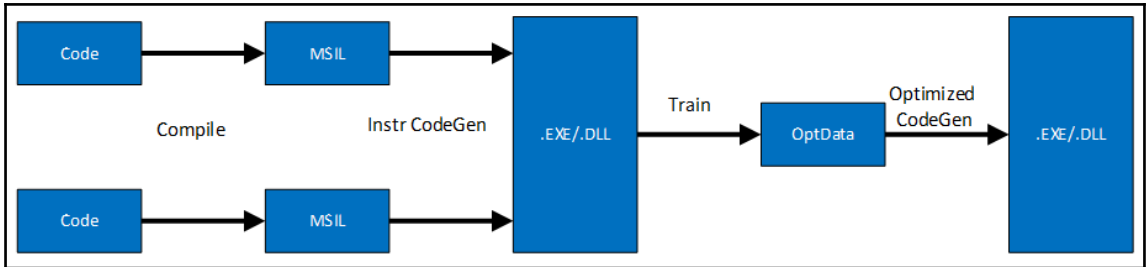


Chapter 1: What's New in .NET Core 2 and C# 7?



```

c:\>dotnet new
Usage: new [options]

Options:
-h, --help           Displays help for this command.
-l, --list           Lists templates containing the specified name. If no name is specified, lists all templates.
-n, --name           The name for the output being created. If no name is specified, the name of the current directory is used.
-o, --output         Location to place the generated output.
-i, --install        Installs a source or a template pack.
-u, --uninstall      Uninstalls a source or a template pack.
--type              Filters templates based on available types. Predefined values are "project", "item" or "other".
--force             Forces content to be generated even if it would change existing files.
--lang, --language  Specifies the language of the template to create.

Templates
-----

```

Templates	Short Name	Language	Tags
Console Application	console	[C#], F#, VB	Common/Console
Class library	classlib	[C#], F#, VB	Common/Library
Unit Test Project	mstest	[C#], F#, VB	Test/MSTest
xUnit Test Project	xunit	[C#], F#, VB	Test/xUnit
ASP.NET Core Empty	web	[C#], F#	Web/Empty
ASP.NET Core Web App (Model-View-Controller)	mvc	[C#], F#	Web/MVC
ASP.NET Core Web App	razor	[C#]	Web/MVC/Razor Pages
ASP.NET Core with Angular	angular	[C#]	Web/MVC/SPA
ASP.NET Core with React.js	react	[C#]	Web/MVC/SPA
ASP.NET Core with React.js and Redux	reactredux	[C#]	Web/MVC/SPA
ASP.NET Core Web API	webapi	[C#], F#	Web/WebAPI
global.json file	globaljson		Config
Nuget Config	nugetconfig		Config
Web Config	webconfig		Config
Solution File	sln		Solution
Razor Page	page		Web/ASP.NET
MVC ViewImports	viewimports		Web/ASP.NET
MVC ViewStart	viewstart		Web/ASP.NET

```

Examples:
  dotnet new mvc --auth Individual
  dotnet new console
  dotnet new --help

```

```

c:\testproject>dotnet new mvc
The template "ASP.NET Core Web App (Model-View-Controller)" was created successfully.
This template contains technologies from parties other than Microsoft, see https://aka.ms/template-3pn for details.

Processing post-creation actions...
Running 'dotnet restore' on c:\testproject\testproject.csproj...
  Restoring packages for c:\testproject\testproject.csproj...
  Restore completed in 143.61 ms for c:\testproject\testproject.csproj.
  Generating MSBuild file c:\testproject\obj\testproject.csproj.nuget.g.props.
  Generating MSBuild file c:\testproject\obj\testproject.csproj.nuget.g.targets.
  Restore completed in 7.09 sec for c:\testproject\testproject.csproj.

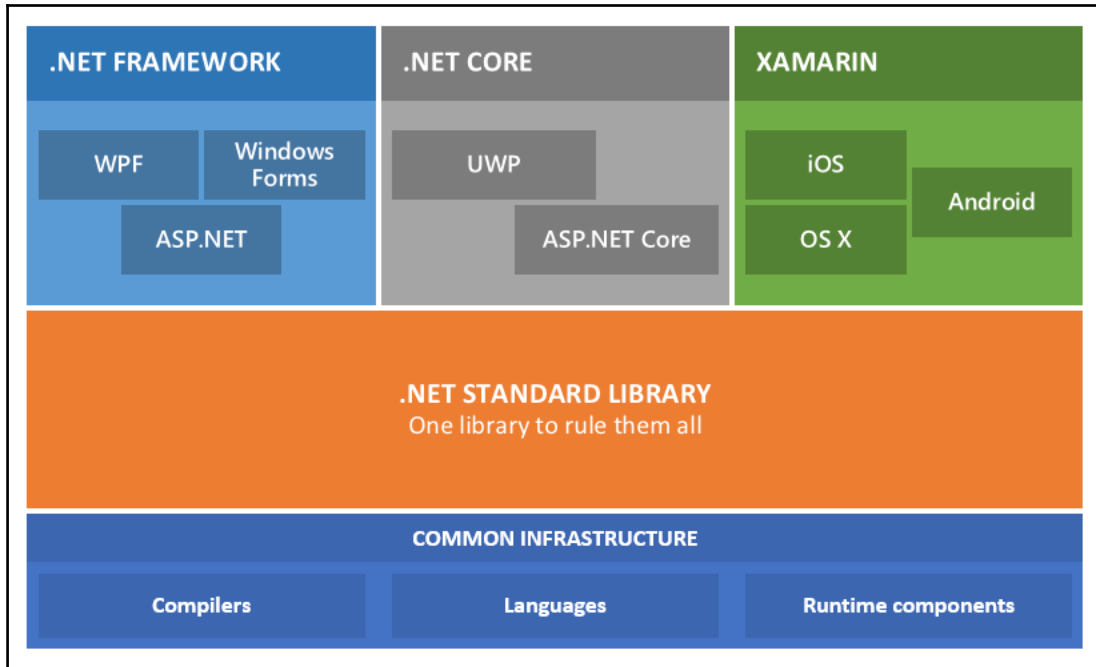
Restore succeeded.

```

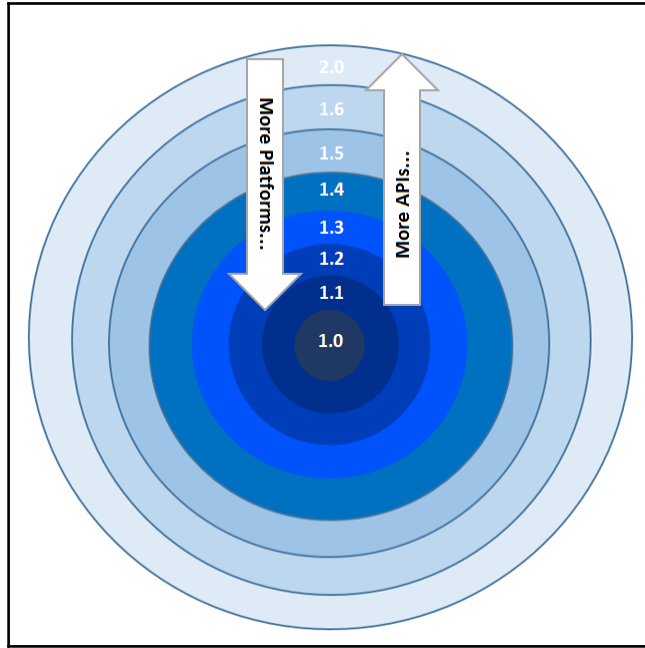
```

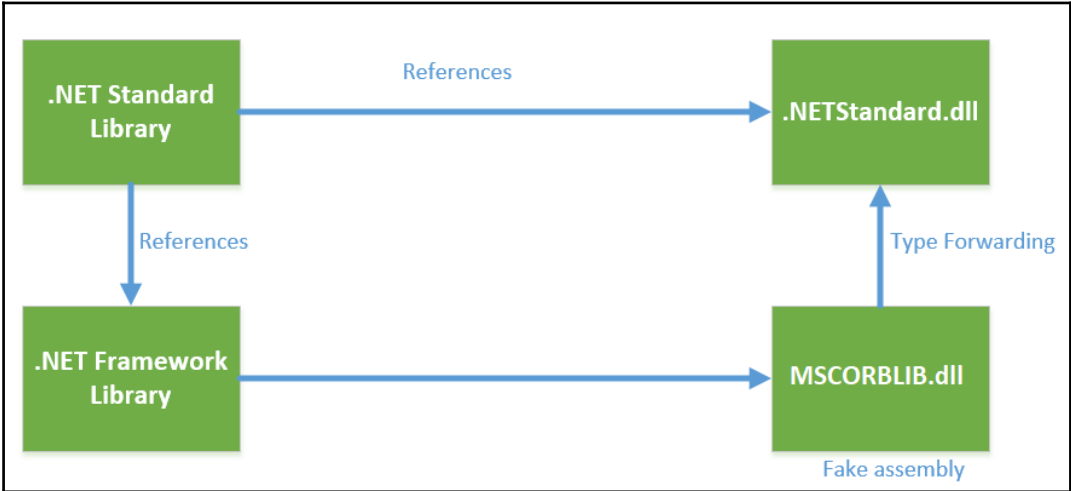
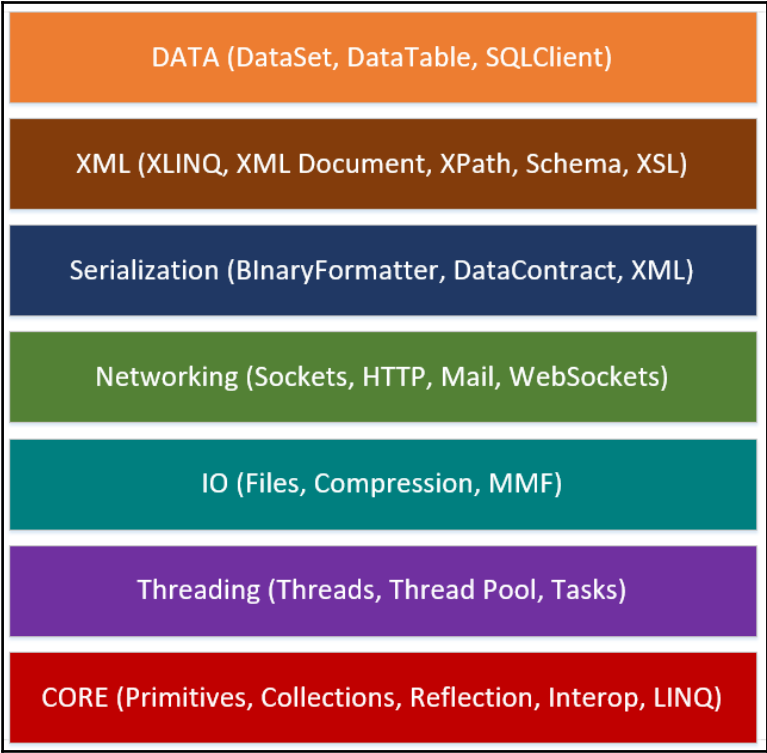
c:\Users\ovais\Source\Repos\Chapter1\Chapter1>dotnet restore
Restoring packages for c:\Users\ovais\Source\Repos\Chapter1\Chapter1\Chapter1WebApp.csproj...
Restoring packages for c:\Users\ovais\Source\Repos\Chapter1\Chapter1\Chapter1WebApp.csproj...
Restore completed in 801.88 ms for c:\Users\ovais\Source\Repos\Chapter1\Chapter1\Chapter1WebApp.csproj.
Generating MSBuild file c:\Users\ovais\Source\Repos\Chapter1\Chapter1\obj\Chapter1WebApp.csproj.nuget.g.props.
Restore completed in 1.72 sec for c:\Users\ovais\Source\Repos\Chapter1\Chapter1\Chapter1WebApp.csproj.

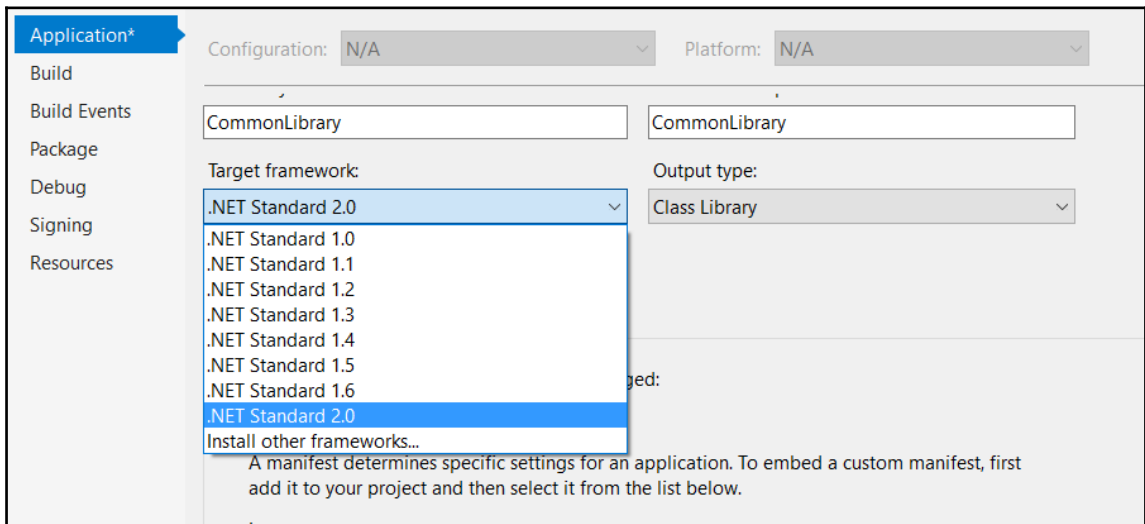
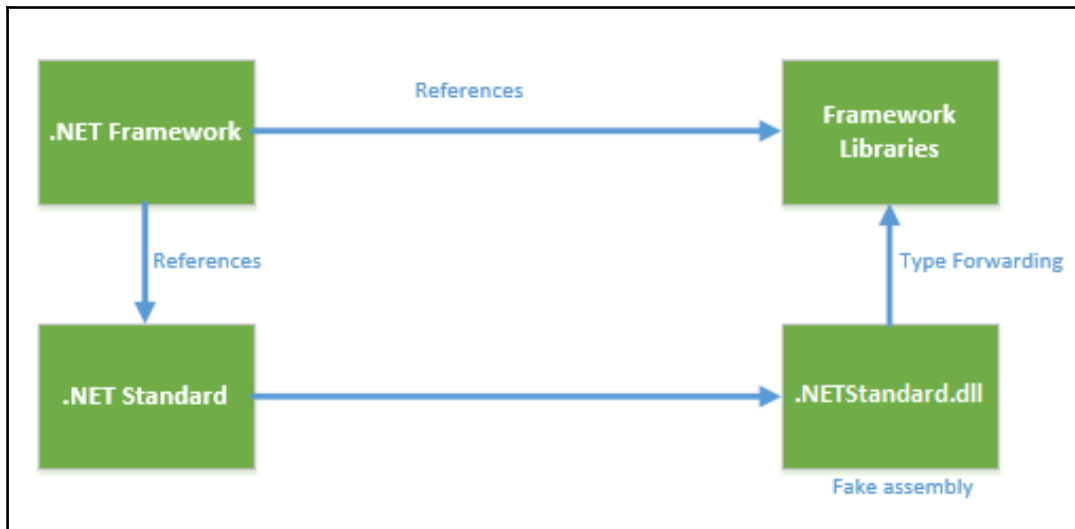
```



.NET Standard	.NET Core	.NET Framework (with .NET Core 1.x SDK)	.NET Framework (with .NET Core 2.0 SDK)	Mono	Universal Windows Platform	Windows	Windows Phone	Windows Phone Silverlight	Xamarin.Mac	Xamarin.Android	Xamarin.iOS
1.0	1.0	4.5	4.5	4.6	10.0	8.0	8.1	8.0	3.0	7.0	10.0
1.1						8.1		8.1			
1.2		4.5.1	4.5.1								
1.3		4.6	4.6		10.0.16299						
1.4		4.6.1	4.6.1								
1.5		4.6.2									
1.6											
2.0	2.0			5.4				3.8	8.0	10.14	



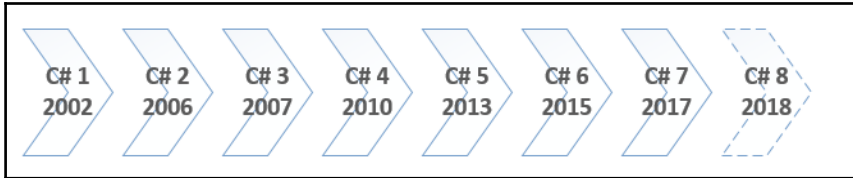




```

<Project Sdk="Microsoft.NET.Sdk.Web">
  <PropertyGroup>
    <TargetFramework>netcoreapp2.0</TargetFramework>
    <MvcRazorCompileOnPublish>false</MvcRazorCompileOnPublish>
  </PropertyGroup>

```



Advanced Build Settings ? X

General

Language version: C# latest minor version (latest) ▾

Internal compiler error reporting: prompt ▾

Check for arithmetic overflow/underflow

Output

Debugging information: portable ▾

File alignment: 512 ▾

Library base address: 0x00400000

OK Cancel

analyzer

Package source: All

- Text.Analyzers** by Microsoft, 19.1K downloads v2.3.0-beta1
Text Analyzers
- System.Runtime.InteropServices.Analyzers** by Microsoft, 211K downloads v1.2.0-beta2
System.Runtime.InteropServices Analyzers
- Microsoft.CodeQuality.Analyzers** by Microsoft, 50.6K downloads v2.3.0-beta1
Microsoft.CodeQuality Analyzers
- Microsoft.Maintainability.Analyzers** by Microsoft, 29.7K downloads v1.2.0-beta2
Microsoft.Maintainability Analyzers

Each package is licensed to you by its owner. NuGet is not responsible for, nor does it grant any licenses to, third-party packages.

Do not show this again

Microsoft.CodeQuality.Analyzers

Version: Latest prerelease 2.3.0-b Install

Options

Description
CodeQuality Analyzers

Version: 2.3.0-beta1

Author(s): Microsoft

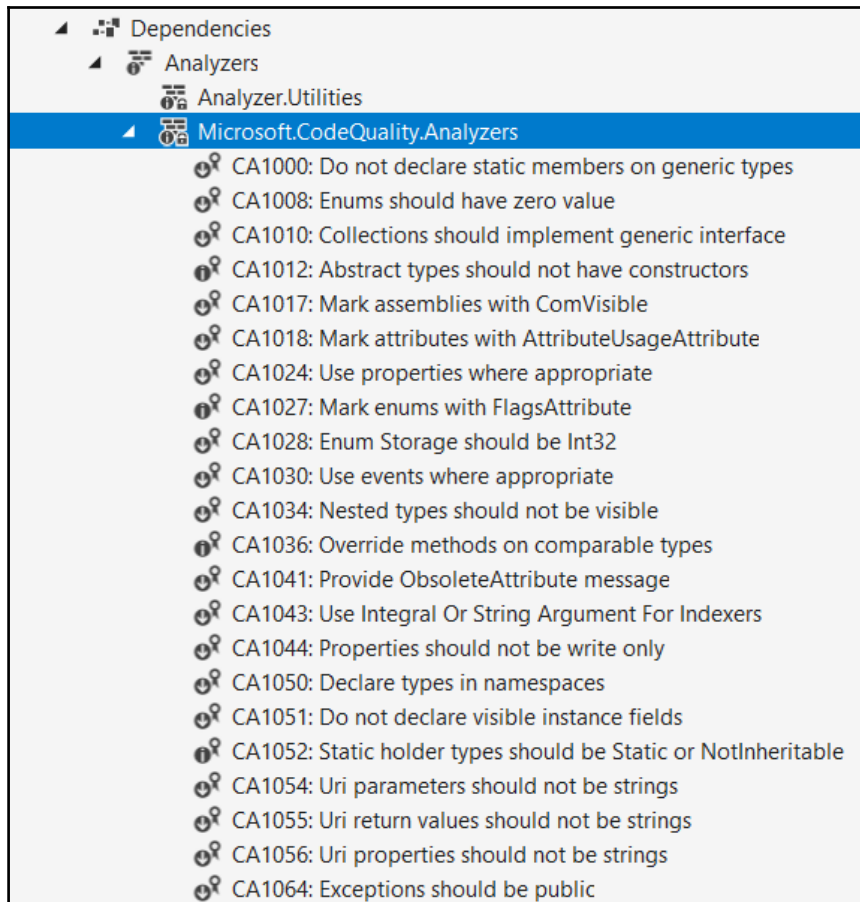
License: <http://go.microsoft.com/fwlink/?LinkId=529443>

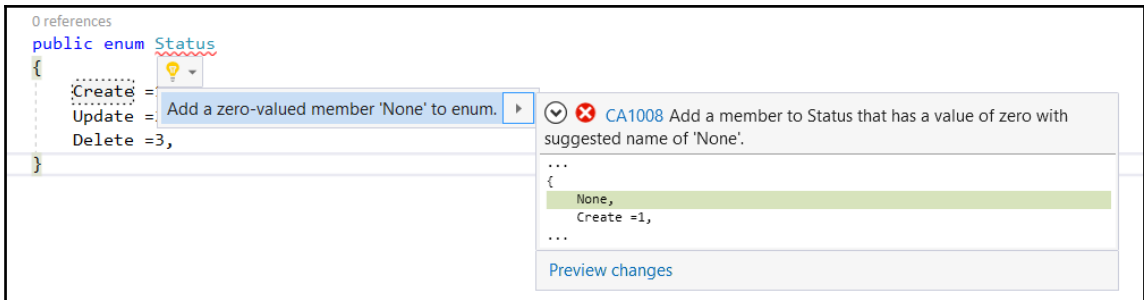
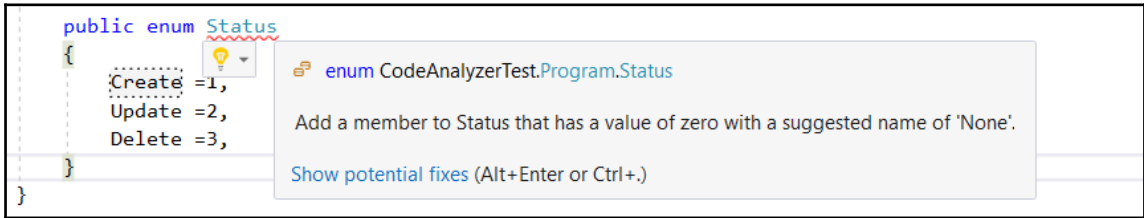
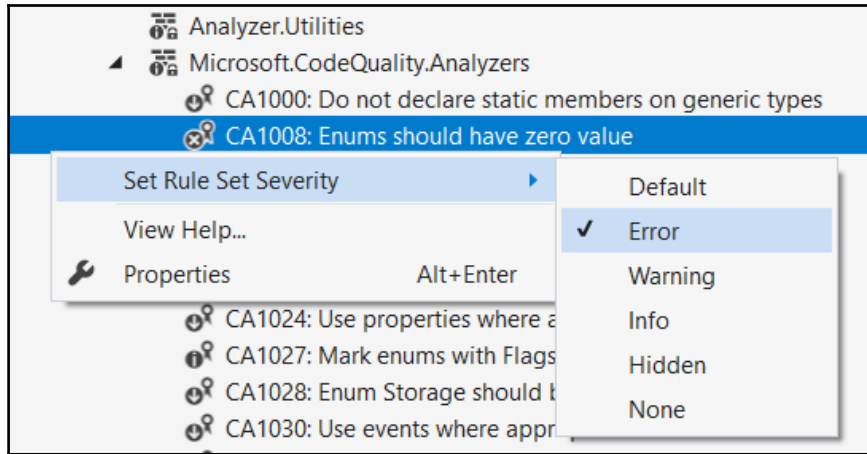
Date published: Thursday, May 25, 2017 (5/25/2017)

Project URL: <https://github.com/dotnet/roslyn-analyzers>

CodeAnalyzerTest

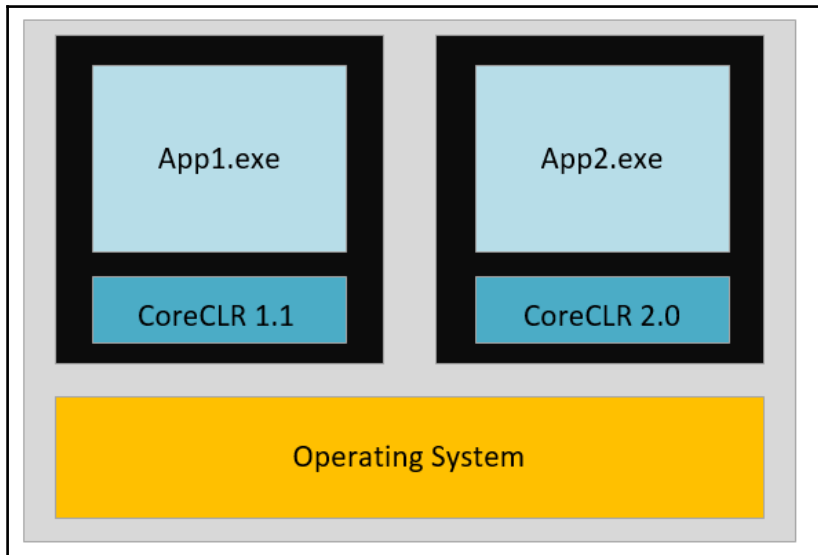
- Dependencies
 - Analyzer
 - Analyzer.Utilities
 - Microsoft.CodeQuality.Analyzers
 - Microsoft.CodeQuality.CSharp.Analyzers
 - NuGet
 - SDK
 - C# Program.cs

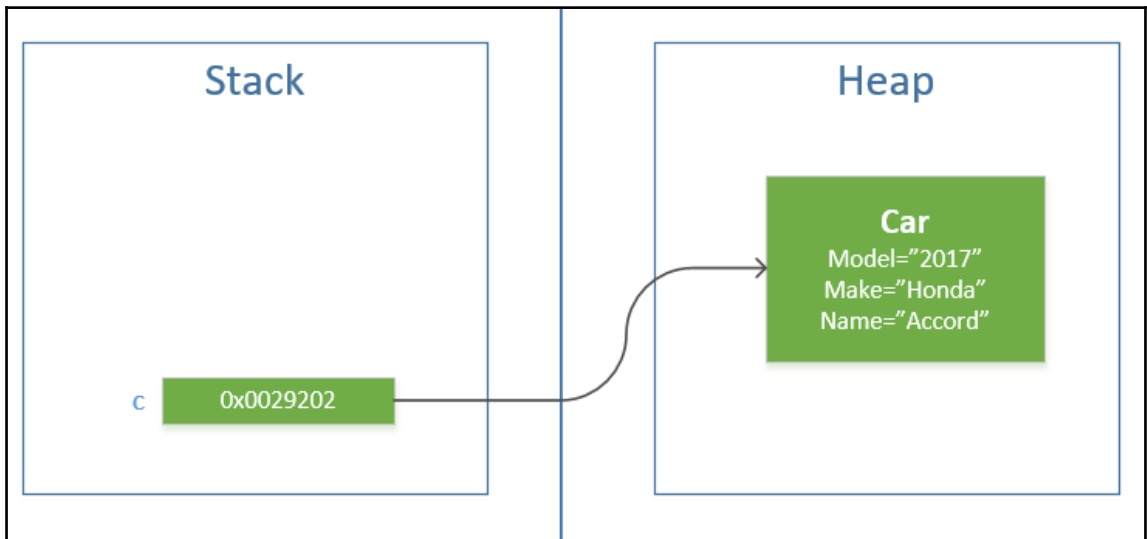
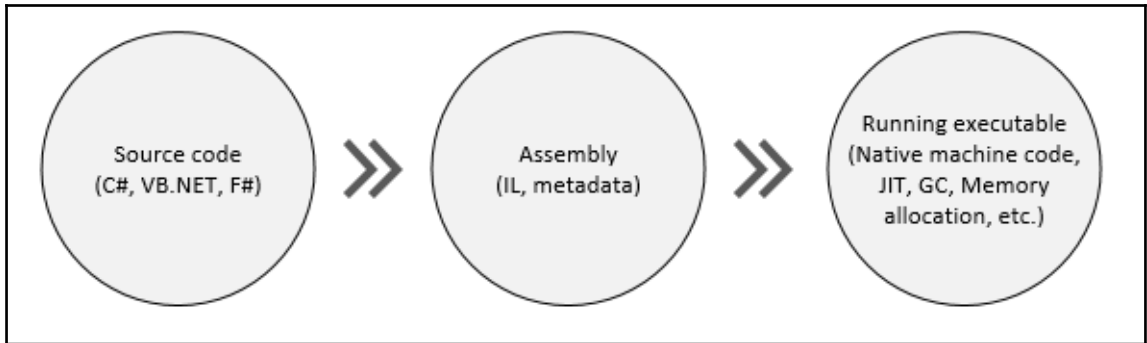


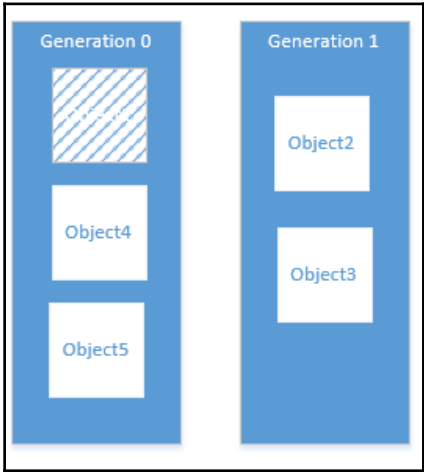
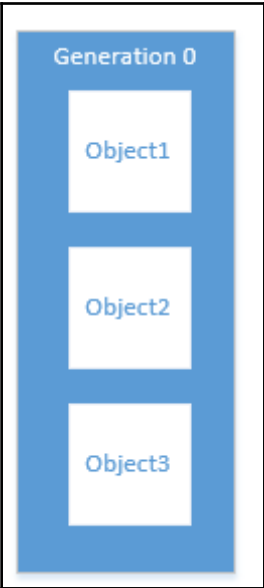


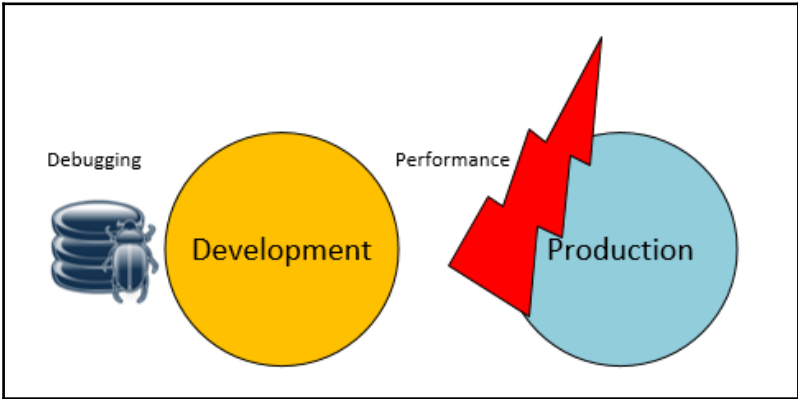
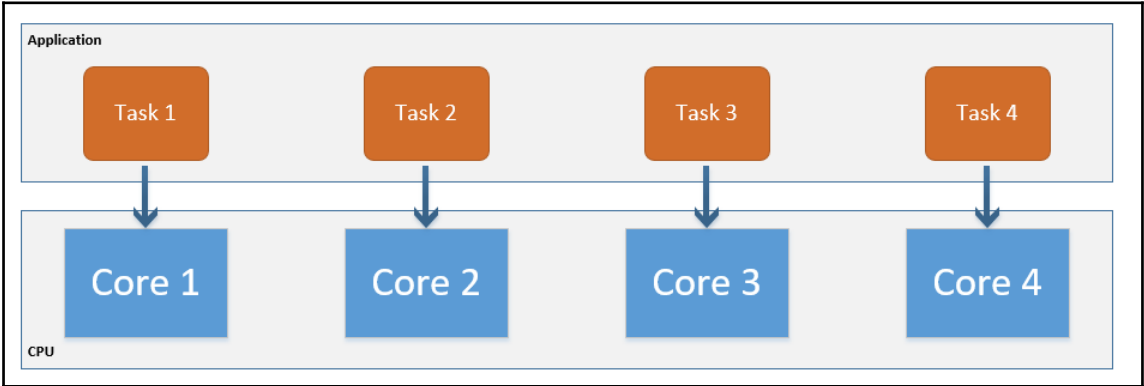
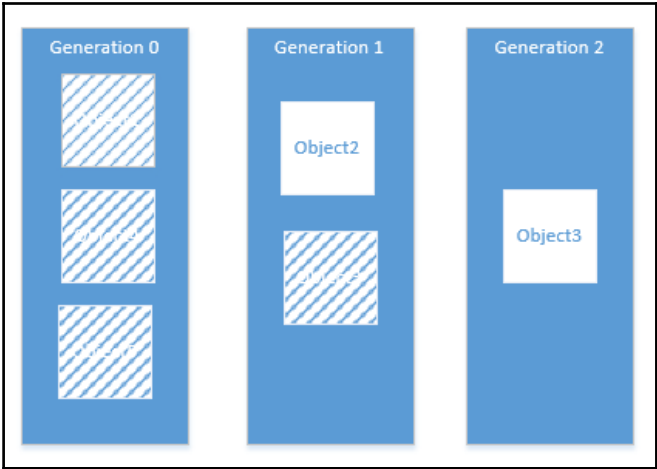
Chapter 2: Understanding .NET Core Internals and Measuring Performance

```
.method private hidebysig static void Main(string[] args) cil managed
{
    .entrypoint
    // Code size          11 (0xb)
    .maxstack 1
    .locals init (int32 V_0,
                 int64 V_1)
    IL_0000: nop
    IL_0001: ldc.i4.1
    IL_0002: stloc.0
    IL_0003: ldc.i4      0x1869f
    IL_0008: conv.i8
    IL_0009: stloc.1
    IL_000a: ret
} // end of method Program::Main
```









```

C:\Program Files\dotnet\dotnet.exe
// * Summary *
BenchmarkDotNet=v0.10.9, OS=Windows 10 Redstone 2 (10.0.15063)
Processor=Intel Core i7-4900MQ CPU 2.80GHz (Haswell), ProcessorCount=8
Frequency=2728057 Hz, Resolution=366.5613 ns, Timer=TSC
.NET Core SDK=2.0.0
[Host]      : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT DEBUG [AttachedDebugger]
DefaultJob  : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT

-----|-----|-----|-----|
Method | Mean | Error | StdDev |
-----|-----|-----|-----|
Fibonacci | 22.62 us | 0.6201 us | 1.8087 us |
FibonacciRecursive | 17.54 us | 0.2192 us | 0.1943 us |

// * Warnings *
Environment
Summary          -> Benchmark was executed with attached debugger
TestBenchmark.Fibonacci: Default -> Benchmark was built without optimization enabled (most probably a DEBUG configuration). Please, build it in RELEASE.
TestBenchmark.FibonacciRecursive: Default -> Benchmark was built without optimization enabled (most probably a DEBUG configuration). Please, build it in RELEASE.

// * Legends *
Mean  : Arithmetic mean of all measurements
Error : Half of 99.9% confidence interval
StdDev : Standard deviation of all measurements
1 us  : 1 Microsecond (0.000001 sec)

// ***** BenchmarkRunner: End *****
// * Artifacts cleanup *

```

```

BenchmarkDotNet=v0.10.9, OS=Windows 10 Redstone 2 (10.0.15063)
Processor=Intel Core i7-4900MQ CPU 2.80GHz (Haswell), ProcessorCount=8
Frequency=2728057 Hz, Resolution=366.5613 ns, Timer=TSC
.NET Core SDK=2.0.0
[Host]      : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT DEBUG [AttachedDebugger]
DefaultJob  : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT

```

Method	Mean	Error	StdDev
Fibonacci	22.62 us	0.6201 us	1.8087 us
FibonacciRecursive	17.54 us	0.2192 us	0.1943 us

BenchmarkDotNet=v0.10.9, OS=Windows 10 Redstone 2 (10.0.15063)
 Processor=Intel Core i7-4900MQ CPU 2.80GHz (Haswell), ProcessorCount=8
 Frequency=2728057 Hz, Resolution=366.5613 ns, Timer=TSC
 .NET Core SDK=2.0.0
 [Host] : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT DEBUG
 DefaultJob : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT

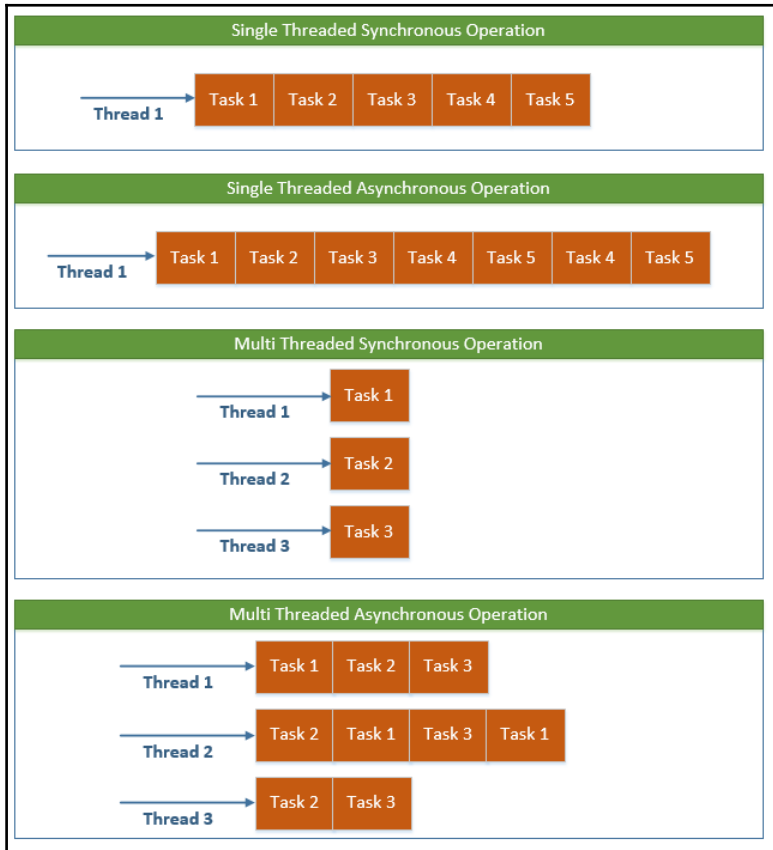
Method	Len	Mean	Error	StdDev
Fibonacci	10	16.35 us	0.3267 us	0.3889 us
FibonacciRecursive	10	17.69 us	0.2207 us	0.2064 us
Fibonacci	20	36.52 us	0.6865 us	0.6742 us
FibonacciRecursive	20	38.50 us	0.7291 us	0.7488 us
Fibonacci	30	59.66 us	0.8321 us	0.7377 us
FibonacciRecursive	30	65.35 us	1.2867 us	1.1406 us

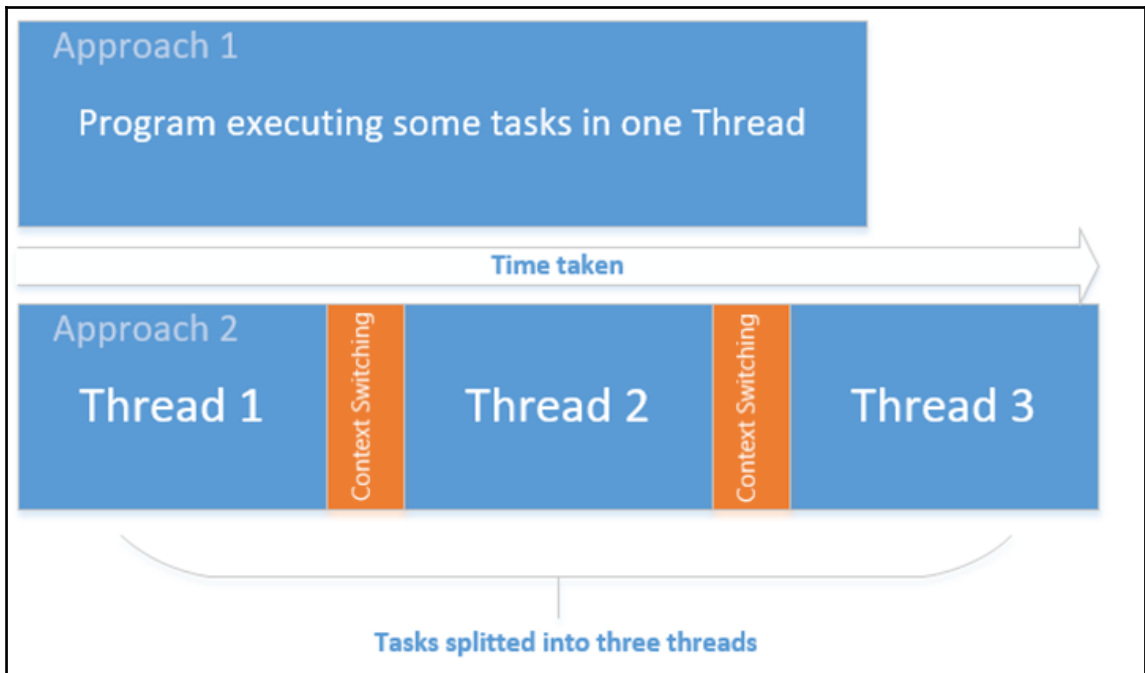
BenchmarkDotNet=v0.10.9, OS=Windows 10 Redstone 2 (10.0.15063)
 Processor=Intel Core i7-4900MQ CPU 2.80GHz (Haswell), ProcessorCount=8
 Frequency=2728057 Hz, Resolution=366.5613 ns, Timer=TSC
 .NET Core SDK=2.0.0

[Host] : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT DEBUG
 DefaultJob : .NET Core 2.0.0 (Framework 4.6.00001.0), 64bit RyuJIT

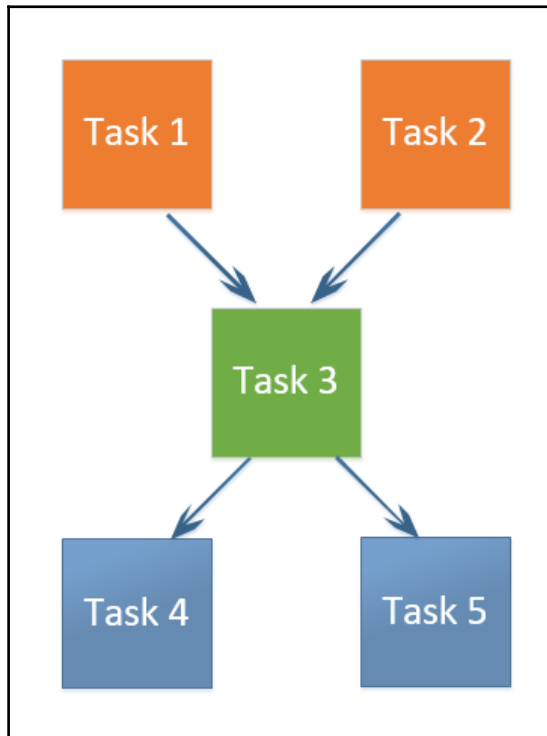
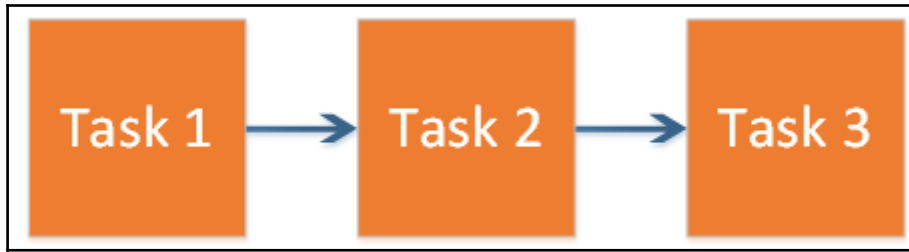
Method	Len	Mean	Error	StdDev	Median	Gen 0	Gen 1	Allocated
Fibonacci	10	16.50 us	0.3281 us	0.7604 us	16.37 us	0.1984	-	848 B
FibonacciRecursive	10	25.46 us	3.2510 us	9.3799 us	20.97 us	0.1984	-	880 B
Fibonacci	20	62.13 us	3.8042 us	10.8537 us	62.22 us	0.4272	0.0012	1816 B
FibonacciRecursive	20	81.60 us	15.0942 us	44.5056 us	63.55 us	0.4272	-	1848 B
Fibonacci	30	99.37 us	9.4387 us	27.3834 us	97.40 us	0.6714	-	2856 B
FibonacciRecursive	30	103.11 us	7.1130 us	20.1784 us	103.42 us	0.6714	-	2888 B

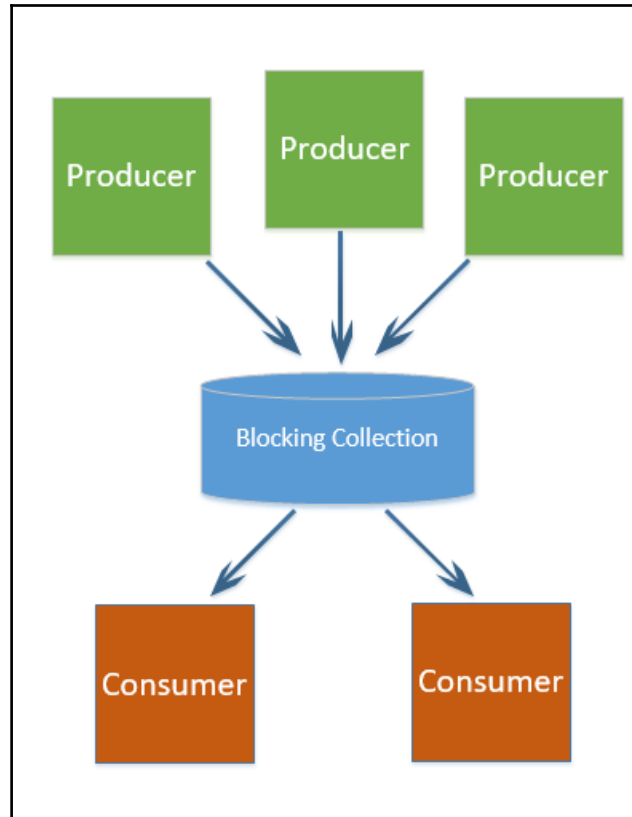
Chapter 3: Multithreading and Asynchronous Programming in .NET Core



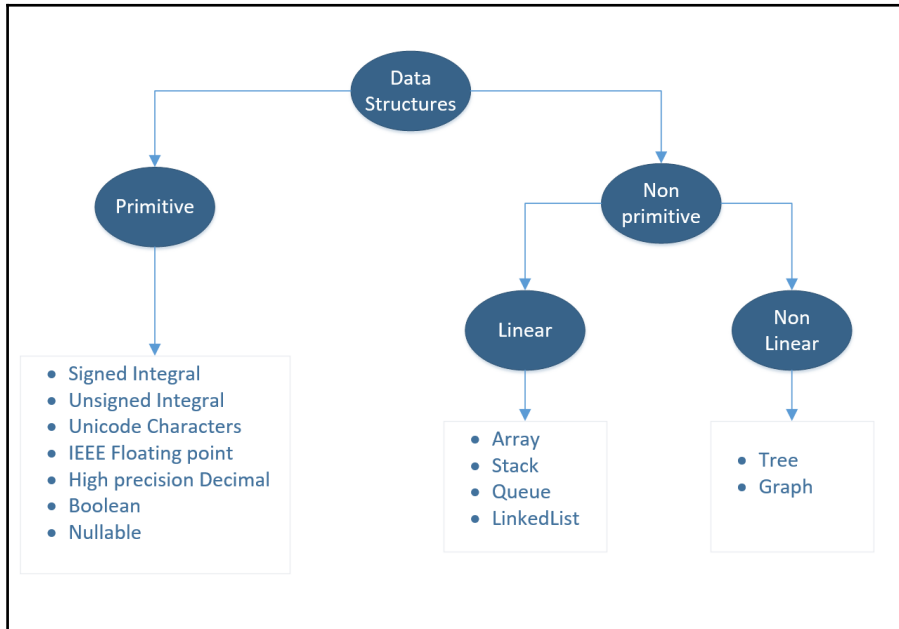


```
C:\WINDOWS\system32\cmd.exe
Now waiting for new jobs
Executed job 21
Executed job 22
Executed job 23
Executed job 11
Executed job 12
Executed job 13
Now waiting for new jobs
Executed job 31
Executed job 32
Executed job 33
Now waiting for new jobs
```

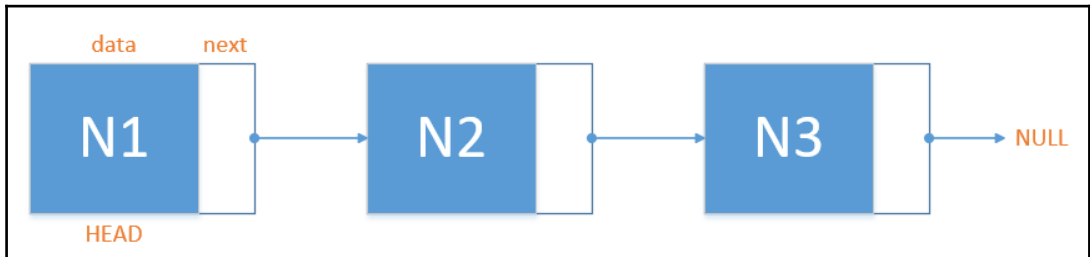
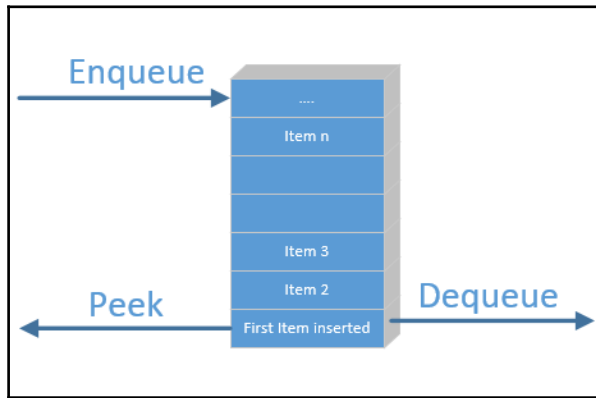
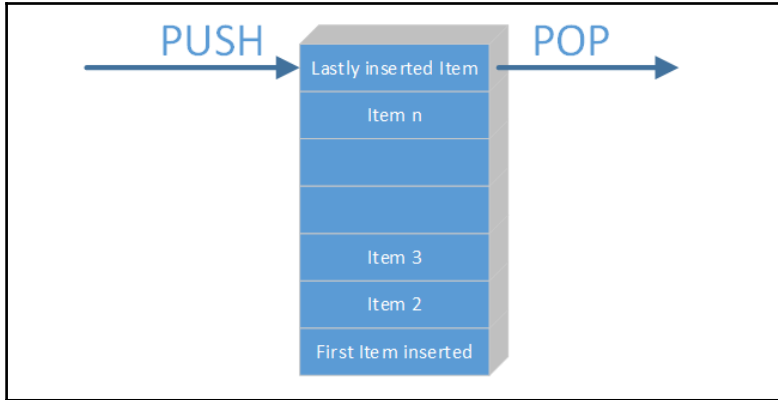


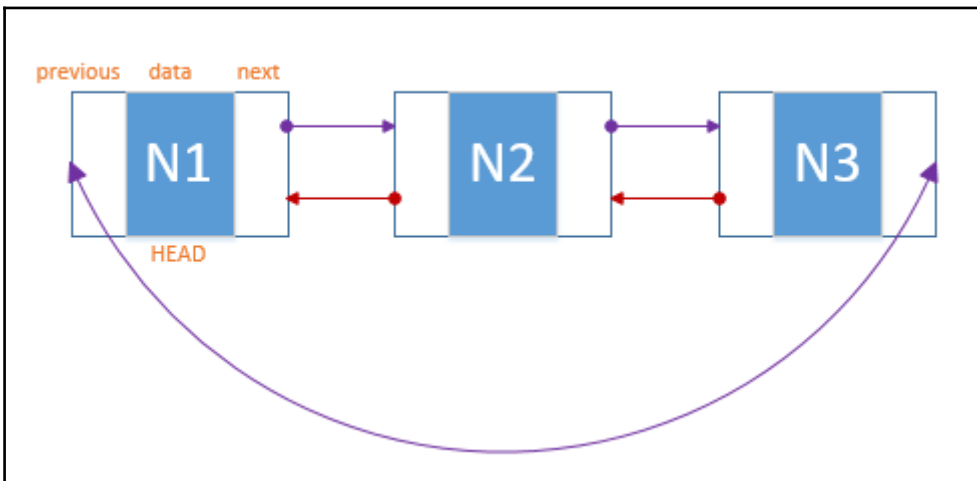
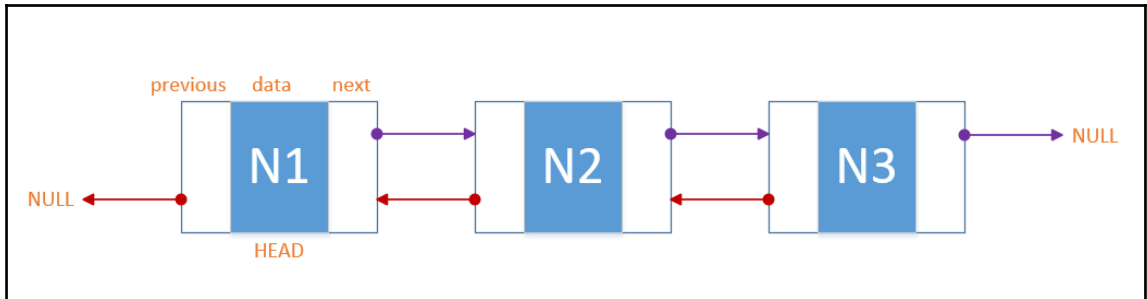


Chapter 4: Data Structures and Writing Optimized Code in C#



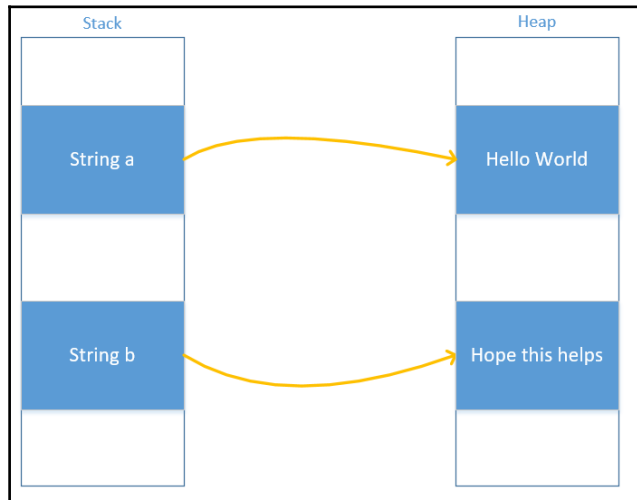
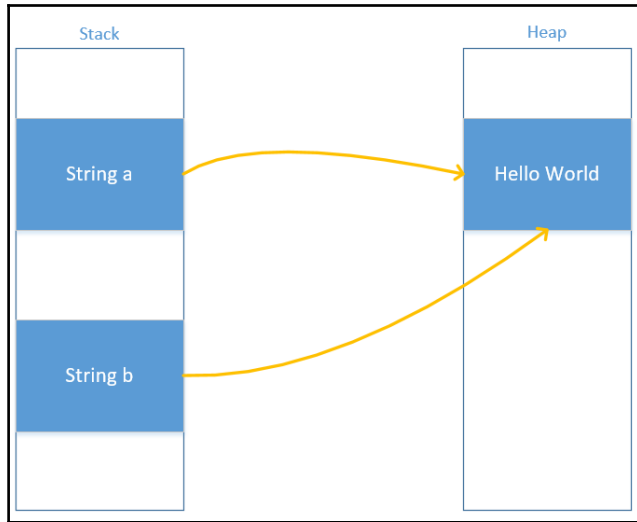
```
Root  
Child 1  
  Grand Child 1  
  Child 1 (Sibling)
```



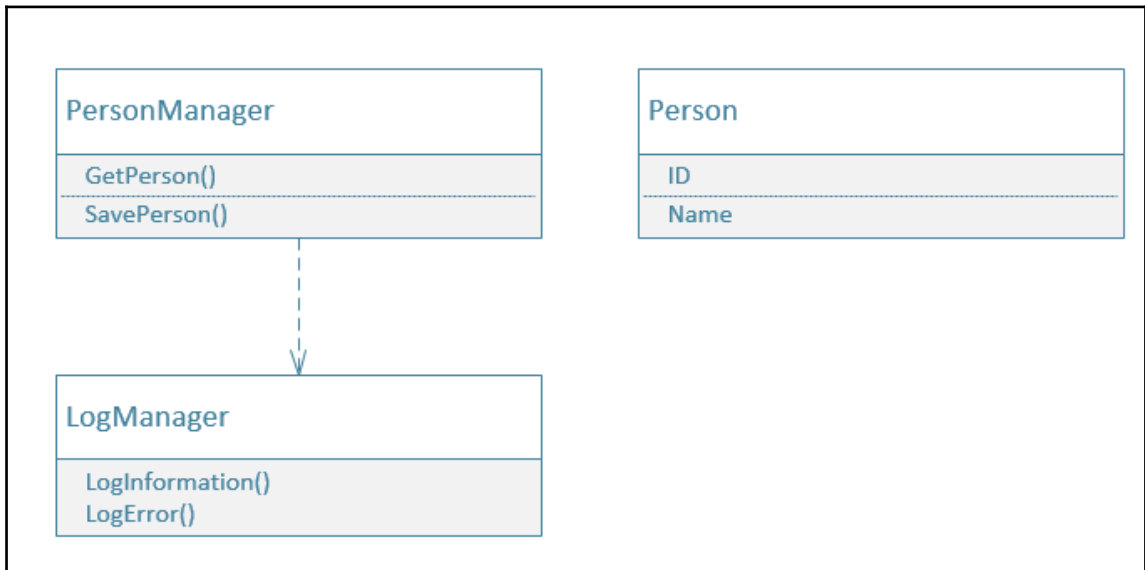
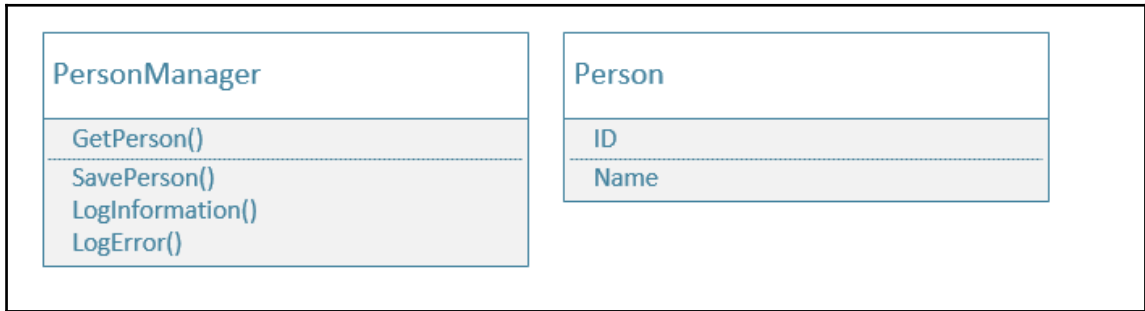


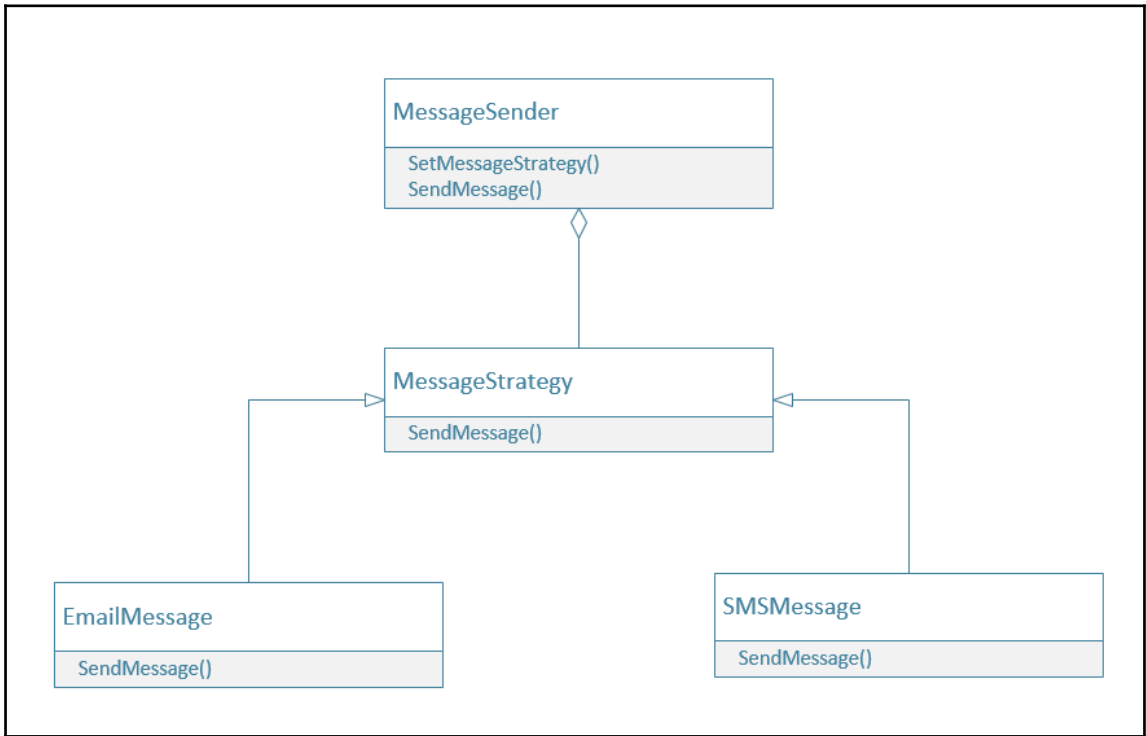
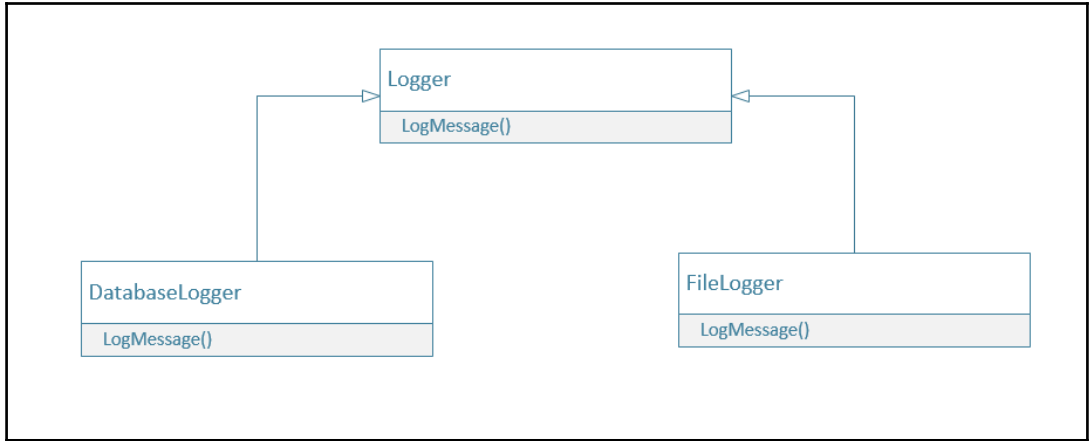
```
C:\WINDOWS\system32\cmd.exe
AvoidBoxingUnboxing: Time taken 1
BoxingUnboxing: Time taken 5
```

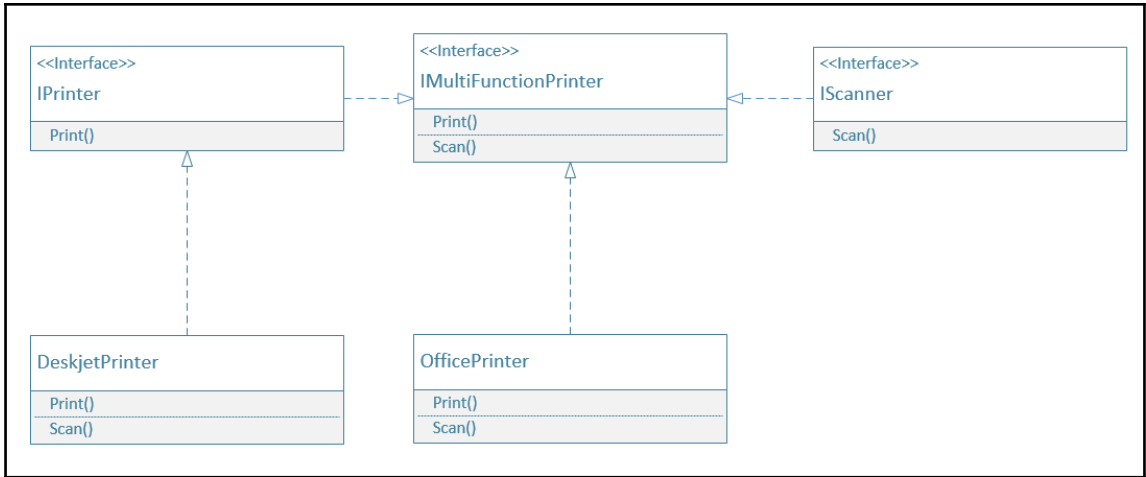
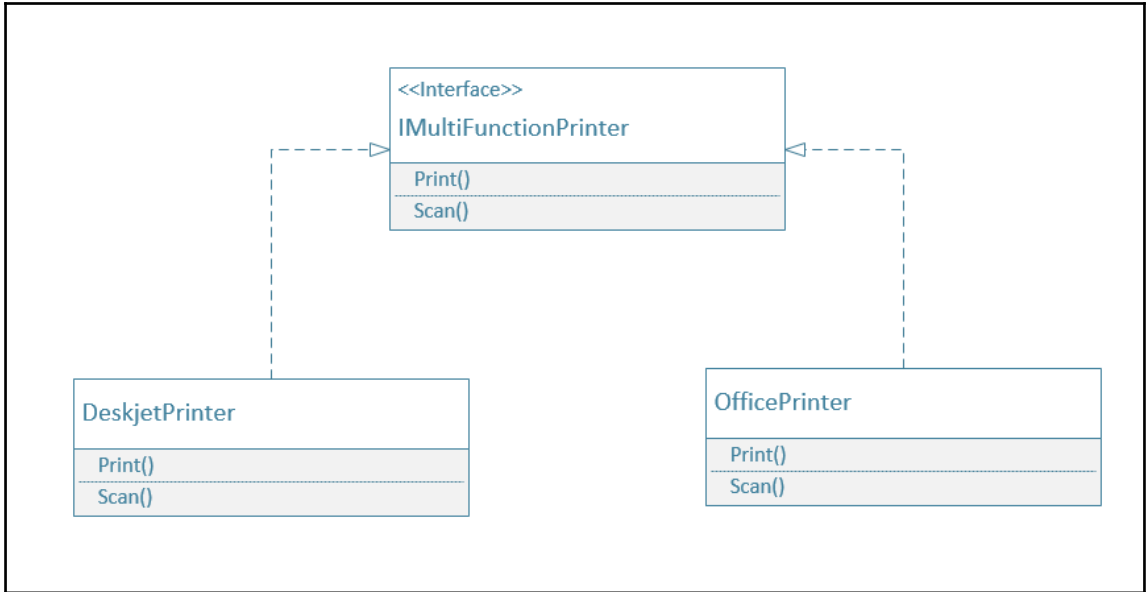
```
Total time taken with ArrayList is 63
Total time taken with List<int> is 6
```

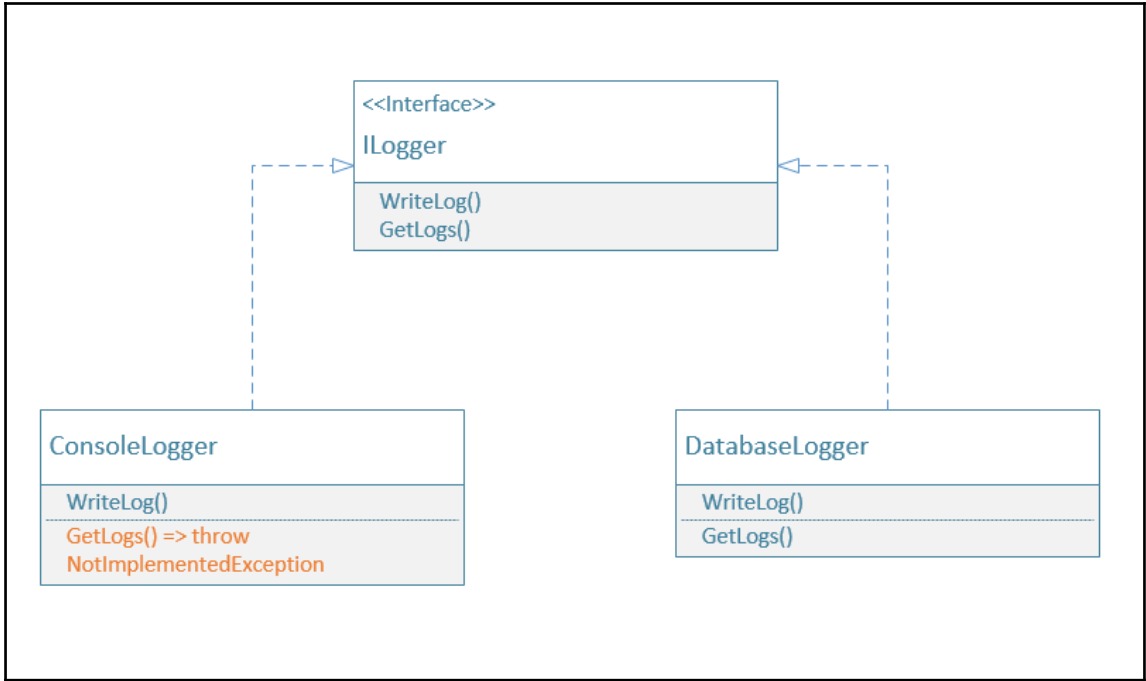



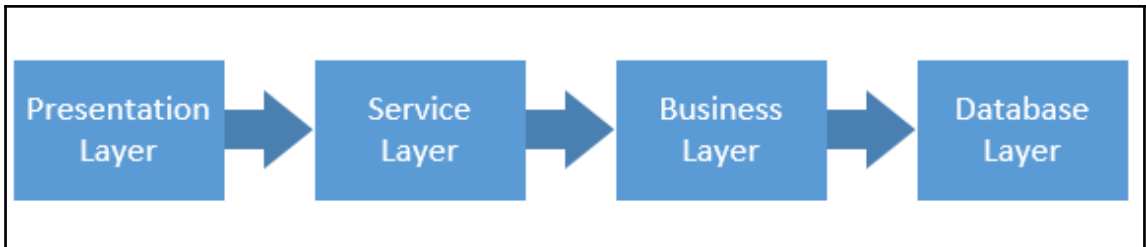
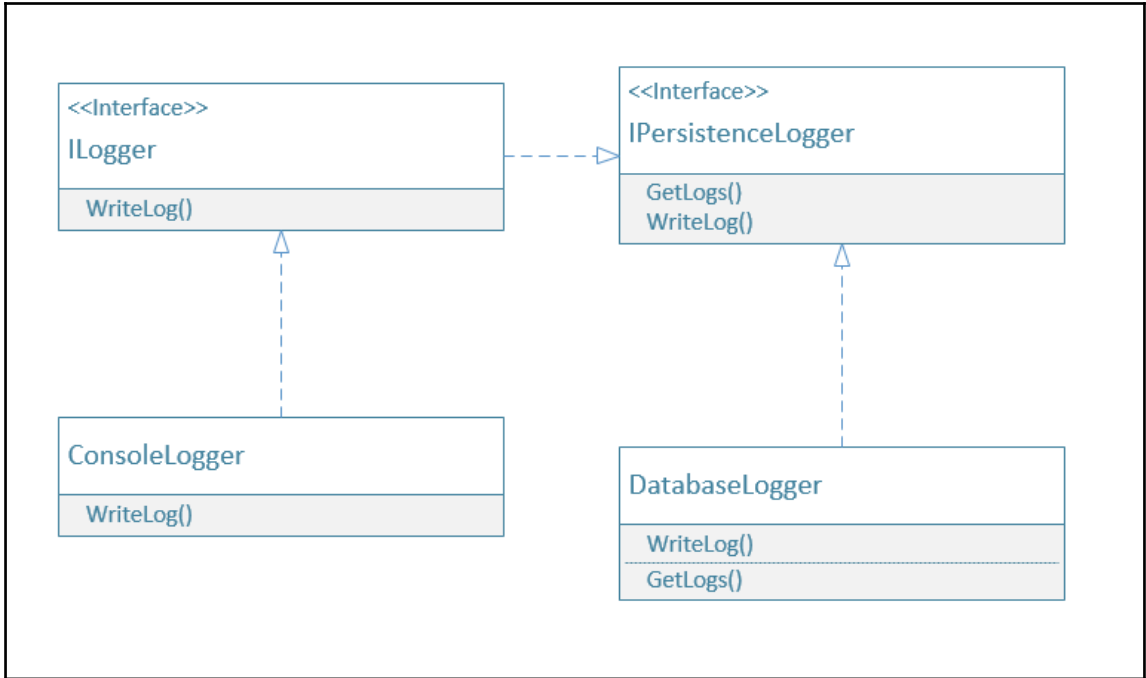
Chapter 5: Designing Guidelines for .NET Core Application Performance

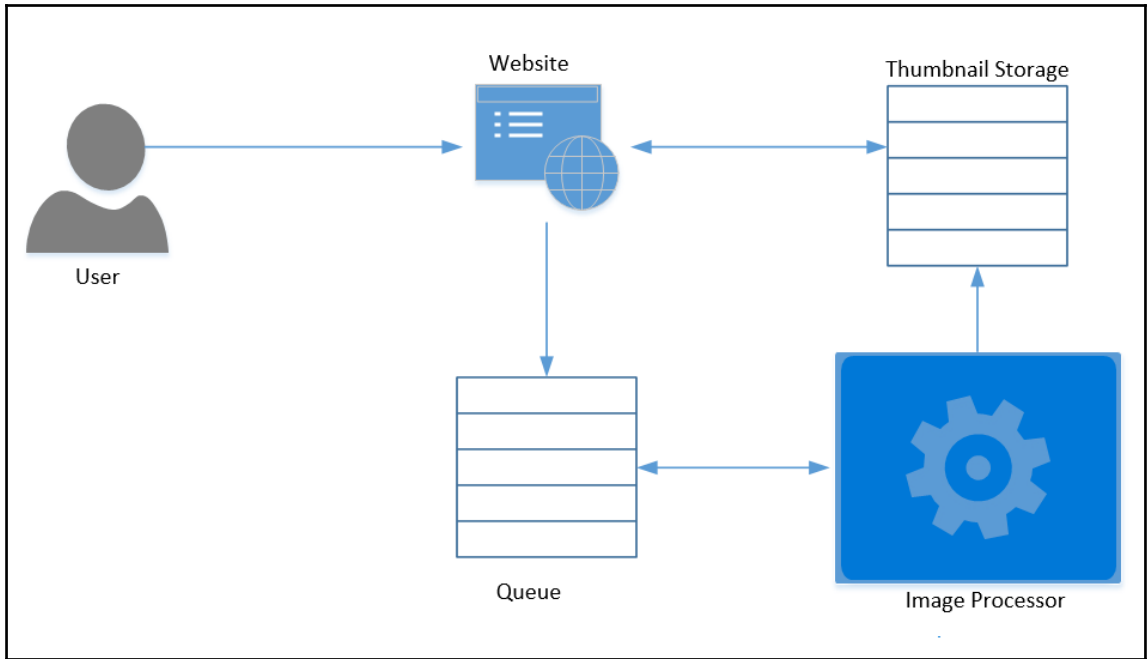








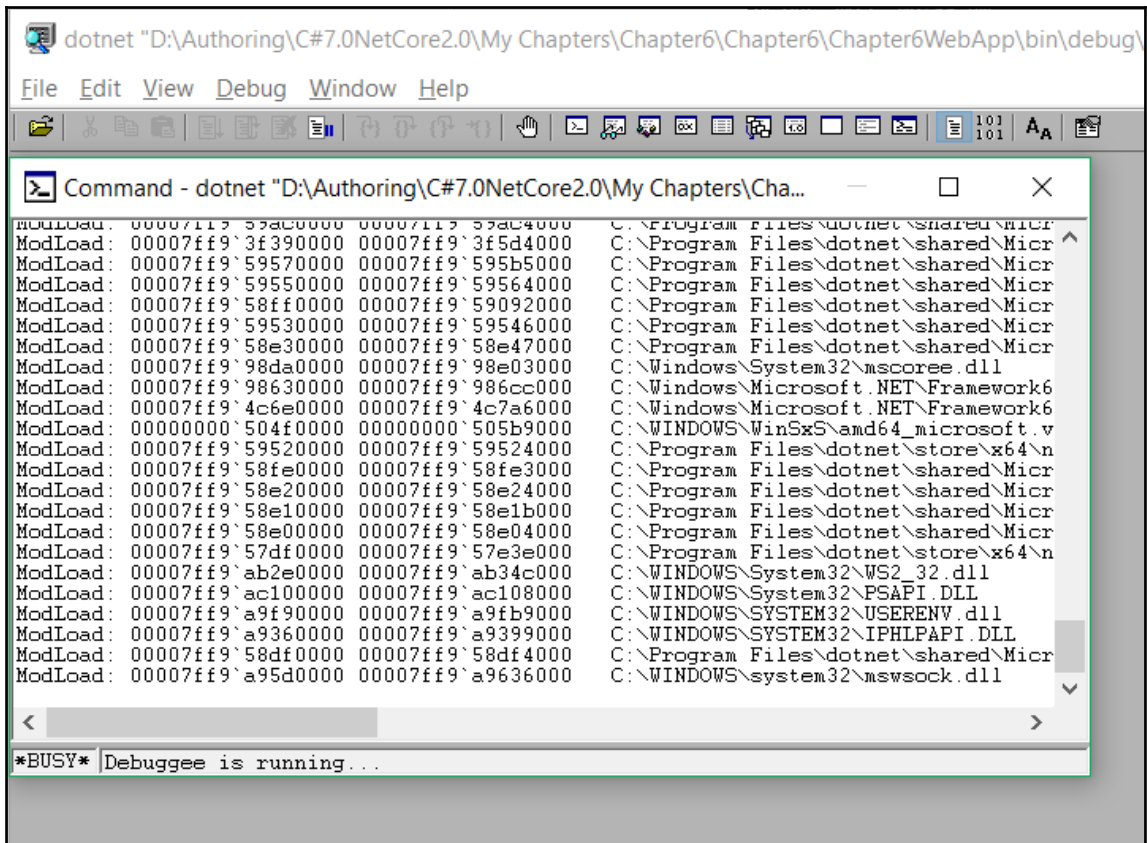




Chapter 6: Memory Management Techniques in .NET Core

```
Directory of D:\Authoring\C#7.0NetCore2.0\My Chapters\Chapter6\Chapter6\Chapter6WebApp
24-Dec-2017 09:55 PM <DIR>      .
24-Dec-2017 09:55 PM <DIR>      ..
24-Dec-2017 09:55 PM          36 .bowerrc
24-Dec-2017 09:55 PM          178 appsettings.Development.json
24-Dec-2017 09:55 PM          113 appsettings.json
24-Dec-2017 09:55 PM <DIR>      bin
24-Dec-2017 09:55 PM          207 bower.json
24-Dec-2017 09:55 PM          628 bundleconfig.json
24-Dec-2017 09:55 PM          397 Chapter6WebApp.csproj
24-Dec-2017 09:55 PM <DIR>      Controllers
24-Dec-2017 09:55 PM <DIR>      Models
24-Dec-2017 11:12 PM <DIR>      obj
24-Dec-2017 09:55 PM          631 Program.cs
24-Dec-2017 09:55 PM <DIR>      Properties
24-Dec-2017 09:55 PM          1,472 Startup.cs
24-Dec-2017 09:55 PM <DIR>      Views
24-Dec-2017 09:55 PM <DIR>      wwwroot
          8 File(s)          3,662 bytes
          9 Dir(s) 41,166,479,360 bytes free
```

```
C:\Program Files (x86)\Windows Kits\10\Debuggers\x64>windbg dotnet D:\Authoring\C#7.0NetCore2.0\My Chapters\Chapter6\Chapter6\Chapter6WebApp\bin\debug\netcoreapp2.0\chapter6webapp.dll
```

The screenshot shows a Visual Studio debugger window titled "dotnet" with the path "D:\Authoring\C#7.0NetCore2.0\My Chapters\Chapter6\Chapter6\Chapter6WebApp\bin\debug\". The window contains a list of loaded modules and a command prompt.

Address	Offset	Address	Offset	Path
ModLoad: 00007119`59530000	00007119`59564000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`58ff0000	00007ff9`59092000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`59530000	00007ff9`59546000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`58e30000	00007ff9`58e47000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`98da0000	00007ff9`98e03000	C:\Windows\System32\mscoree.dll		
ModLoad: 00007ff9`98630000	00007ff9`986cc000	C:\Windows\Microsoft.NET\Framework6		
ModLoad: 00007ff9`4c6e0000	00007ff9`4c7a6000	C:\Windows\Microsoft.NET\Framework6		
ModLoad: 00000000`504f0000	00000000`505b9000	C:\WINDOWS\WinSxS\amd64_microsoft.v		
ModLoad: 00007ff9`59520000	00007ff9`59524000	C:\Program Files\dotnet\store\x64\n		
ModLoad: 00007ff9`58fe0000	00007ff9`58fe3000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`58e20000	00007ff9`58e24000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`58e10000	00007ff9`58e1b000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`57df0000	00007ff9`57e3e000	C:\Program Files\dotnet\store\x64\n		
ModLoad: 00007ff9`ab2e0000	00007ff9`ab34c000	C:\WINDOWS\System32\WS2_32.dll		
ModLoad: 00007ff9`ac100000	00007ff9`ac108000	C:\WINDOWS\System32\PSAPI.DLL		
ModLoad: 00007ff9`a9f90000	00007ff9`a9fb9000	C:\WINDOWS\SYSTEM32\USERENV.dll		
ModLoad: 00007ff9`a9360000	00007ff9`a9399000	C:\WINDOWS\SYSTEM32\IPHLPAPI.DLL		
ModLoad: 00007ff9`58e00000	00007ff9`58e04000	C:\Program Files\dotnet\shared\Micr		
ModLoad: 00007ff9`a95d0000	00007ff9`a9636000	C:\WINDOWS\system32\mswsock.dll		
ModLoad: 00007ff9`58df0000	00007ff9`58df4000	C:\Program Files\dotnet\shared\Micr		

(3998.423c): Break instruction exception - code 80000003 (first chance)
ntdll!DbgBreakPoint:
00007ff9`adde37d0 cc int 3

```
0:019> .loadby sos coreclr
```

Command - dotnet "D:\Authoring\C#7.0NetCore2.0\My Chapters\Chapter6\Chapter6\Chapter6WebApp\bin\debug\netcoreapp2.0\chapter6webapp.dll" - WinDbg:10.0.16299.15 AMD64

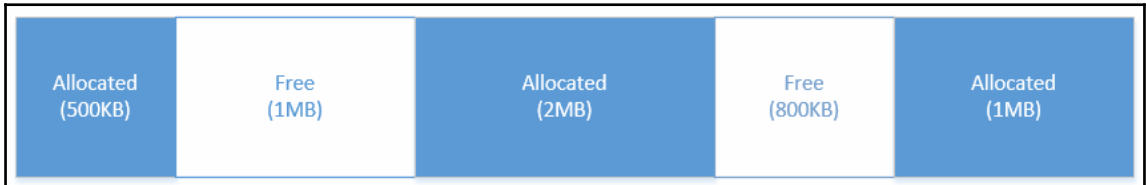
000001b8dc162390	00007ff94619b7d0	72
000001b8dc1623d8	00007ff94612fc20	38
000001b8dc162400	00007ff94612fc20	27
000001b8dc162420	00007ff94618e9b0	88
000001b8dc162428	00007ff94618e9b0	64
000001b8dc1624b8	00007ff94618e9b0	96
000001b8dc162518	00007ff94618e9b0	120
000001b8dc162530	00007ff94617ad58	24
000001b8dc1625a8	00007ff94616f848	72
000001b8dc1625f0	00007ff94616f848	64
000001b8dc162630	00007ff94618e9b0	96
000001b8dc1626c0	00007ff94618e9b0	120
000001b8dc162738	00007ff94617ad58	24
000001b8dc162798	00007ff94616f848	72
000001b8dc162798	00007ff94616f848	64
000001b8dc1627d8	00007ff94618e9b0	96
000001b8dc162838	00007ff94618e9b0	120
000001b8dc1628b0	00007ff94617ad58	24
000001b8dc1628c8	00007ff94616f848	72
000001b8dc162910	00007ff94616f848	64
000001b9c1011000	000001b55a3c4490	24 Free

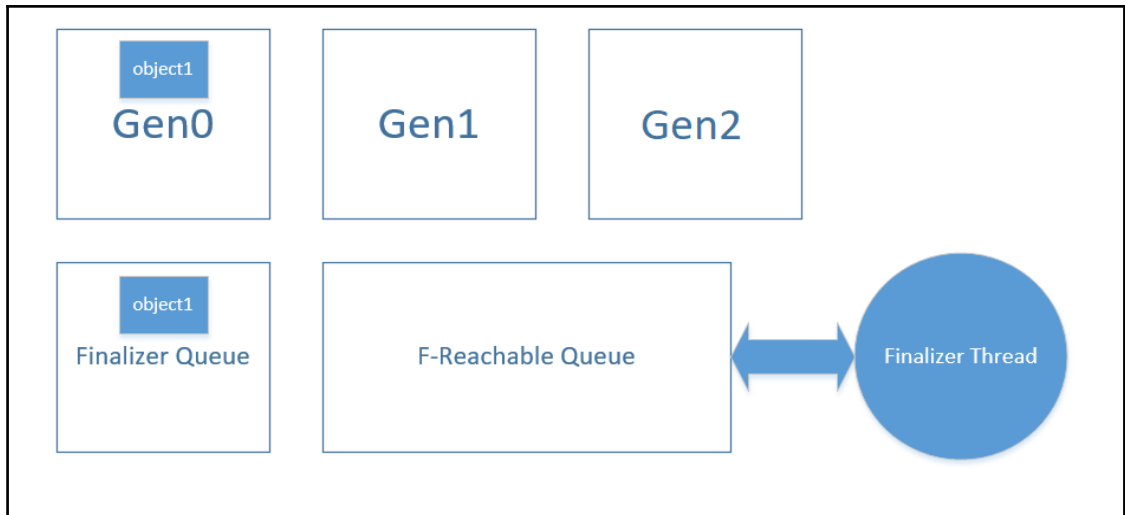
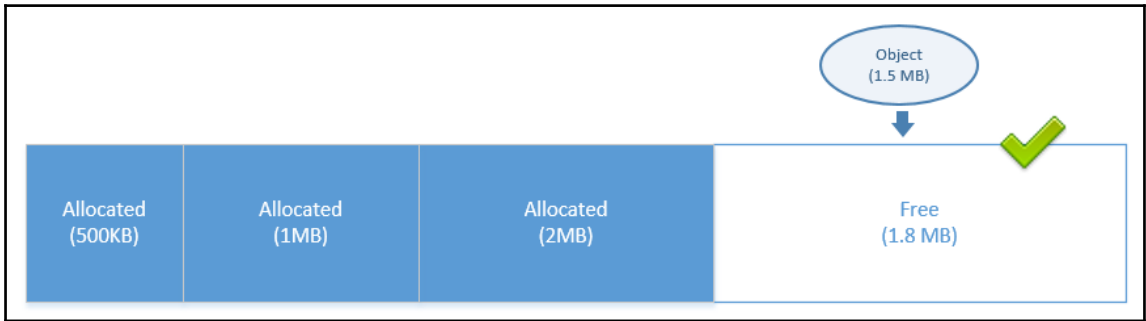
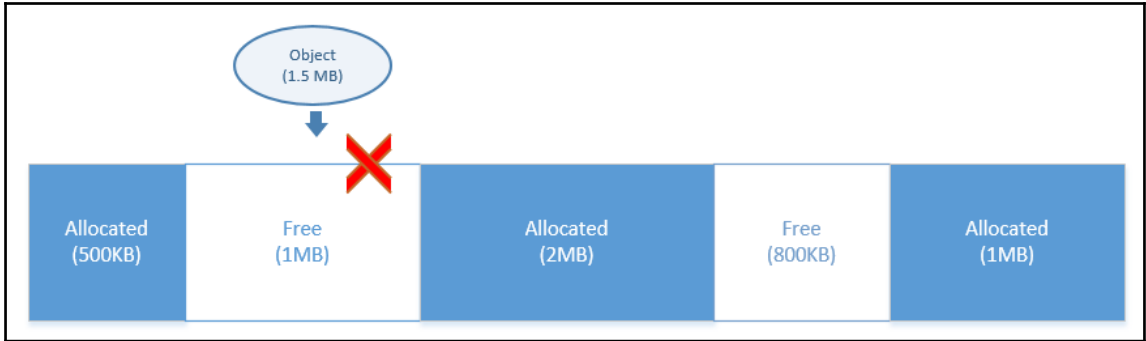
Statistics:

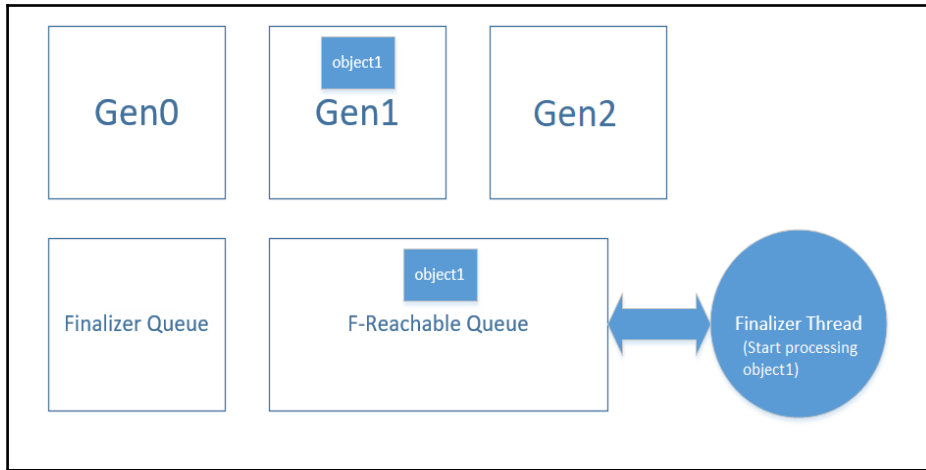
HT	Count	TotalSize	Class Name
00007ff94619b7d0	1	24	System.Collections.Generic.GenericEqualityComparer`1[[System.Int32, System.Private.CoreLib]]
00007ff9461b8dc0	1	24	System.Collections.Generic.GenericComparer`1[[System.Int32, System.Private.CoreLib]]
00007ff9461b8dc0	1	24	System.Collections.Generic.GenericEqualityComparer`1[[System.Int64, System.Private.CoreLib]]
00007ff9461b7f40	1	24	System.Collections.Generic.GenericArraySortHelper`1[[System.UInt64, System.Private.CoreLib]]
00007ff94615850	1	24	System.Collections.Generic.GenericComparer`1[[System.Guid, System.Private.CoreLib]]
00007ff9461c56d8	1	24	System.Collections.Generic.GenericEqualityComparer`1[[System.Guid, System.Private.CoreLib]]
00007ff9461b4720	1	24	System.Collections.Generic.GenericComparer`1[[System.DateTimeOffset, System.Private.CoreLib]]
00007ff9461b1ba0	1	24	System.Collections.Generic.GenericEqualityComparer`1[[System.Char, System.Private.CoreLib]]
00007ff94617ed8	1	24	System.Threading.AsyncLocalValueMap+EmptyAsyncLocalValueMap
00007ff9461a5180	1	24	System.Environment+<>C
00007ff9461a52d8	1	24	System.Runtime.CompilerServices.Services.TypeForwardedFromAttribute
00007ff9461a2c28	1	24	System.Runtime.InteropServices.ComVisibleAttribute
00007ff9461a2018	1	24	System.Runtime.InteropServices.ClassInterfaceAttribute
00007ff9461a0010	1	24	System.Collections.Generic.ObjectEqualityComparer`1[[System.Object, System.Private.CoreLib]]
00007ff94619d4d0	1	24	System.Text.EncoderExceptionFallback
00007ff94619d4d0	1	24	System.Text.DecoderExceptionFallback
00007ff946193148	1	24	System.Reflection.Missing
00007ff9461957a0	1	24	System.Threading.Tasks.ThreadPoolTaskScheduler+<>C
00007ff9461956d8	1	24	System.Threading.Tasks.ThreadPoolTaskScheduler
00007ff9461941c0	1	24	System.Threading.TimerHolder
00007ff946193bb8	1	24	System.Security.Policy.ApplicationTrust
00007ff94618f068	1	24	System.OrdinalIgnoreCaseComparer
00007ff94618efc0	1	24	System.OrdinalCaseSensitiveComparer
00007ff94618dce8	1	24	System.DBNull
00007ff94618d708	1	24	System.PinnableBufferCacheEventSource
00007ff94618c8a0	1	24	System.SharedStatics
00007ff946181008	1	24	System.AppDomainManager
00007ff94617e2e0	1	24	System.Threading.CancellationTokens+LinkedNCancellationTokensSource+<>C
00007ff94617e248	1	24	System.Threading.Overlapped+<>C
00007ff94617d420	1	24	System.Runtime.CompilerServices.AsyncMethodBuilderCore+MoveNextRunner+<>C
00007ff94617d6b8	1	24	System.Threading.TimerQueue+Timer+<>C
00007ff946177d40	1	24	System.Resources.FastResourceComparer
00007ff946175c78	1	24	System.Threading.Timer
00007ff946173e10	1	24	System.Threading.Tasks.Task+<>C

Command - dotnet "D:\Authoring\C#7.0NetCore2.0\My Chapters\Chapter6\Chapter6\Chapter6WebApp\bin\debug\netcoreapp2.0\chapter6webapp.dll"

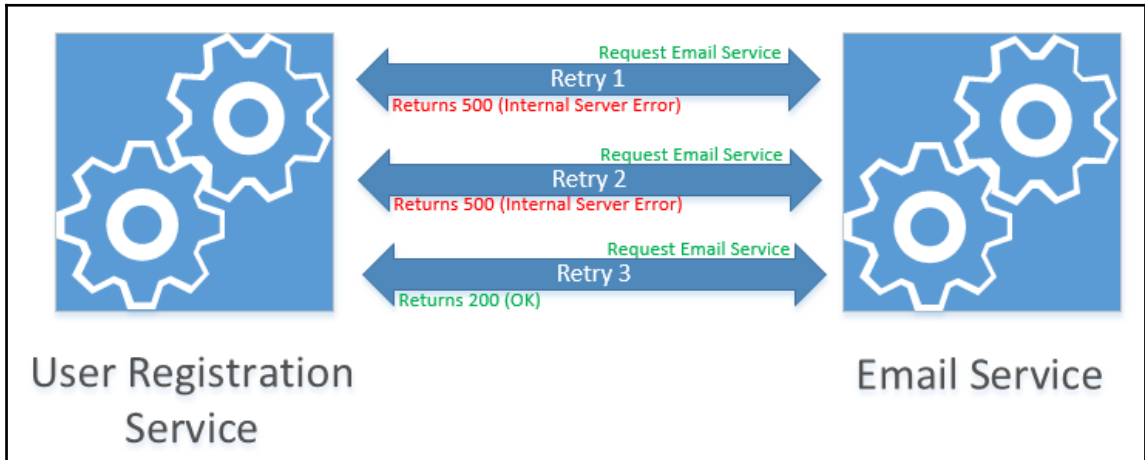
000001b8dc162390	00007ff94619b7d0	72
000001b8dc1623d8	00007ff94612fc20	38
000001b8dc162400	00007ff94612fc20	27
000001b8dc162420	00007ff94618e9b0	88

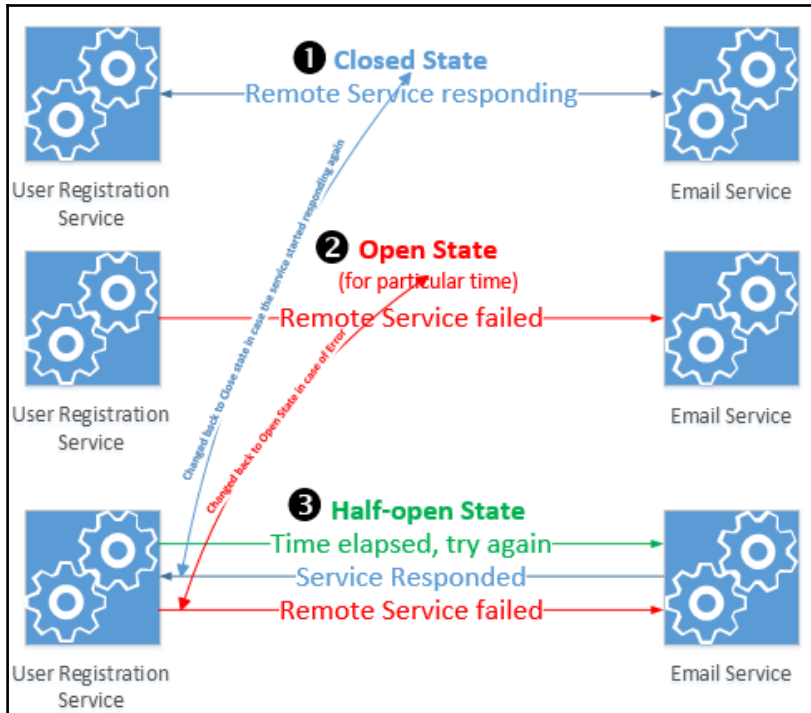






Chapter 7: Securing and Implementing Resilience in .NET Core Applications

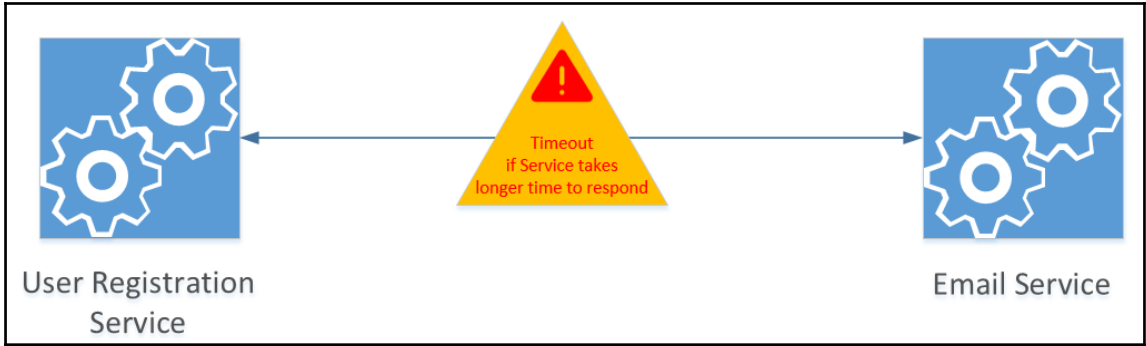




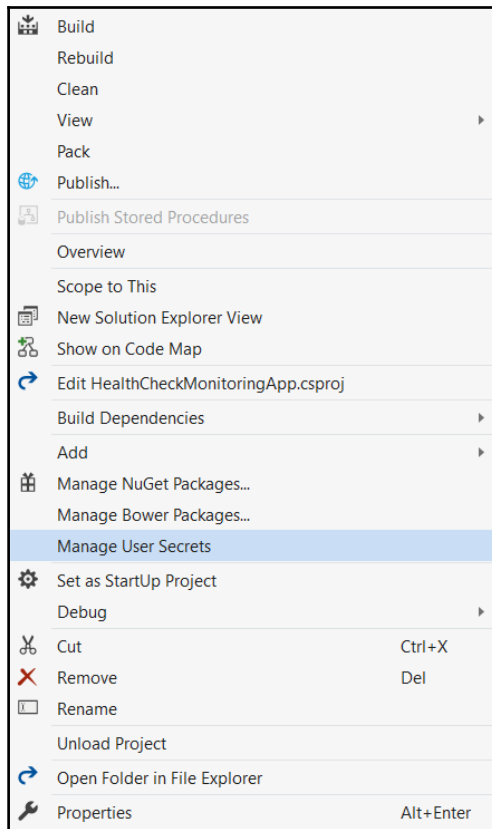
```

JSON
{
  .. asyncState=(null)
  .. creationOptions=0
  .. exception=(null)
  .. id=96
  .. isCanceled=False
  .. isCompleted=True
  .. isCompletedSuccessfully=True
  .. isFaulted=False
  .. result=Please try again later [Circuit breaker is Open]
  .. status=5
}

```



A screenshot of a browser's developer console. The address bar shows 'localhost:7584/hc'. Below the address bar, the console displays the JSON response: `{"status": "Healthy"}`.



```
<Project Sdk="Microsoft.NET.Sdk.Web">  
  <PropertyGroup>  
    <TargetFramework>netcoreapp2.0</TargetFramework>  
    <UserSecretsId>de247bd5-6f82-45ac-b8d4-645428545fff</UserSecretsId>  
  </PropertyGroup>  
</Project>
```

Package

Debug

Signing

TypeScript Build

Resources

Launch browser:

Environment variables:

Name	Value
ASPNETCORE_ENVIRONMENT	Development

Add

Remove

Web Server Settings

App URL:

IIS Express Bitness:

Enable SSL <https://localhost:44326/> [Copy](#)

Enable Anonymous Authentication

Enable Windows Authentication

```


C:\Users\ovais\Downloads\ngrok-stable-windows-amd64\ngrok.exe - ngrok http -host-header localhost 7204
ngrok by @inconshreveable (Ctrl+C to quit)

Session Status      online
Session Expires     7 hours, 59 minutes
Version              2.2.8
Region              United States (us)
Web Interface        http://127.0.0.1:4040
Forwarding           http://38fd46b8.ngrok.io -> localhost:7204
                    https://38fd46b8.ngrok.io -> localhost:7204

Connections         ttl    opn    rt1    rt5    p50    p90
                   0      0      0.00  0.00  0.00  0.00

```

Security Report Summary



Site:	http://f77ed912.ngrok.io/ - (Scan again over https)
IP Address:	2600:1f16:59e:b200:680c:4438:abfa:fc7a
Report Time:	10 Apr 2018 08:02:26 UTC
Report Short URL:	https://schr.io/64IY
Headers:	<input checked="" type="checkbox"/> Content-Security-Policy <input checked="" type="checkbox"/> X-Frame-Options <input checked="" type="checkbox"/> X-XSS-Protection <input checked="" type="checkbox"/> X-Content-Type-Options <input checked="" type="checkbox"/> Referrer-Policy
Warning:	Grade capped at A, please see warnings below.

nwebsec Include prerelease Package source: All

	NWebsec.Owin by André N. Klingsheim, 98.5K downloads v3.1.0 ↓
	NWebsec.AspNetCore.Core by André N. Klingsheim, 84K downloads v2.0.0 This library provides shared functionality for the NWebsec ASP.NET Core security libraries.
	NWebsec.AspNetCore.Middleware by André N. Klingsheim, 84.1 v2.0.0 NWebsec middleware for ASP.NET Core applications. NWebsec helps you set important security headers and detect potentially dangerous redirects...
	NWebsec.AspNetCore.Mvc by André N. Klingsheim, 27.9K downloads v2.0.0 NWebsec attributes for ASP.NET Core MVC applications. NWebsec helps you set important security headers, detect potentially dangerous redirects...

NWebsec.AspNetCore.Middleware

Version: Latest stable 2.0.0

Options

Description
NWebsec middleware for ASP.NET Core applications. NWebsec helps you set important security headers and detect potentially dangerous redirects. See project website for documentation.

Version: 2.0.0

securityheaders.io Home About
Sponsored by **SOPHOS**

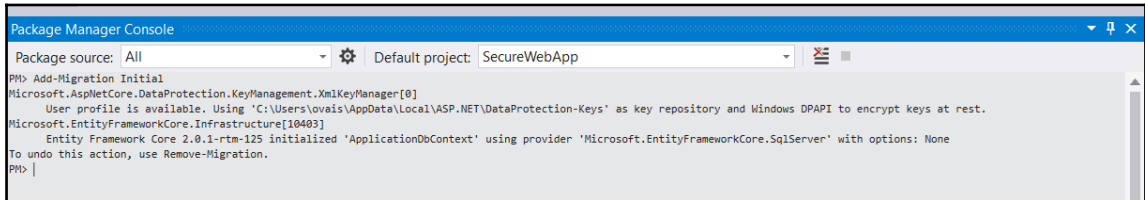
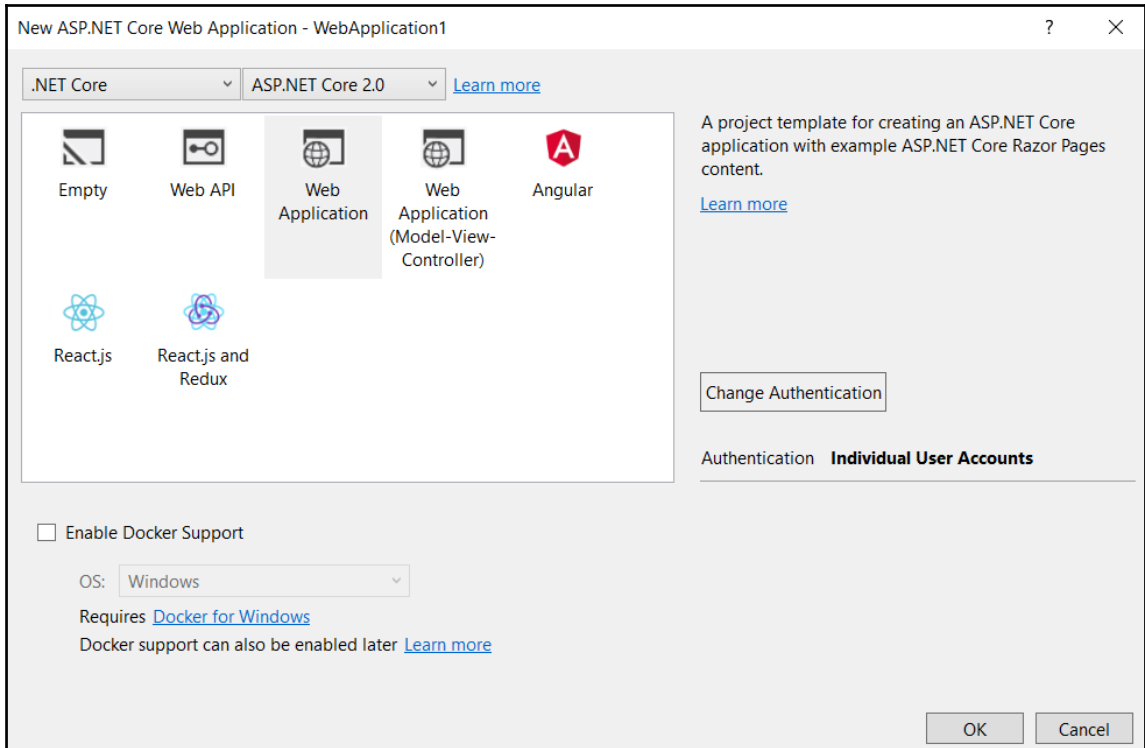
Scan your site now

Hide results Follow redirects

Security Report Summary

A+

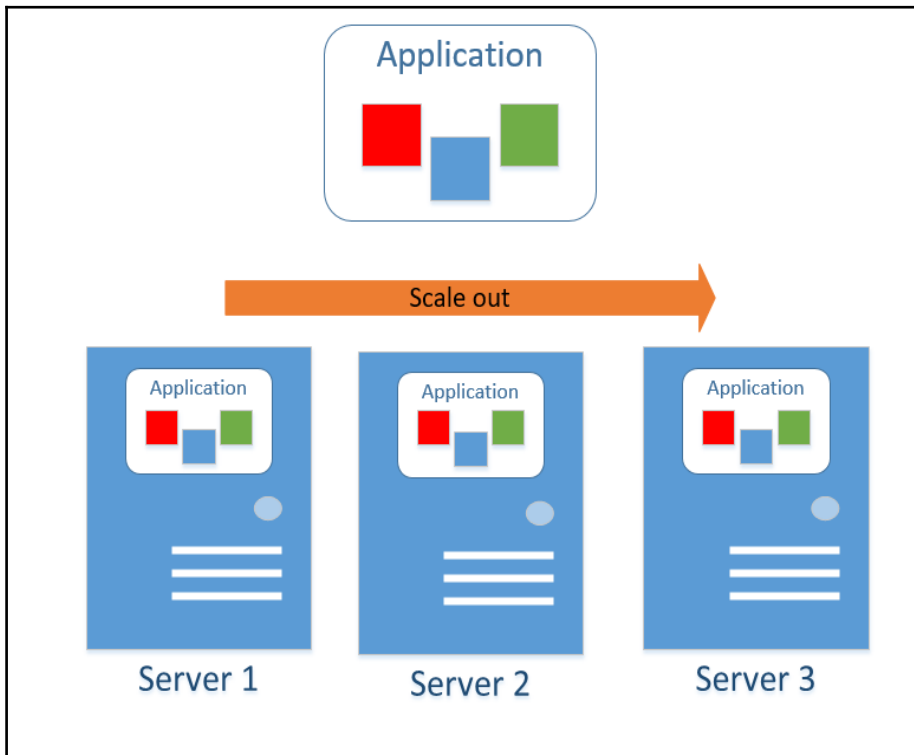
Site:	https://2ef15d0c.ngrok.io/
IP Address:	2600:1f16:59e:b200:b032:6bdb:1d2b:40a
Report Time:	10 Apr 2018 09:16:16 UTC
Report Short URL:	https://schr.io/64kl
Headers:	<input checked="" type="checkbox"/> Content-Security-Policy <input checked="" type="checkbox"/> Referrer-Policy <input checked="" type="checkbox"/> Strict-Transport-Security <input checked="" type="checkbox"/> X-Content-Type-Options <input checked="" type="checkbox"/> X-Frame-Options <input checked="" type="checkbox"/> X-XSS-Protection

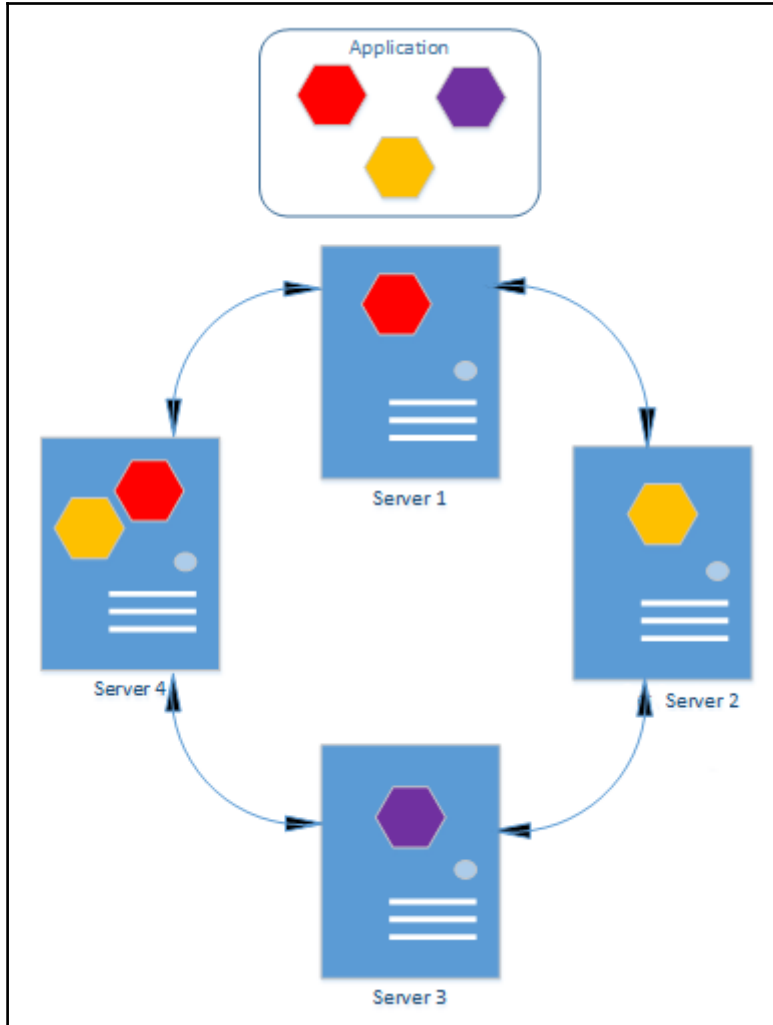


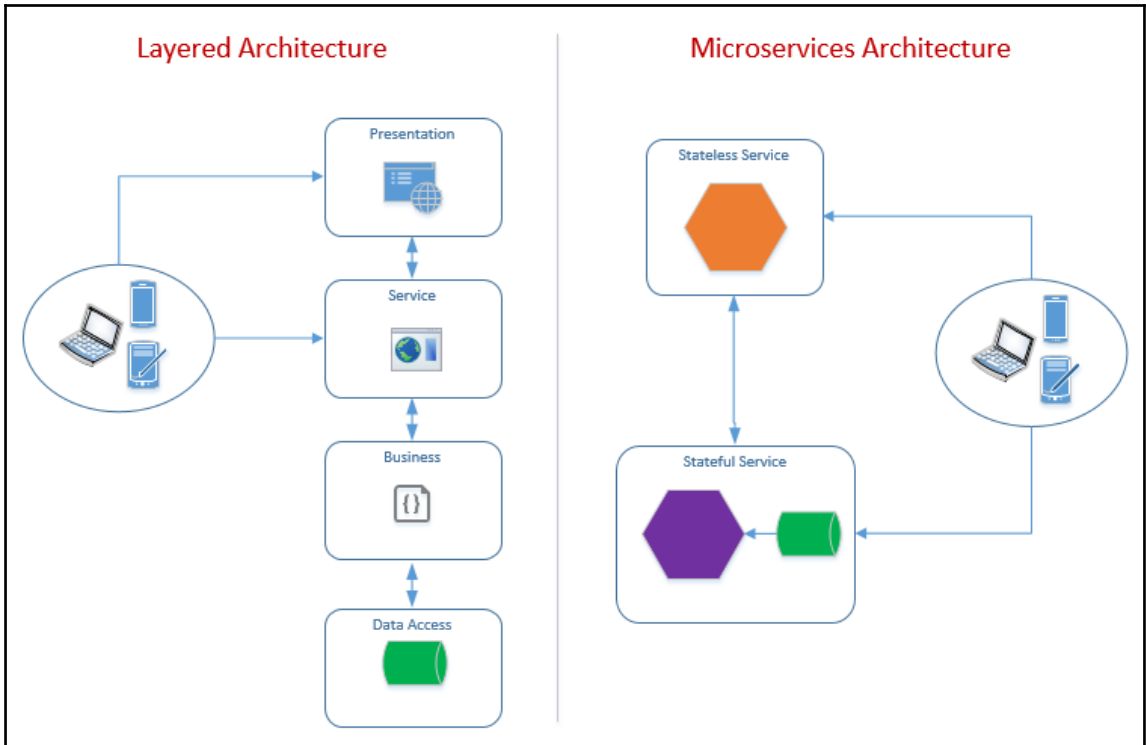
OVAISPC\SQLEXPRES...- dbo.AspNetUsers x

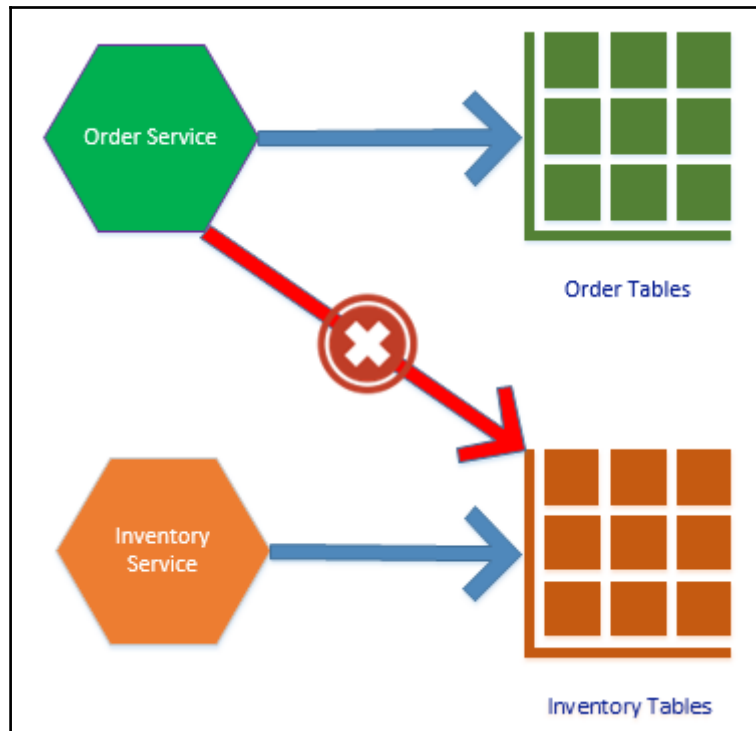
Column Name	Data Type	Allow Nulls
Id	nvarchar(450)	<input type="checkbox"/>
AccessFailedCount	int	<input type="checkbox"/>
ConcurrencyStamp	nvarchar(MAX)	<input checked="" type="checkbox"/>
Email	nvarchar(256)	<input checked="" type="checkbox"/>
EmailConfirmed	bit	<input type="checkbox"/>
LockoutEnabled	bit	<input type="checkbox"/>
LockoutEnd	datetimeoffset(7)	<input checked="" type="checkbox"/>
NormalizedEmail	nvarchar(256)	<input checked="" type="checkbox"/>
NormalizedUserName	nvarchar(256)	<input checked="" type="checkbox"/>
PasswordHash	nvarchar(MAX)	<input checked="" type="checkbox"/>
PhoneNumber	nvarchar(MAX)	<input checked="" type="checkbox"/>
PhoneNumberConfirmed	bit	<input type="checkbox"/>
SecurityStamp	nvarchar(MAX)	<input checked="" type="checkbox"/>
TwoFactorEnabled	bit	<input type="checkbox"/>
UserName	nvarchar(256)	<input checked="" type="checkbox"/>
FirstName	nvarchar(MAX)	<input checked="" type="checkbox"/>
LastName	nvarchar(MAX)	<input checked="" type="checkbox"/>
MobileNumber	nvarchar(MAX)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

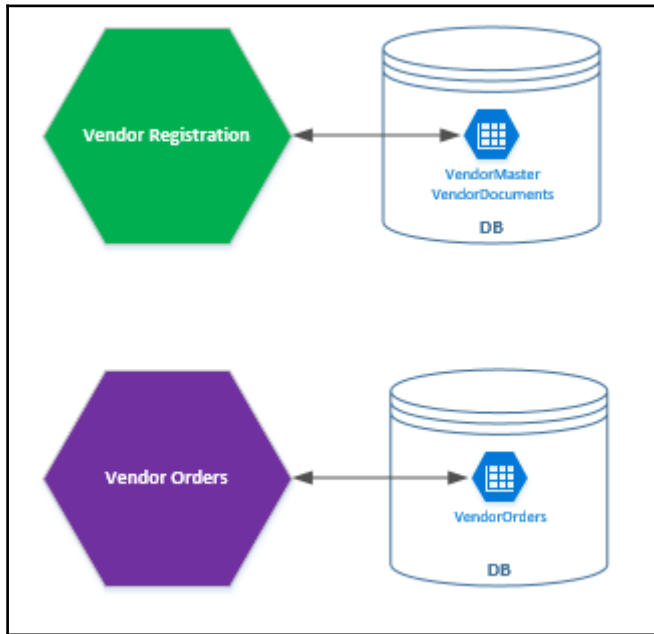
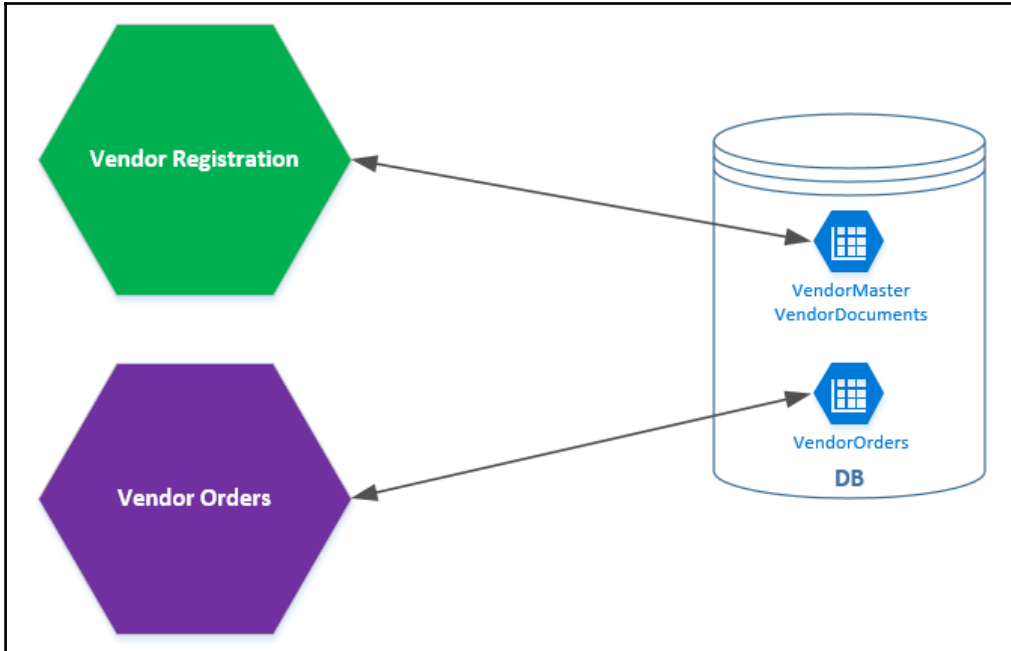
Chapter 8: Microservices Architecture

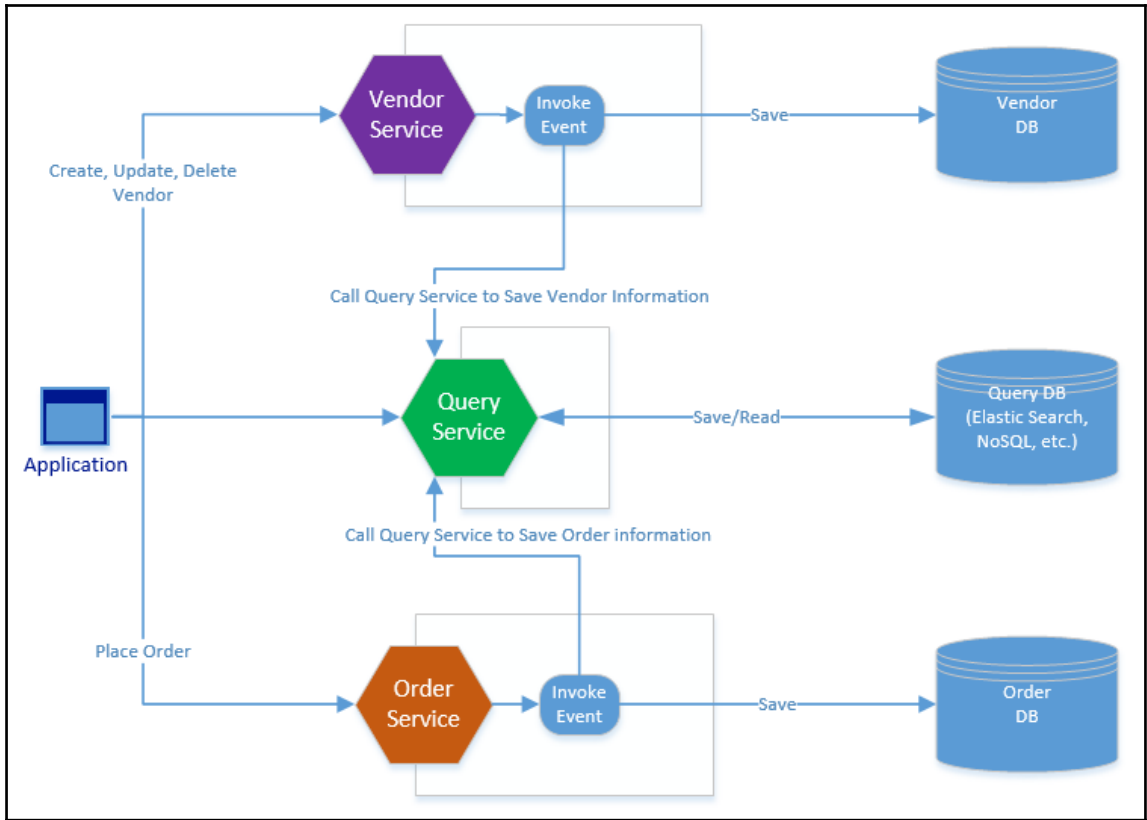


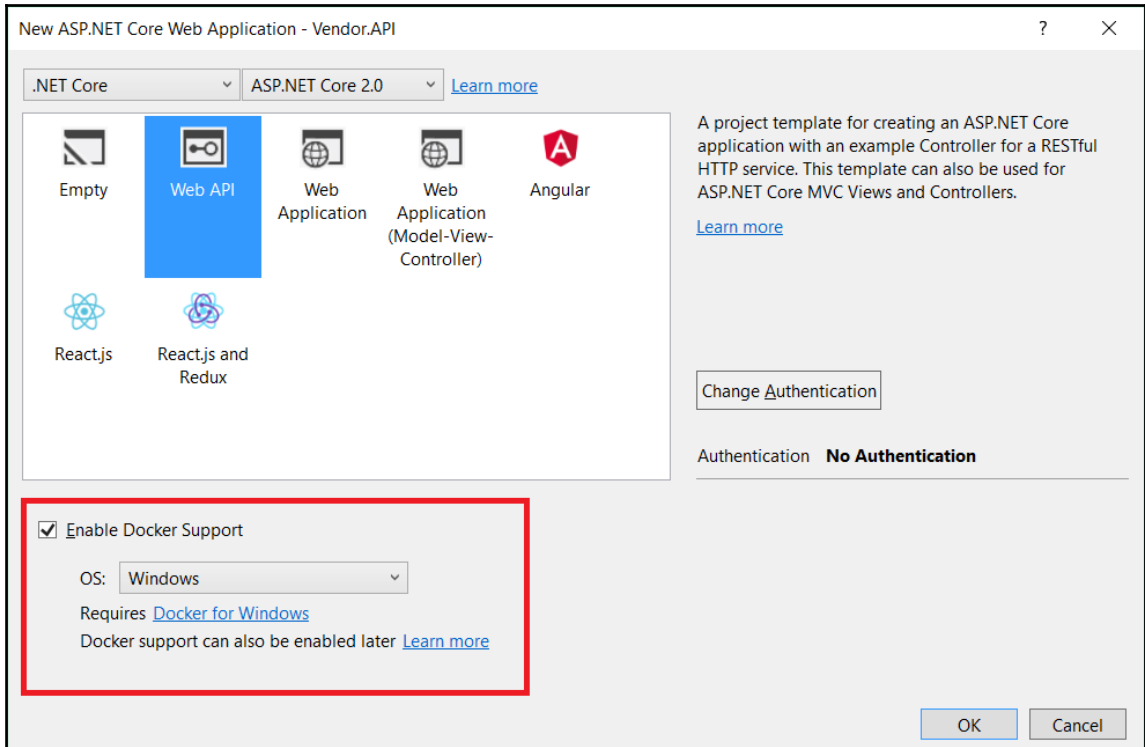


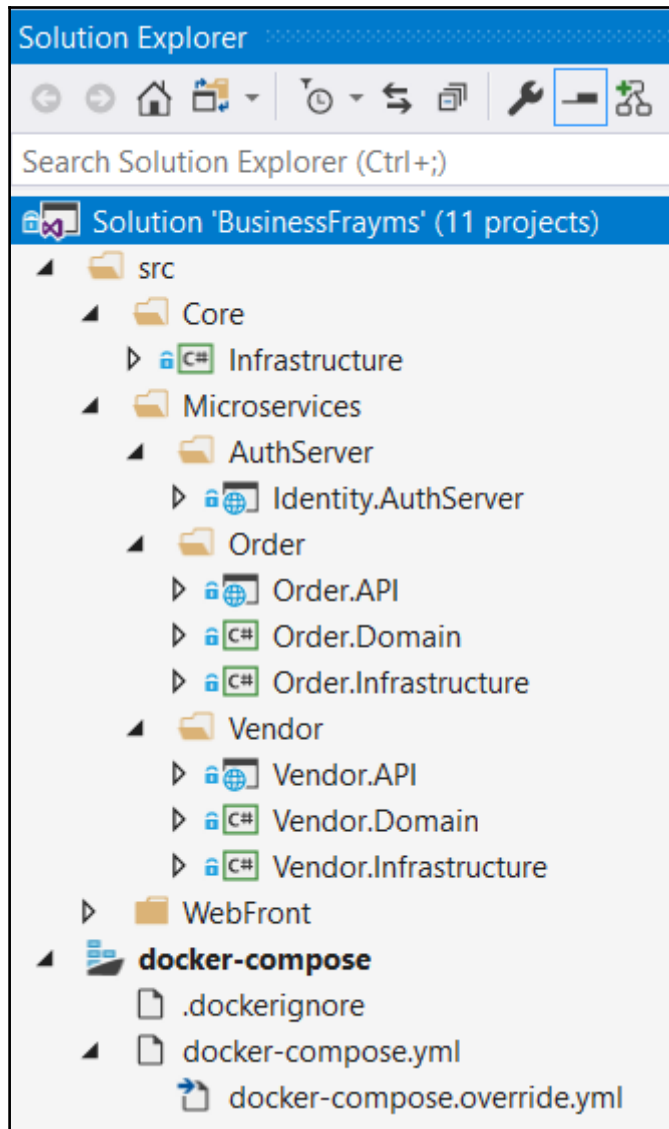


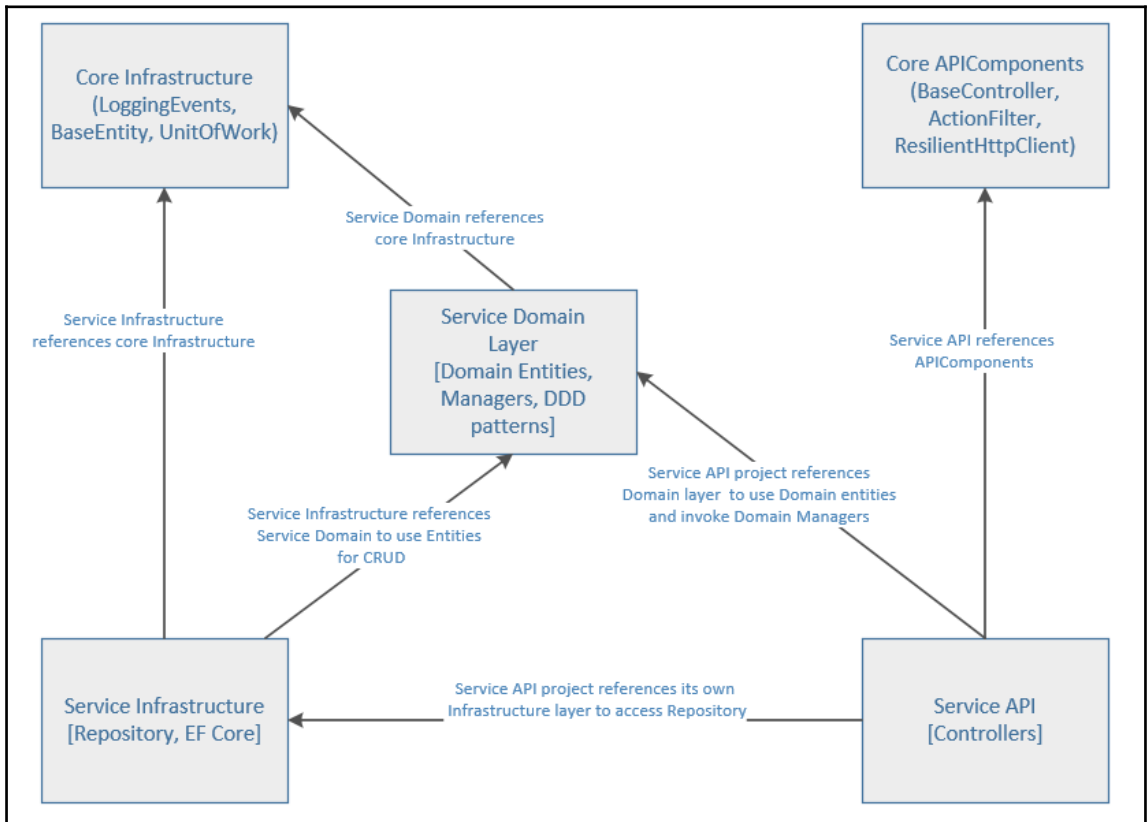
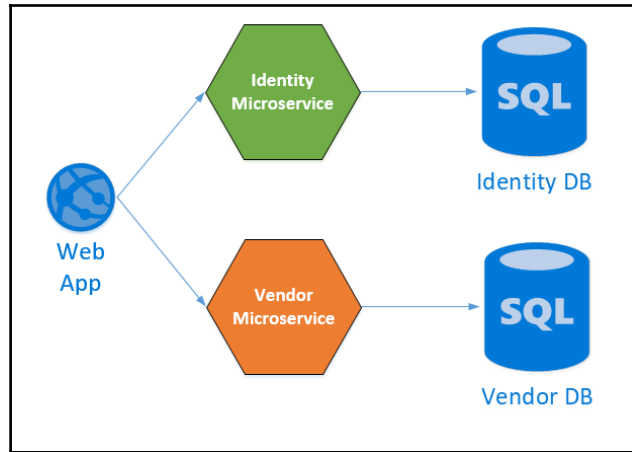


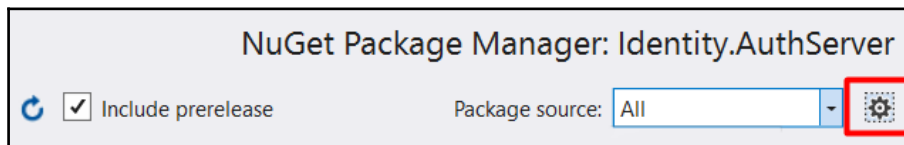
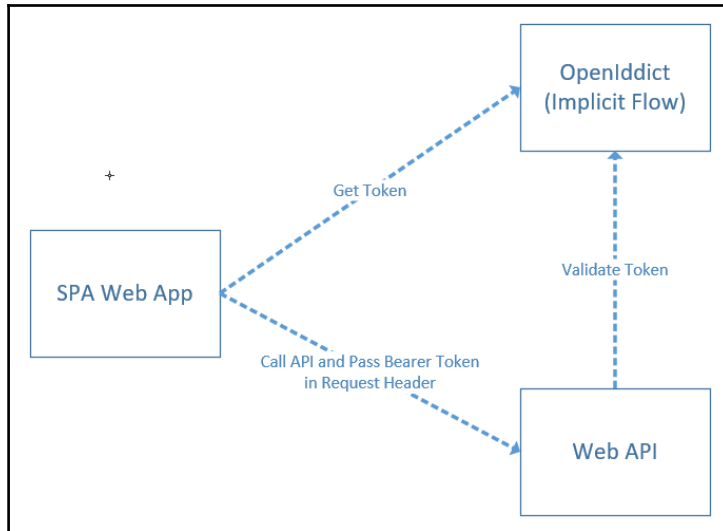


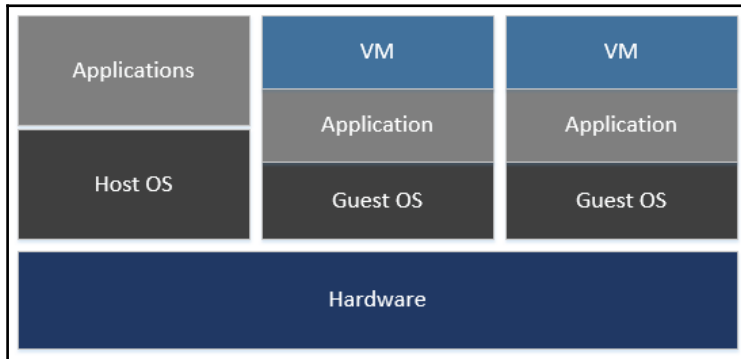
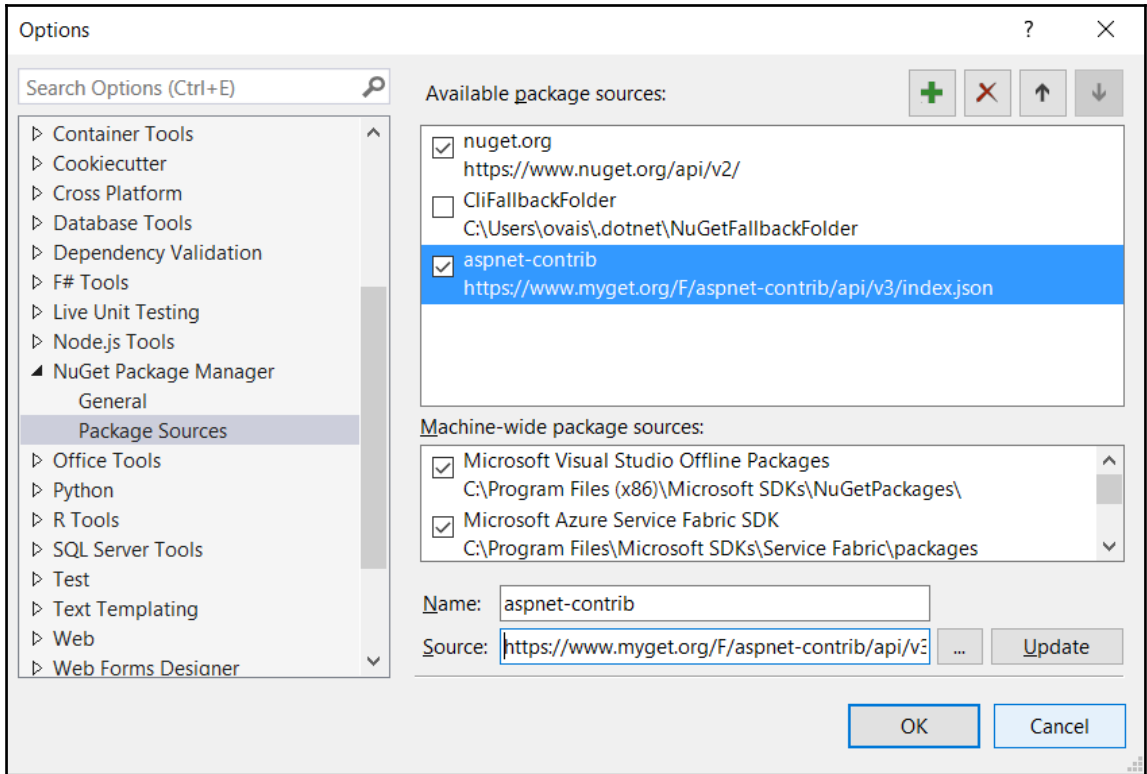


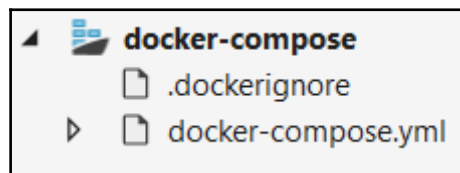
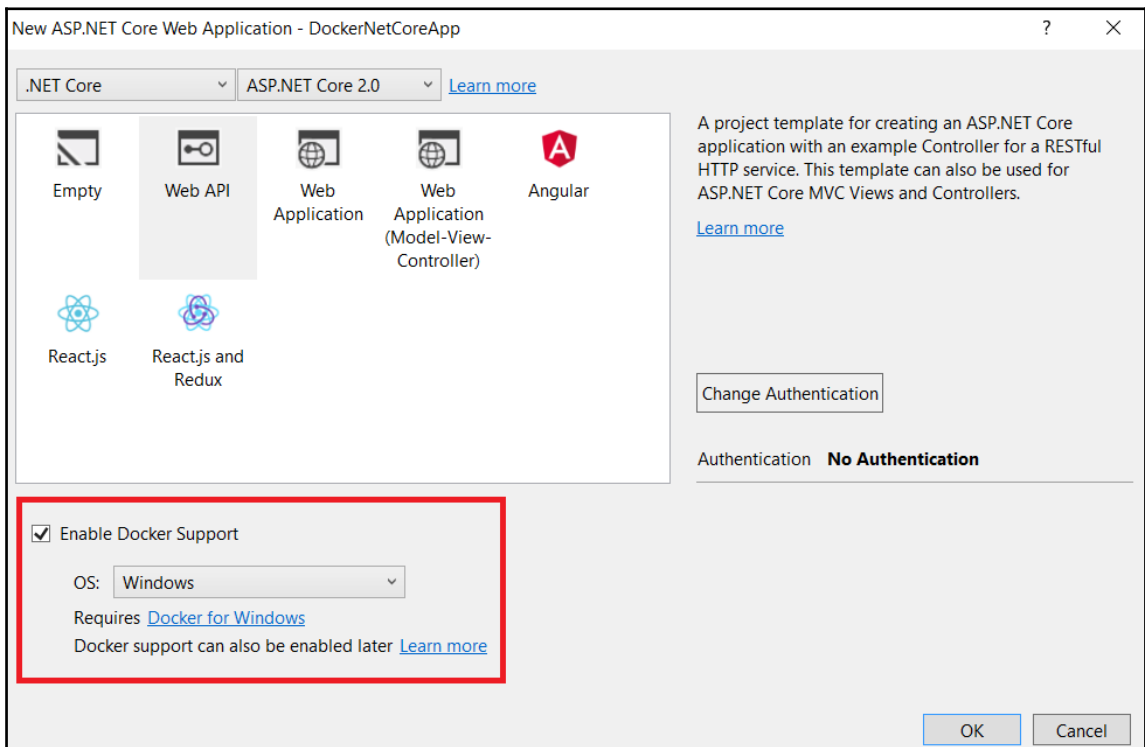
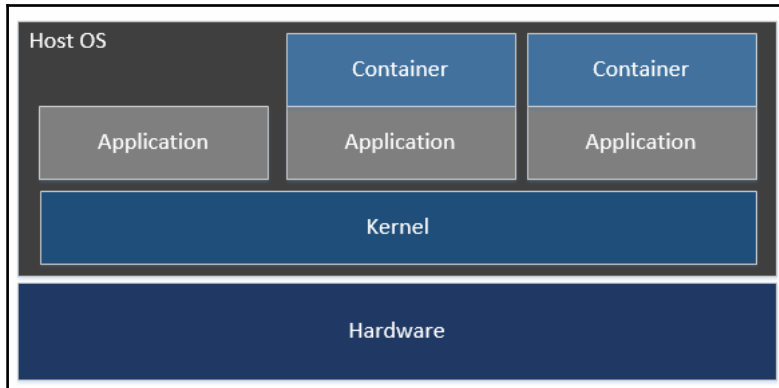










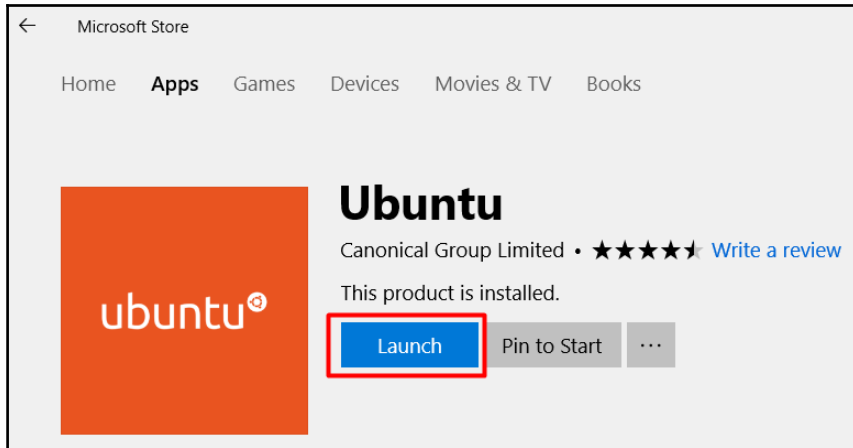


```
C:\Users\ovais>docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS
a12d3a37a644      vendor.api:dev     "C:\\remote_debugger\\..." 6 minutes ago      Up 5 minutes       0.0.0.0:40277
->80/tcp          dockercompose17175663515996174189_vendor_api_1
```

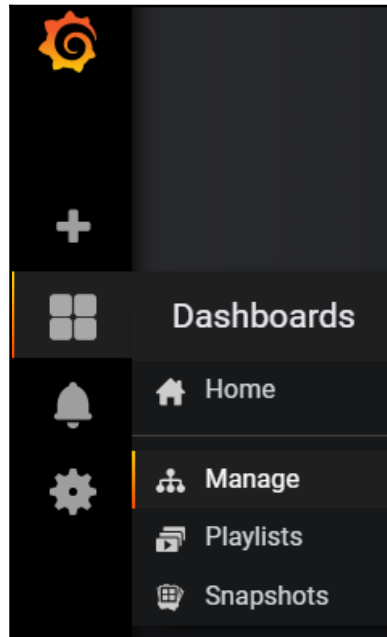
```
C:\Users\ovais>docker inspect -f "{{range .NetworkSettings.Networks}}{{.IPAddress}}{{end}}" a12d3a37a644
192.168.44.35
```

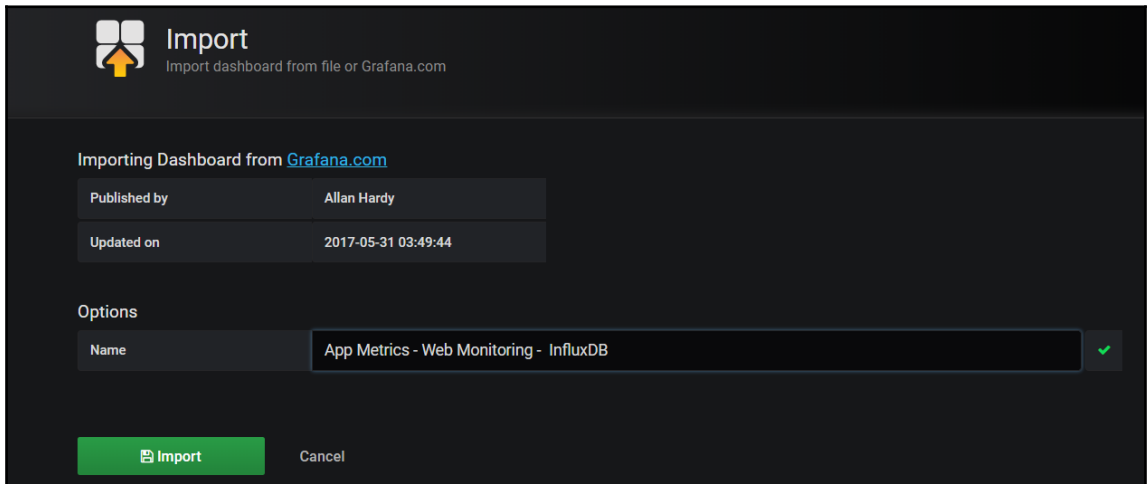
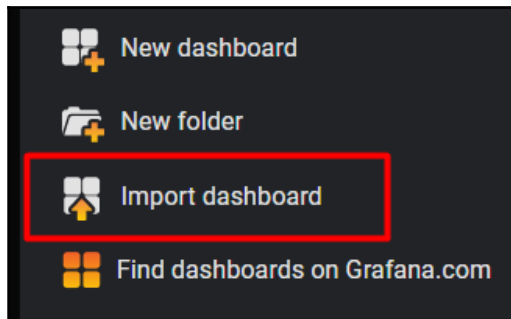
Chapter 9: Monitoring Application Performance Using Tools


```
localhost:60676/metrics-text
# TIMESTAMP: 636576372311231394
# MEASUREMENT: [Application.HttpRequests] Apdex
# TAGS:
    server = OVAISPC
    app = SampleWebApp
    env = development
    mtype = apdex
    unit = result
# FIELDS:
    samples = 0
    score = 1
    satisfied = 0
    tolerating = 0
    frustrating = 0
-----
# TIMESTAMP: 636576372311231394
# MEASUREMENT: [Application.HttpRequests] One Minute Error Percentage Rate
# TAGS:
    server = OVAISPC
    app = SampleWebApp
    env = development
    mtype = gauge
    unit = req
# FIELDS:
    value = 100
-----
# TIMESTAMP: 636576372311231394
# MEASUREMENT: [Application.HttpRequests] Active
# TAGS:
    server = OVAISPC
    app = SampleWebApp
    env = development
    mtype = counter
    unit = Active Requests
# FIELDS:
    value = 0
-----
# TIMESTAMP: 636576372311231394
# MEASUREMENT: [Application.HttpRequests] Errors
# TAGS:
    http_status_code = 304
    server = OVAISPC
    app = SampleWebApp
    env = development
    mtype = counter
    unit = err
```



```
ovais@OvaisPC: ~  
ovais@OvaisPC:~$ apt-get update  
Reading package lists... Done
```







Data Sources / InfluxDB

Type: InfluxDB

Settings

Name	InfluxDB	Default	<input checked="" type="checkbox"/>
Type	InfluxDB		

HTTP

URL	http://localhost:8086
Access	proxy

Auth

Basic Auth	<input type="checkbox"/>	With Credentials	<input type="checkbox"/>
TLS Client Auth	<input type="checkbox"/>	With CA Cert	<input type="checkbox"/>

Skip TLS Verification (Insecure)

Advanced HTTP Settings

Whitelisted Cookies

InfluxDB Details

Database	appmetricsdb		
User	ovais	Password	*****

Min time interval

