Day 17 – Assignment

15-Feb,2022

By Manoj Karnatapu - NBHealthCareTechnologies

Assignment 1

Research and write what is assembly in C#

Answer

An Assembly is a basic building block of .Net Framework applications. It is basically a compiled code that can be executed by the CLR. An assembly is a collection of types and resources that are built to work together and form a logical unit of functionality. An Assembly can be a .dll or .exe file depending upon the project that we choose.

Assemblies are basically two types:

- Private Assembly
- Shared Assembly

1. Private Assembly

It is an assembly that is being used by a single application only. Suppose we have a project in which we refer to a DLL so when we build that project that DLL will be copied to the bin folder of our project. That DLL becomes a private assembly within our project. Generally, the DLLs that are meant for a specific project are private assemblies.

2. Shared Assembly

Assemblies that can be used in more than one project are known to be a shared assembly. Shared assemblies are generally installed in the GAC. Assemblies that are installed in the GAC are made available to all the .Net applications on that machine.

However, there are two more types of assemblies in .Net, Satellite Assembly, and Shared Assembly.

Assignment 2

In a tabular format write the access modifiers and explain With an Illustrative Code Example.

Answer

	Within Assembly			Other Assembly	
	Within Class	**Derived Class**	**Other Class**	**Derived Class**	**Other Class**
Public	Yes	Yes	Yes	Yes	Yes
Private	Yes	No	No	No	No
Protected	Yes	Yes	No	Yes	No
internal	Yes	Yes	Yes	No	No
Protected internal	Yes	Yes	Yes	Yes	No

Code

ManojLibrary > MyBaseClass

```
using System;
// Author : Manoj.Karnatapu
// Purpose : Created a Manoj Library for identifying the Access Modifiers.

// For Reference, check AccessModifier > Manoj Library > MyBaseClass.cs in the same
Repository.

namespace ManojLibrary
{
    /// <summary>
    /// This is a Base Class Initializing with Access modifier variables.
    /// </summary>
    public class MyBaseClass
    {
        public int a;
        private int b;
        protected int c;
        internal int d;
        protected internal int e;
        /// <summary>
        /// This is a BaseClassMethod(), Checking wether accessing the Variables is
Possible or not
        /// </summary>
        public void MyBaseClassMethod()
        {
            a = 5;
            b = 10;
            c = 15;
            d = 20;
            e = 30;

        }
    }

    /// <summary>
    /// This is a DerivedClass of BaseClass,inheriting the properties of baseclass.
    /// </summary>
    public class MyDerivedClass : MyBaseClass
    {
       public void MyDerivedClassMethod()
        {
```

```
            a = 5;
            // b = 10;    // Here the Private Access Modifier is not accessed in the
Derived Class
            c = 15;
            d = 20;
            e = 30;
        }
    }
    /// <summary>
    /// This is a separate class, checking the accessed variables are using in outside of a
class or not.
    /// </summary>
    public class MyOtherClass
    {
        public void MyOtherClassMethod()
        {
            MyBaseClass mb = new MyBaseClass();
            mb.a = 5;
            // mb.b = 10; Here the Private Access Modifier is not accessed in the other
Class in Same Assembly
            // mb.c = 15; Here the Protected Access Modifier is not accessed in the other
Class in Same Assembly
            mb.d = 20;
            mb.e = 30;

        }
    }
}
```

PublicLibrary > MyPublicDerivedClass

```
using System;
using ManojLibrary;
// Author : Manoj.Karnatapu
// Purpose : Created a Public Library and Using ManojLibrary namespace for identifying the
Access Modifiers.

// For Reference, check AccessModifier > Public Library > MyPublicDerivedClass.cs in the
same Repository.

namespace PublicLibrary
{
    /// <summary>
    /// This is a MyPublicDerivedClass in other Assembly by inheriting the MyBaseClass and
identifying the Access Modifier accessability.
    /// </summary>
    public  class MyPublicDerivedClass : MyBaseClass
    {
        /// <summary>
        /// MyPublicDerivedClassMethod(), we are using the variables from Inherited
MyBaseClass of ManojLibrary & identifying the Access Modifier accessability
        /// </summary>
        public void MyPublicDerivedClassMethod()
        {
            a = 5;
            //b = 10;    // Here the Private Access Modifier is not accessed in the Derived
Class in Other Assembly
            c = 15;
            //d = 20;    // Here the internal Access Modifier is not accessed in the
Derived Class in Other Assembly
            e = 30;
        }
    }
```

```
    /// <summary>
    /// This is a MyPublicOtherClass in Other Assembly & Identifying the Access Modifier
accessability.
    /// </summary>
    public class MyPublicOtherClass
    {
        /// <summary>
        /// MyPublicOtherClassMethod(), we are creating the object for MyPublicDerivedClass
& identifying the Access Modifier accessability
        /// </summary>
        public void MyPublicOtherClassMethod()
        {
            MyPublicDerivedClass mpd = new MyPublicDerivedClass();
            mpd.a = 5;
            // mpd.b = 10;  Here the Private Access Modifier is not accessed in the other
Class in Other Assembly
            // mpd.c = 15;  Here the Protected Access Modifier is not accessed in the other
Class in Other Assembly
            // mpd.d = 20;  Here the internal Access Modifier is not accessed in the other
Class in Other Assembly
            // mpd.e = 30;  Here the Protected Internal Access Modifier is not accessed in
the other Class in Other Assembly
        }
    }
}
```