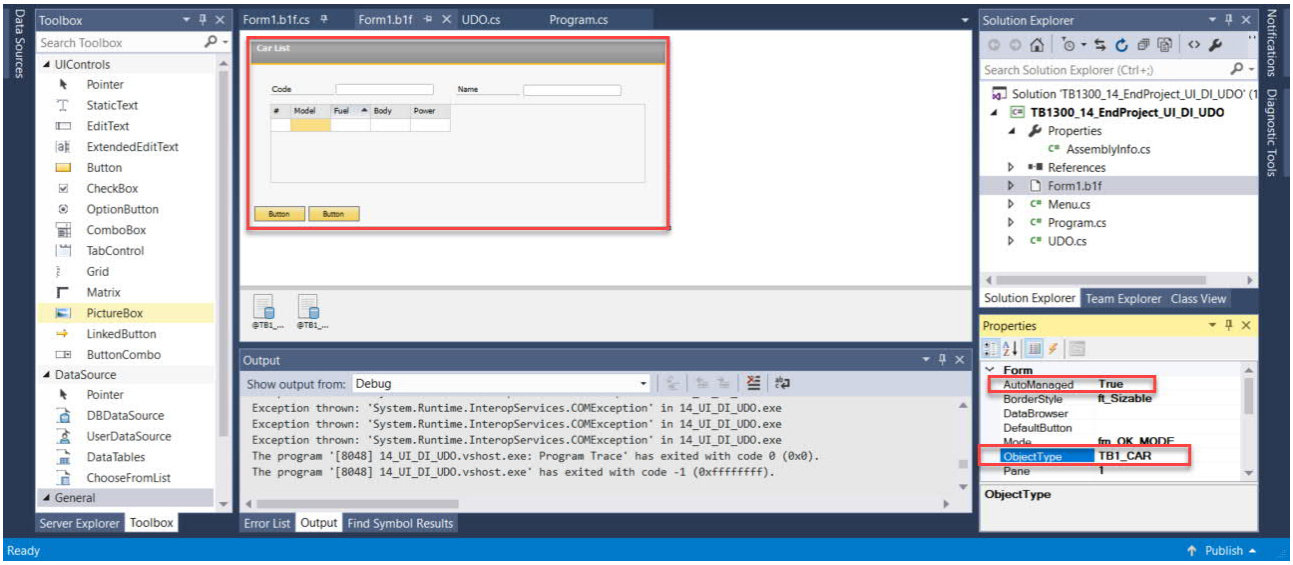
5.4. Defined *Data Binding* properties for the *EditTex* object displaying the Name from table **TB1_CAR**.



5.5. Defined *Data Binding* properties for the *Matrix* object displaying the value from table **TB1_CAR_D**.



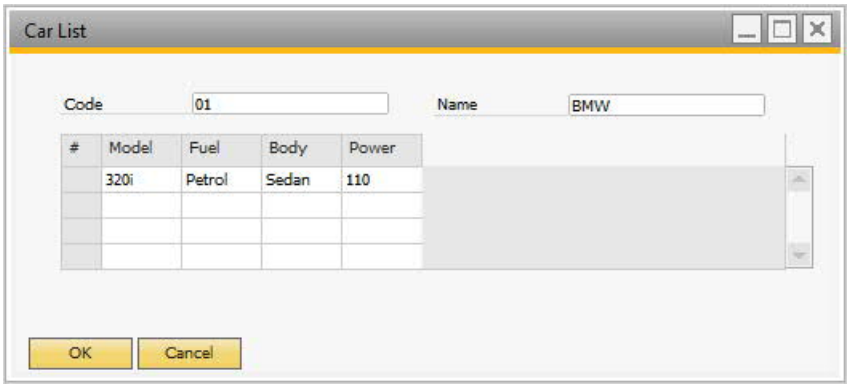
5.6. Set the *AutoManaged* property value to **true** and the ObjectType to **TB1_CAR** for the Form object.



6. TASK – TEST YOU ADD-ON SOLUTION

6.1. Search for an existing User Defined Object record.

Start your Add-On → switch the form to Find mode → enter the UDO Code into the corresponding EditText object → press the Find button



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