Assembely : Shows how to generate a .NET public-key private-key file and sign an assembly with it.

* Assembely contains

1. Name
2. Version
3. Public key
4. Culture

* .Net Assembely Public and private key
* Sn -k KeyPair.snk
  + Will generate public and private key in .snk file
  + It Will globally unique
* Sn -p KeyPair.snk MyPubKey.pubkey
  + Extract public key form keypair.snk to MyPubKey.pubkey
  + O/P = Public key written to myPublicKey.pubkey
* Sn -tp MyPubKey.pubkey
  + Show public key

**Public key (hash algorithm: sha1):**

0024000004800000940000000602000000240000525341310004000001000100c5a609d21c6cf32cf9d0db8b1c513e430a5d2704a7e4938d49dc2f6d76cefafe7691f119637b779c4e90d72711f2fc6dd33f1a15118b29af8d3fb2e4985915d85aa5f5352fe8b4488a82e97ed7417aa938773f5a8435f057e6f1c336a76c131fa1f4daeec7979598f8c5f1f1ca896a884b5c66a9c7e41620831de1634a0c22ea

**Public key token is** f4948c95b5493414

W

* Write Code
  + using System;
  + using System.Reflection;
  + [assembly: AssemblyVersion("1.0.0.0")]
  + public class Play
  + {
  + public static void Run()
  + {
  + Console.WriteLine("In Fun V1 ");
  + }
  + }
  + //public class Program
  + //{
  + // static void Main(string[] args)
  + // {
  + // Play.Run();
  + // }
  + //
* Compile
* csc /keypair.snk /t:library /out:Game.dll Program.cs
* Game.dll will generate
  + - 10-11-2023 13:19 4,096 **Game.dll**
    - 10-11-2023 13:15 596 keypair.snk
    - 10-11-2023 13:07 249 KeyTask.csproj
    - 10-11-2023 13:07 1,119 KeyTask.sln
    - 10-11-2023 13:17 160 myPublicKey.pubkey
  + Again Compile with commenting **Play Class** and uncomment rest

//[assembly: AssemblyVersion("1.0.0.0")]

//public class Play

//{

// public static void Run()

// {

// Console.WriteLine("In Fun V1 ");

// }

//}

public class Program

{

static void Main(string[] args)

{

Play.Run();

}

}

* + Csc /r:Game.dll Program.cs

Will generate .exe file

Run

O/ p : In run v1

* + Test / Tamper
  + Comment program and change the body of Run()

[assembly: AssemblyVersion("1.0.0.0")]

public class Play

{

public static void Run()

{

Console.WriteLine("In Fun V1 virus ");

}

}

//public class Program

//{

// static void Main(string[] args)

// {

// Play.Run();

// }

* + Generate new .dll without our private .snk file
    - * + csc /t:library /out:Game.dll Program.cs
  + This Will Override the old Game.dll
  + But our .exe file is linked with old Game.dll file
  + Hence when we run the .exe file will give exception
  + *C:\Users\devic\Desktop\shubhamsalekar\aspDotNet\KeyTask>***csc/t:library/out:Game.dllProgram.cs**

Microsoft (R) Visual C# Compiler version 4.6.0-3.23259.8 (c3cc1d0c)

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* + *C:\Users\devic\Desktop\shubham-salekar\aspDotNet\KeyTask>***Program.exe**

Unhandled Exception: System.IO.FileLoadException: Could not load file or assembly 'Game, Version=1.0.0.0, Culture=neutral, **PublicKeyToken=f4948c95b5493414'** or one of its dependencies. The **located assembly's manifest definition does not match the assembly reference.** (Exception from HRESULT: 0x80131040)

at Program.Main(String[] args)

Link : [[Playlist](https://www.youtube.com/playlist?list=PLRwVmtr-pp06rfSgNYu_oBg40DkwXiRHt)] ,[[snk](https://youtu.be/zKORh5eM6ZI?si=CTZFuvX16jLo50Ic)] [[3](https://learn.microsoft.com/en-us/dotnet/standard/assembly/strong-named)]