JP.NET Lab 1 – Krzysztof Nasuta - 193328

1.

2.

```
PS X:\Dev\JP.NET\Lab1\Zadanie2> .\run.ps1


    Directory: X:\Dev\JP.NET\Lab1\Zadanie2


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----          4.10.2025     20:11                out
b)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
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Wydruk z klasy A. 0.0
c)
e)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
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Wydruk z klasy A. 1.0


PS X:\Dev\JP.NET\Lab1\Zadanie2>
```

3.


```
S X:\Dev\JP.NET\Lab1\Zadanie2> .\run3.ps1
)
icrosoft (R) CLR Native Image Generator - Version 4.8.9065.0
opyright (c) Microsoft Corporation.  All rights reserved.
>     Compiling assembly X:\Dev\JP.NET\Lab1\Zadanie2\out\JP_NET.Lab1.Zadanie2.lib.dll (CLR v4.0.30319) ...
icrosoft (R) CLR Native Image Generator - Version 4.8.9065.0
opyright (c) Microsoft Corporation.  All rights reserved.
>     Compiling assembly X:\Dev\JP.NET\Lab1\Zadanie2\out\JP_NET.Lab1.Zadanie2.exe (CLR v4.0.30319) ...
)


    Directory: C:\Windows\assembly\NativeImages_v4.0.30319_32\JP_NET.Lab1.Zadanie2


ode                 LastWriteTime         Length Name
---                 -------------         ------ ----
-----          4.10.2025     20:12                300e0a9af0f903af870d5711f0b3823a


S X:\Dev\JP.NET\Lab1\Zadanie2> _
```

4.

```
PS X:\Dev\JP.NET\Lab1\Zadanie2> .\run4.ps1


    Directory: X:\Dev\JP.NET\Lab1\Zadanie2


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----        4.10.2025     20:12                 out4
a)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
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Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.


b)
c)

Microsoft (R) .NET Framework IL Assembler.  Version 4.8.9105.0
Copyright (c) Microsoft Corporation.  All rights reserved.
Assembling 'out4/JP_NET.Lab1.Zadanie22.lib.il'  to DLL --> 'out4/JP_NET.Lab1.Zadanie2.lib.dll'
Source file is UTF-8

Assembled method Microsoft.CodeAnalysis.EmbeddedAttribute::.ctor
Assembled method System.Runtime.CompilerServices.RefSafetyRulesAttribute::.ctor
Assembled method Lab1.Zadanie2.ClassA::get_A
Assembled method Lab1.Zadanie2.ClassA::set_A
Assembled method Lab1.Zadanie2.ClassA::MethodOfClassA
Assembled method Lab1.Zadanie2.ClassA::PartialMethodOfClassA
Assembled method Lab1.Zadanie2.ClassA::.ctor
Creating PE file

Emitting classes:
Class 1:          System.Runtime.CompilerServices.RefSafetyRulesAttribute
Class 2:          Microsoft.CodeAnalysis.EmbeddedAttribute
Class 3:          Lab1.Zadanie2.ClassA

Emitting fields and methods:
Global
Class 1 Fields: 1;       Methods: 1;
Class 2 Methods: 1;
Class 3 Fields: 2;       Methods: 5;
Resolving local member refs: 9 -> 9 defs, 0 refs, 0 unresolved

Emitting events and properties:
Global
Class 1
Class 2
Class 3 Props: 1;
Resolving local member refs: 0 -> 0 defs, 0 refs, 0 unresolved
Writing PE file
Operation completed successfully
Wydruk z klasy A po kompilacji. 0.0
```

5.

```
PS X:\Dev\JP.NET\Lab1\Zadanie2> cd ..\Zadanie5\
PS X:\Dev\JP.NET\Lab1\Zadanie5> .\run.ps1


    Directory: X:\Dev\JP.NET\Lab1\Zadanie5


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----          4.10.2025     20:13                out
a)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
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Wydruk z klasy A. 0.0
b)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
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Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
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c)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

Wydruk z klasy A. 0.0
Test po zmianie nazwy ClassB.netmodule:
Wydruk z klasy A. 0.0
d)
e)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
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f)
Microsoft (R) Assembly Linker version 14.8.3928.0
Copyright (C) Microsoft Corporation. All rights reserved.

Wydruk z klasy A. 0.0
g)
```

Left editor — ProgAB.il:

```
// Microsoft (R) .NET Framework IL Disassembler.  Version 4.8.3928.0
// Copyright (c) Microsoft Corporation.  All rights reserved.

// Metadata version: v4.0.30319
.assembly extern mscorlib      "mscorlib": Unknown word.
{
  .publickeytoken = (B7 7A 5C 56 19 34 E0 89 )       // .z\V.4..   "publickeytoken"
  .ver 4:0:0:0
}
.assembly extern System
{
  .publickeytoken = (B7 7A 5C 56 19 34 E0 89 )       // .z\V.4..   "publickeytoken"
  .ver 4:0:0:0
}
.assembly ProgAB
{
  .custom instance void [mscorlib]System.Runtime.CompilerServices.CompilationRelaxationsAttribute::.ct
  .custom instance void [mscorlib]System.Runtime.CompilerServices.RuntimeCompatibilityAttribute::.ctor

  // --- The following custom attribute is added automatically, do not uncomment -------
  //   .custom instance void [mscorlib]System.Diagnostics.DebuggableAttribute::.ctor(valuetype [mscorlib]

  .hash algorithm 0x00008004
  .ver 0:0:0:0
}
.module ProgAB.exe
// MVID: {0036EE2E-CFA8-497A-8336-4C7E0CE95B7C}       "MVID": Unknown word.
.custom instance void System.Runtime.CompilerServices.RefSafetyRulesAttribute::.ctor(int32) = ( 01 00
.imagebase 0x00400000        "imagebase": Unknown word.
.file alignment 0x00000200
.stackreserve 0x00100000        "stackreserve": Unknown word.
.subsystem 0x0003        // WINDOWS_CUI
.corflags 0x00000001     //  ILONLY   "corflags": Unknown word.
// Image base: 0x05A90000


// =============== CLASS MEMBERS DECLARATION ===================

.class private auto ansi sealed beforefieldinit Microsoft.CodeAnalysis.EmbeddedAttribute      "beforefie
       extends [mscorlib]System.Attribute      "mscorlib": Unknown word.
{
  .custom instance void [mscorlib]System.Runtime.CompilerServices.CompilerGeneratedAttribute::.ctor()
  .custom instance void Microsoft.CodeAnalysis.EmbeddedAttribute::.ctor() = ( 01 00 00 00 )
  .method public hidebysig specialname rtspecialname      "hidebysig": Unknown word.
```

Right editor — ProgABal.il:

```
// Microsoft (R) .NET Framework IL Disassembler.  Version 4.8.3928.0
// Copyright (c) Microsoft Corporation.  All rights reserved.

// Metadata version: v4.0.30319
.module extern ProgA.netmodule      "netmodule": Unknown word.
.assembly extern mscorlib      "mscorlib": Unknown word.
{
  .publickeytoken = (B7 7A 5C 56 19 34 E0 89 )       // .z\V.4..   "publickeyto
  .ver 4:0:0:0
}
.assembly extern System
{
  .publickeytoken = (B7 7A 5C 56 19 34 E0 89 )       // .z\V.4..   "publickeyto
  .ver 4:0:0:0
}
.assembly extern JP_NET.Lab1.Zadanie3.lib
{
  .ver 0:0:0:0
}
.assembly ProgABal
{
  .hash algorithm 0x00008004
  .ver 0:0:0:0
}
.file ClassA.netmodule      "netmodule": Unknown word.
    .hash = (D7 F7 42 68 BD 0A 89 20 2F C2 AD 3A 0E 9A B3 6B   // ..Bh... /..:...k
             C9 8E B8 29 )                                      // ...)
.file ClassB.netmodule      "netmodule": Unknown word.
    .hash = (DF E6 36 06 52 12 AD F9 F8 55 FA 8A 11 38 EE B2   // ..6.R....U...8..
             07 4E 03 04 )                                      // .N..
.file ProgA.netmodule      "netmodule": Unknown word.
    .hash = (38 27 FD CE 68 37 A6 77 6C 93 CC 1B A0 45 3A 5C   // 8'..h7.wl....E:\
             A7 ED 0C 92 )
.class extern public Lab1.Zadanie3.ClassA
{
  .file ClassA.netmodule      "netmodule": Unknown word.
  .class 0x02000002
}
.class extern public Lab1.Zadanie3.ClassB
{
  .file ClassB.netmodule      "netmodule": Unknown word.
  .class 0x02000002
}
.module ProgABal.exe
// MVID: {CBD3AA45-0C87-4CB1-BBFB-7353ED4ACE7F}       "MVID": Unknown word.
.imagebase 0x00400000        "imagebase": Unknown word.
.file alignment 0x00000200
```

6.

```
PS X:\Dev\JP.NET\Lab1\Zadanie5> cd ..\Zadanie6\
PS X:\Dev\JP.NET\Lab1\Zadanie6> .\run.ps1


    Directory: X:\Dev\JP.NET\Lab1\Zadanie6


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
d-----         4.10.2025     20:14                out
a)

Microsoft (R) .NET Framework Strong Name Utility  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.

Key pair written to out/paraKluczy.snk
c)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

d)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

Proba uruchomienia:

Unhandled Exception: System.IO.FileLoadException: Could not load file or assembly 'lib_unsigned, Version=0.0.0.0, Culture=neutral, PublicKeyToken=null' or o
e of its dependencies. The located assembly's manifest definition does not match the assembly reference. (Exception from HRESULT: 0x80131040)
   at Lab1.Zadanie6.Program.Main()
e)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

Wydruk z klasy A. 1.0
f)

Microsoft (R) .NET Framework Strong Name Utility  Version 4.0.30319.0
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Assembly 'out/JP_NET.Lab1.Zadanie6.lib.dll' is valid

Microsoft (R) .NET Framework Strong Name Utility  Version 4.0.30319.0
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out/ProgA_new.exe does not represent a strongly named assembly
```

7.

```
Mode                LastWriteTime        Length Name
----                -------------        ------ ----
d-----        4.10.2025    20:15               out
a)

Microsoft (R) .NET Framework Strong Name Utility   Version 4.0.30319.0
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Key pair written to out/paraKluczy.snk
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
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Assembly successfully added to the cache
b)
c)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

d)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

e)
Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.

Assembly successfully added to the cache
f)
Microsoft (R) Visual C# Compiler version 4.14.0-3.25412.6 (c167adef)
Copyright (C) Microsoft Corporation. All rights reserved.

g)
Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.

The Global Assembly Cache contains the following assemblies:
  JP_NET.Lab1.Zadanie7.lib_v1, Version=1.0.0.0, Culture=neutral, PublicKeyToken=08760a635e4d26e5, processorArchitecture=MSIL

Number of items = 1
Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.

The Global Assembly Cache contains the following assemblies:
  JP_NET.Lab1.Zadanie7.lib_v2, Version=1.0.0.1, Culture=neutral, PublicKeyToken=08760a635e4d26e5, processorArchitecture=MSIL

Number of items = 1
h)
Wydruk z klasy A. 1.0
Wydruk z nowej klasy A. 1.0
i)


    Directory: C:\Windows\Microsoft.NET\assembly\GAC_MSIL


Mode                LastWriteTime        Length Name
----                -------------        ------ ----
d-----        4.10.2025    20:15               JP_NET.Lab1.Zadanie7.lib_v1
d-----        4.10.2025    20:15               JP_NET.Lab1.Zadanie7.lib_v2
j)
Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.


Assembly: JP_NET.Lab1.Zadanie7.lib_v1, Version=1.0.0.0, Culture=neutral, PublicKeyToken=08760a635e4d26e5, processorArchitecture=MSIL
Uninstalled: JP_NET.Lab1.Zadanie7.lib_v1, Version=1.0.0.0, Culture=neutral, PublicKeyToken=08760a635e4d26e5, processorArchitecture=MSIL
Number of assemblies uninstalled = 1
Number of failures = 0
Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.


Assembly: JP_NET.Lab1.Zadanie7.lib_v2, Version=1.0.0.1, Culture=neutral, PublicKeyToken=08760a635e4d26e5, processorArchitecture=MSIL
Uninstalled: JP_NET.Lab1.Zadanie7.lib_v2, Version=1.0.0.1, Culture=neutral, PublicKeyToken=08760a635e4d26e5, processorArchitecture=MSIL
Number of assemblies uninstalled = 1
Number of failures = 0
Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.

The Global Assembly Cache contains the following assemblies:

Number of items = 0
Microsoft (R) .NET Global Assembly Cache Utility.  Version 4.0.30319.0
Copyright (c) Microsoft Corporation.  All rights reserved.

The Global Assembly Cache contains the following assemblies:

Number of items = 0
```

8.

```
Finished running tasks.

Task                          Duration              Status
-----------------------------------------------------------------------------
Setup                         00:00:00.0075721      Executed
Clean                         00:00:00.0197360      Executed
Restore-NuGet-Packages        00:00:01.1127199      Executed
Build                         00:00:02.8811594      Executed
Run-Unit-Tests                00:00:01.6371015      Executed
Pack                          00:00:00.9043018      Executed
Teardown                      00:00:00.0003541      Executed
-----------------------------------------------------------------------------
Total:                        00:00:06.5630225
Skipping NuGet package signature verification.
You can invoke the tool using the following command: ztmbus
Tool 'ztmbus.cli' (version '1.0.0') was successfully installed.
Pobieranie listy przystanków...
Wyszukiwanie przystanków zawierających: 'Politechnika'

Znaleziono 6 przystanków:
--------------------------------------------------------------------------------
ID: 2016 | Politechnika (Gdańsk) [TRAM]
ID: 2017 | Politechnika (Gdańsk) [TRAM]
ID: 1690 | Politechnika SKM (Gdańsk) [BUS]
ID: 1691 | Politechnika SKM (Gdańsk) [BUS]
ID: 2069 | Politechnika SKM (Gdańsk) [TRAM]
ID: 2070 | Politechnika SKM (Gdańsk) [TRAM]

Zbyt wiele wyników. Użyj --list aby zobaczyć wszystkie lub bardziej specyficznej nazwy.
Wybieram pierwszy przystanek z listy...


Pobieranie rozkładu dla przystanku: Politechnika (ID: 2016)
--------------------------------------------------------------------------------
Ostatnia aktualizacja: 2025-10-04 18:15:51

Linia | Kierunek                 | Czas planowany | Czas estymowany | Opóźnienie | Status
--------------------------------------------------------------------------------------------
6     | Łostowice Świętokrzyska  | 18:20          | 18:17           | -2 min     | Na żywo
12    | Ujeścisko                | 18:27          | 18:25           | -1 min     | Na żywo
5     | Nowy Port Zajezdnia      | 18:32          | 18:30           | -1 min     | Na żywo
9     | Głęboka                  | 18:37          | 18:37           | 0 min      | Na żywo
6     | Łostowice Świętokrzyska  | 18:46          | 18:41           | -4 min     | Na żywo
12    | Ujeścisko                | 18:57          | 18:57           | ---        | Rozkład
5     | Nowy Port Zajezdnia      | 19:02          | 18:57           | -4 min     | Na żywo
9     | Głęboka                  | 19:07          | 19:07           | ---        | Rozkład
6     | Łostowice Świętokrzyska  | 19:14          | 19:14           | ---        | Rozkład
12    | Ujeścisko                | 19:27          | 19:27           | ---        | Rozkład
5     | Nowy Port Zajezdnia      | 19:32          | 19:32           | ---        | Rozkład
9     | Głęboka                  | 19:37          | 19:37           | ---        | Rozkład
6     | Łostowice Świętokrzyska  | 19:44          | 19:44           | ---        | Rozkład
→ Zadanie8 git:(main) ×
```

9.

```
========================================
Run-Unit-Tests
========================================
Build started 04/10/2025 20:17:39.
Test run for /home/nasus/Dev/JP.NET/Lab1/Zadanie8/ZtmBus.Test/bin/Release/net8.0/ZtmBus.Test.dll (.NETCoreApp,Version=v8.0)
Microsoft (R) Test Execution Command Line Tool Version 17.8.0 (x64)
Copyright (c) Microsoft Corporation.  All rights reserved.

Starting test execution, please wait...
A total of 1 test files matched the specified pattern.
[xUnit.net 00:00:00.00] xUnit.net VSTest Adapter v2.4.5+1caef2f33e (64-bit .NET 8.0.20)
[xUnit.net 00:00:00.30]   Discovering: ZtmBus.Test
[xUnit.net 00:00:00.33]   Discovered:  ZtmBus.Test
[xUnit.net 00:00:00.33]   Starting:    ZtmBus.Test
[xUnit.net 00:00:00.50]   Finished:    ZtmBus.Test
  Passed ZtmBus.Test.ZtmApiServiceTests.FindStopsByName_HandlesPolishCharacters_WhenSearching [3 ms]
  Passed ZtmBus.Test.ZtmApiServiceTests.GetStopsAsync_ThrowsException_WhenHttpRequestFails [73 ms]
  Passed ZtmBus.Test.ZtmApiServiceTests.GetStopsAsync_ReturnsStops_WhenApiReturnsValidData [36 ms]
  Passed ZtmBus.Test.ZtmApiServiceTests.FindStopsByName_ReturnsMatchingStops_WhenSearchTermExists [1 ms]
  Passed ZtmBus.Test.ZtmApiServiceTests.GetDeparturesAsync_ReturnsDepartures_WhenApiReturnsValidData [10 ms]
  Passed ZtmBus.Test.ZtmApiServiceTests.FindStopsByName_ReturnsEmptyList_WhenNoMatchFound [< 1 ms]
  Passed ZtmBus.Test.ZtmApiServiceTests.GetDeparturesAsync_ThrowsException_WhenHttpRequestFails [< 1 ms]

Test Run Successful.
Total tests: 7
     Passed: 7
 Total time: 0.9520 Seconds

Build succeeded.
    0 Warning(s)
    0 Error(s)

Time Elapsed 00:00:01.43


========================================
Clean-Publish-Folder
========================================


========================================
Publish
========================================
MSBuild version 17.8.36+03e28d165 for .NET
  ZtmBus -> /home/nasus/Dev/JP.NET/Lab1/Zadanie8/publish/


========================================
Default
========================================


----------------------------------------
TearDown
----------------------------------------
Finished running tasks.

Task                     Duration           Status
--------------------------------------------------------------------
Setup                    00:00:00.0075945   Executed
Clean                    00:00:00.0193231   Executed
Restore-NuGet-Packages   00:00:00.8285786   Executed
Build                    00:00:01.0552344   Executed
Run-Unit-Tests           00:00:01.6399648   Executed
Clean-Publish-Folder     00:00:00.0019092   Executed
Publish                  00:00:00.6355551   Executed
Teardown                 00:00:00.0003481   Executed
--------------------------------------------------------------------
Total:                   00:00:04.1885432
```