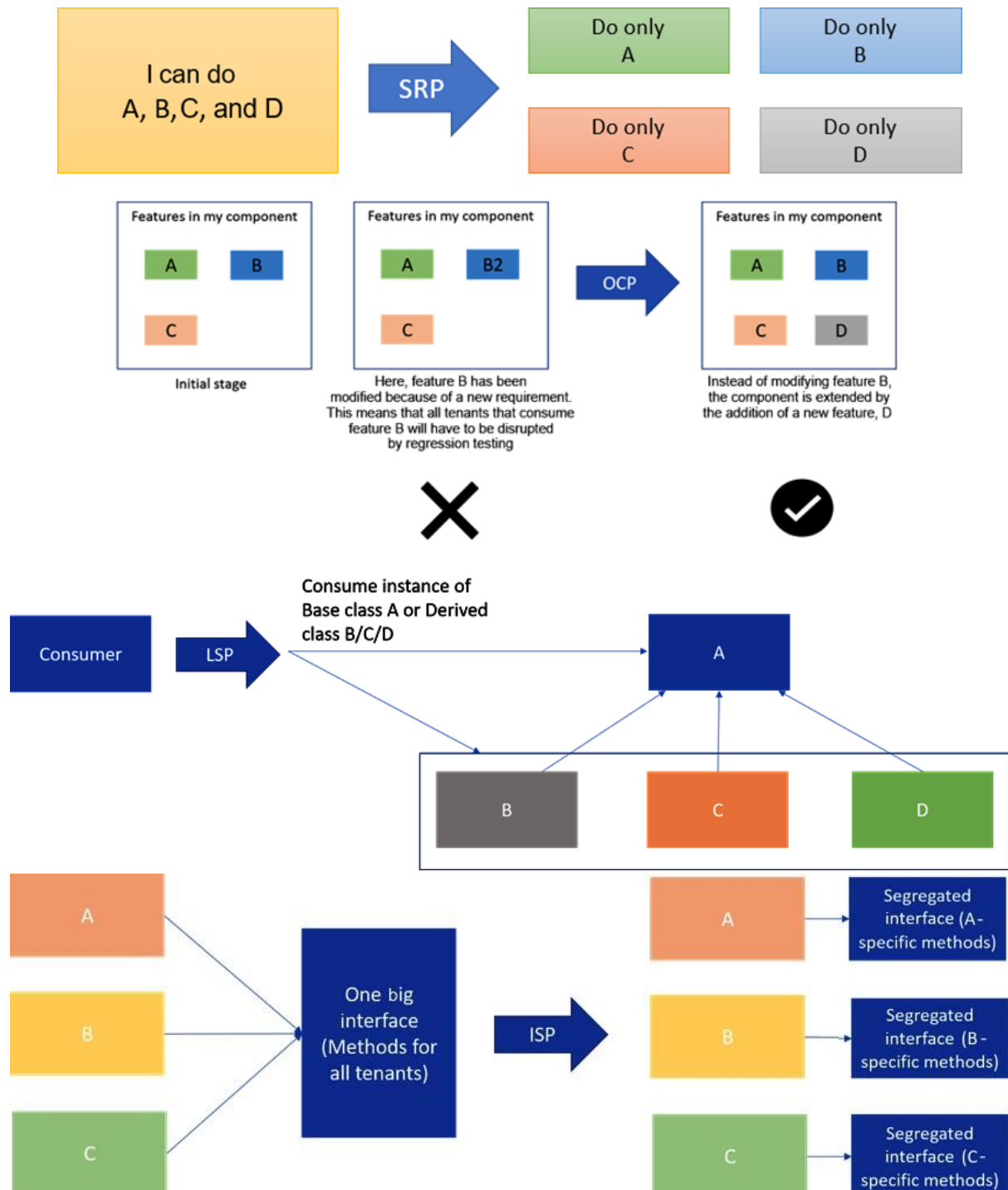
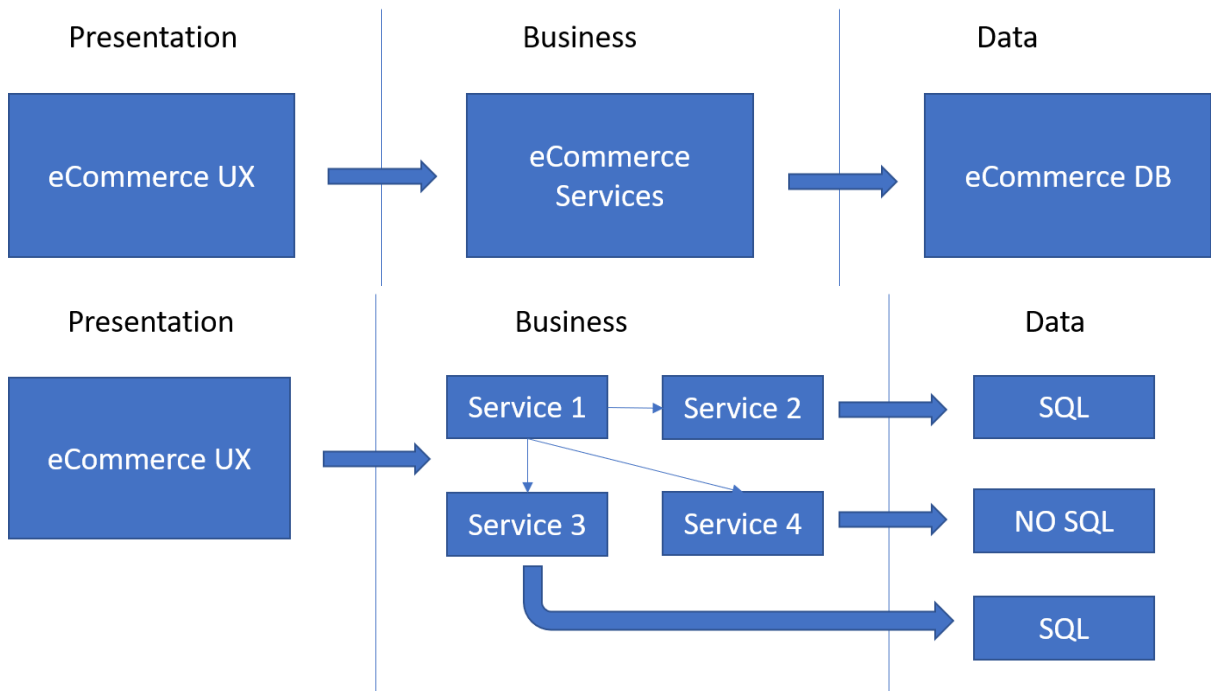
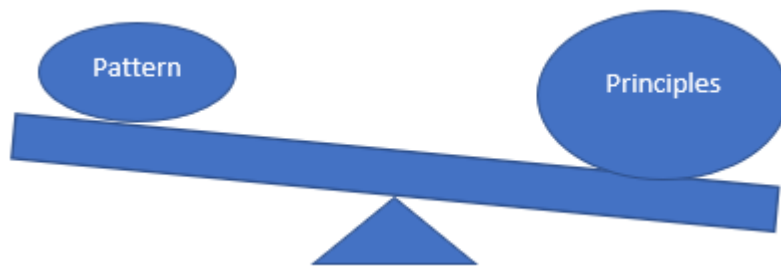
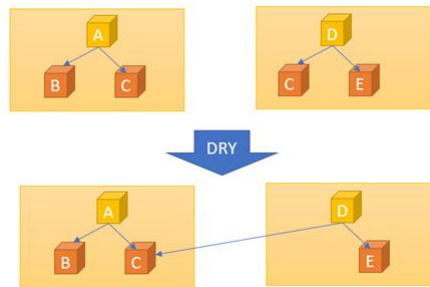
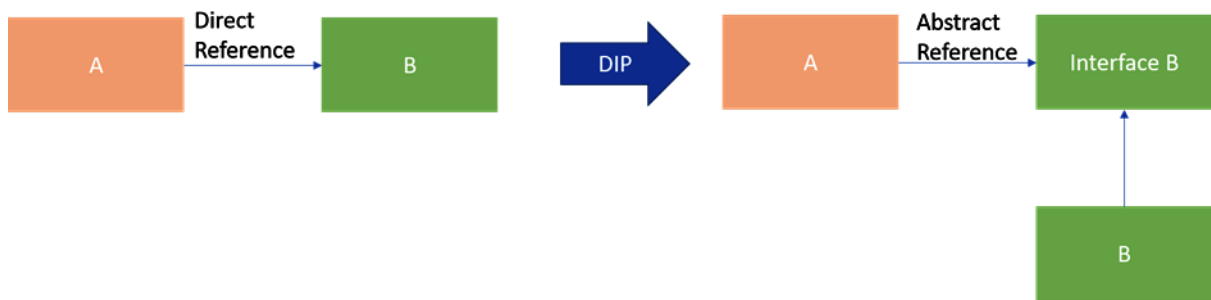
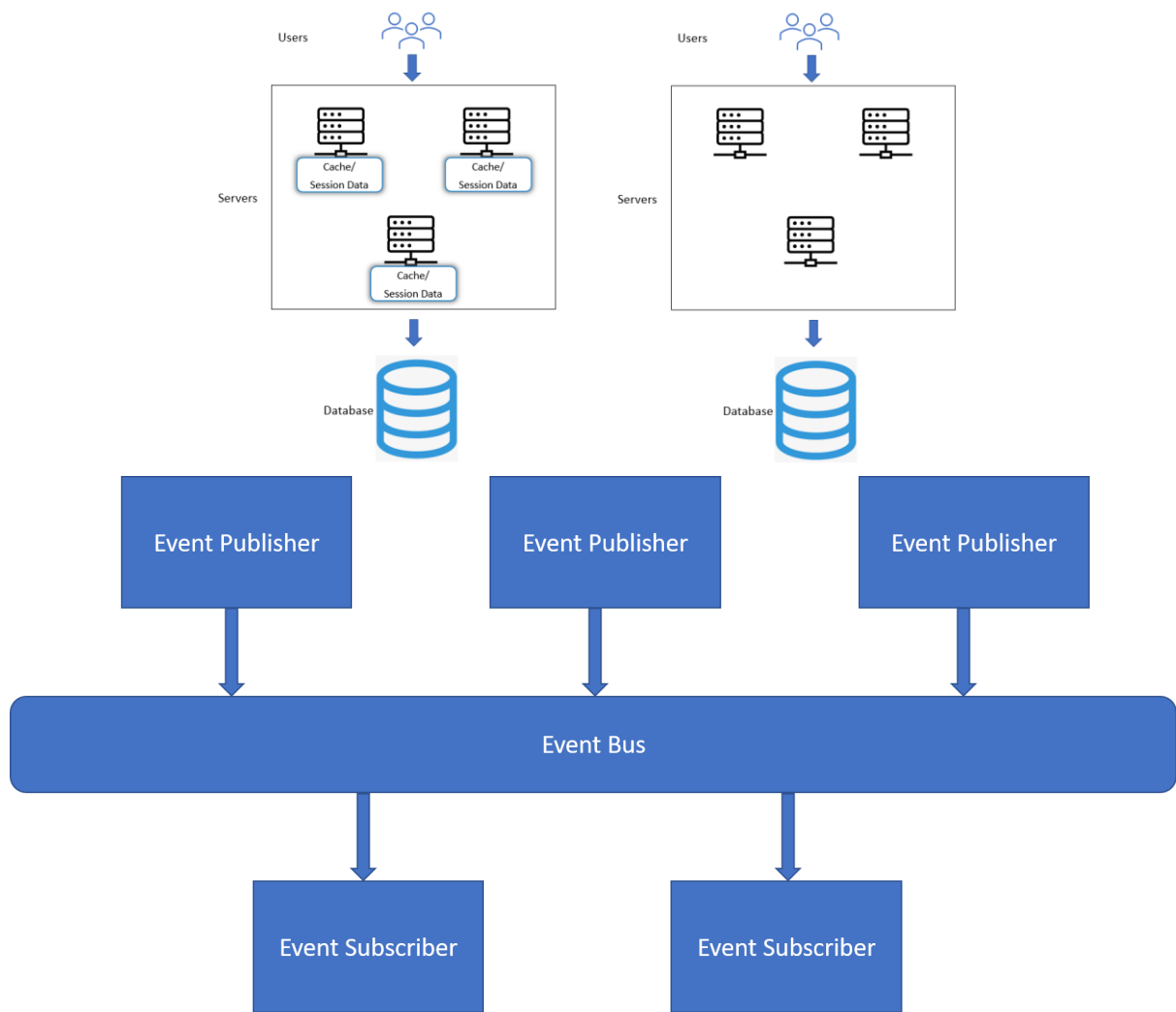
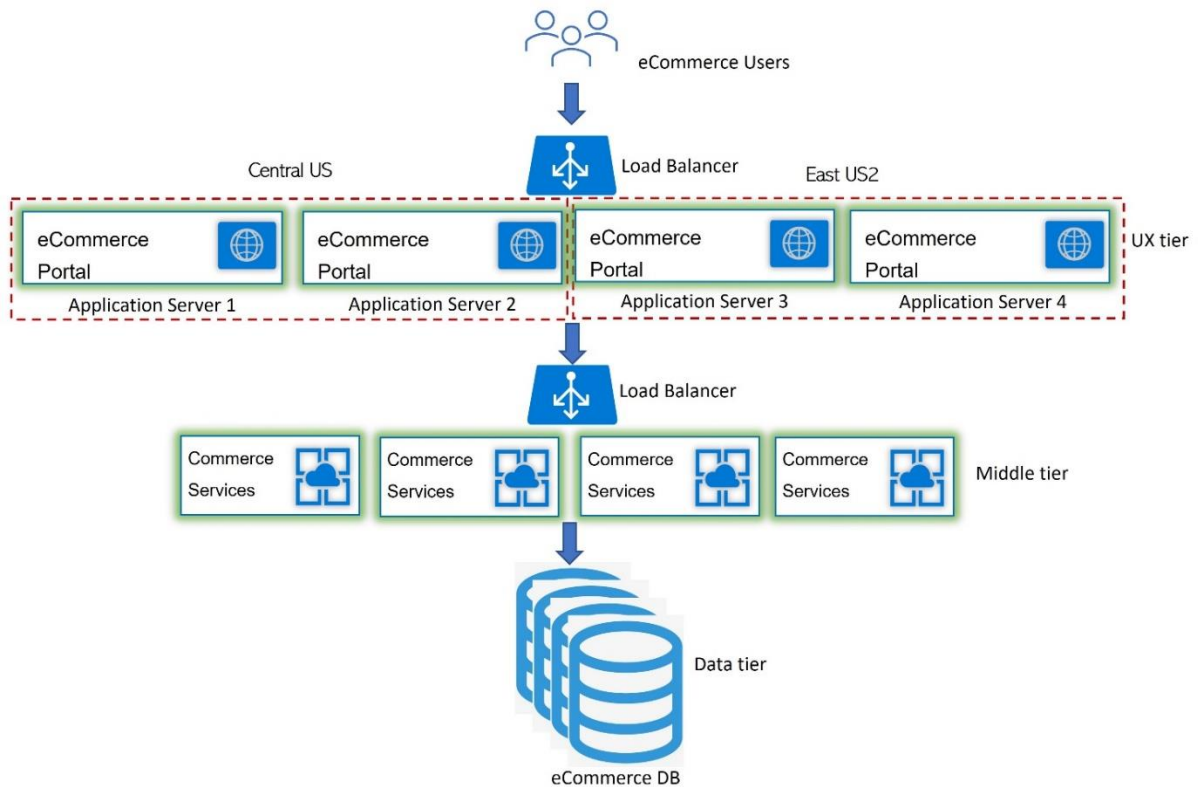


Chapter 1: Designing and Architecting the Enterprise Application

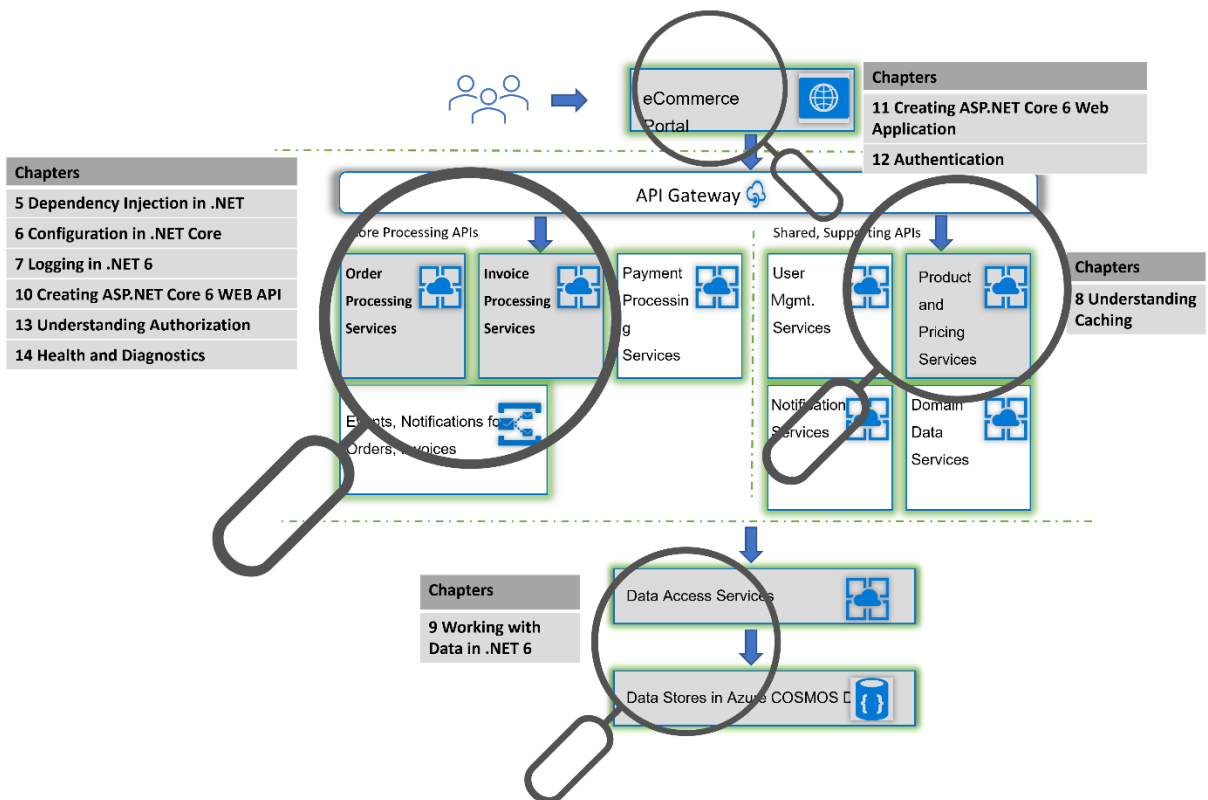
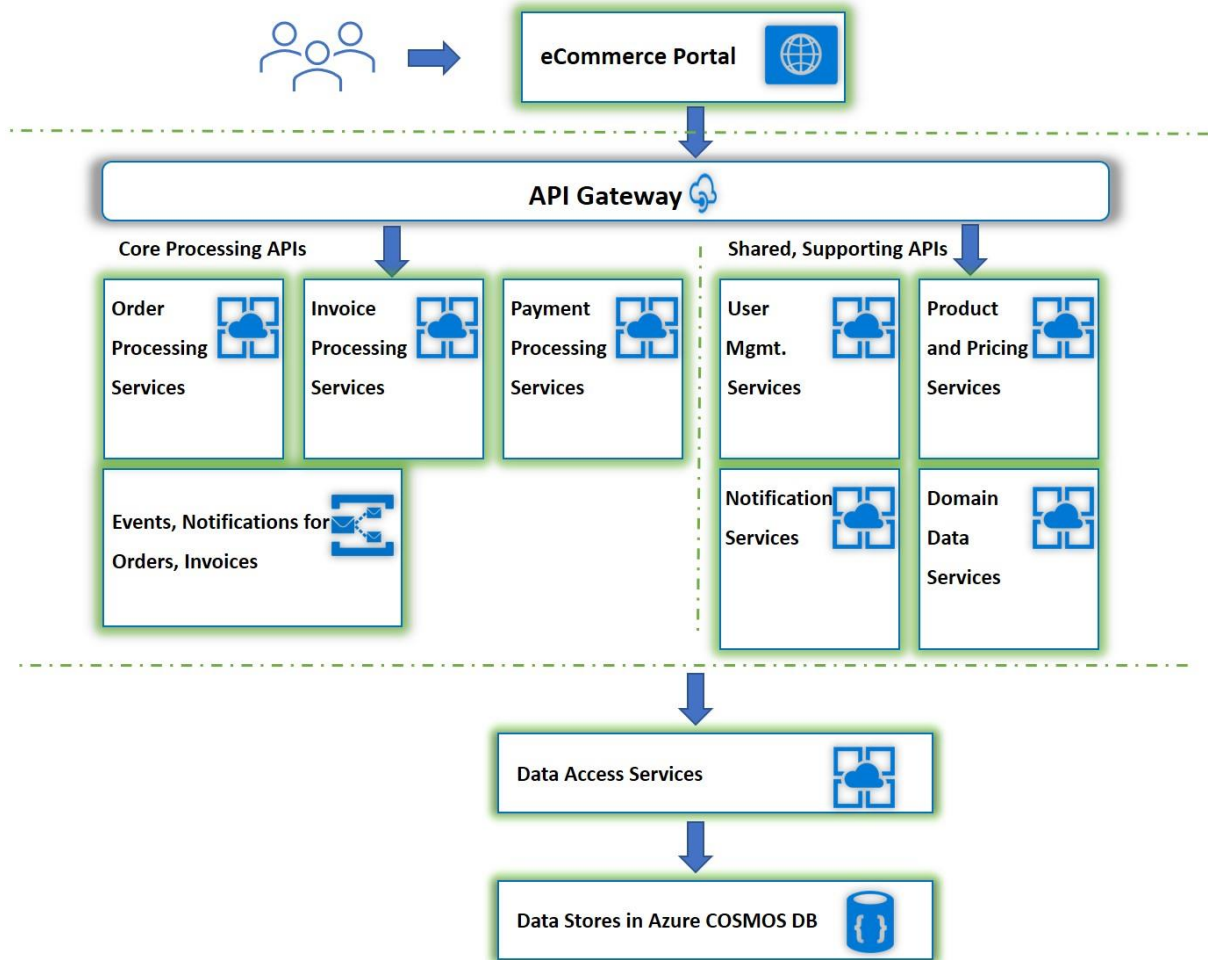


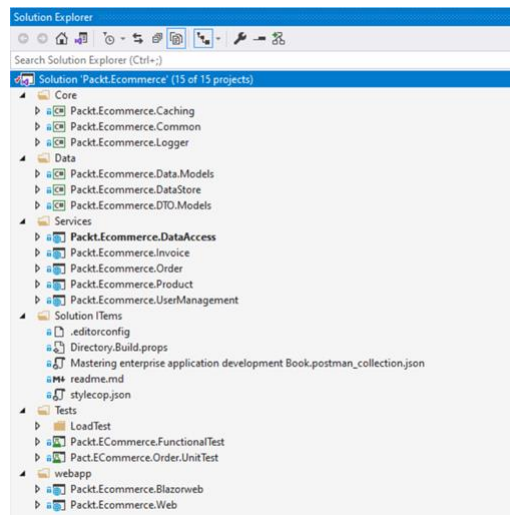




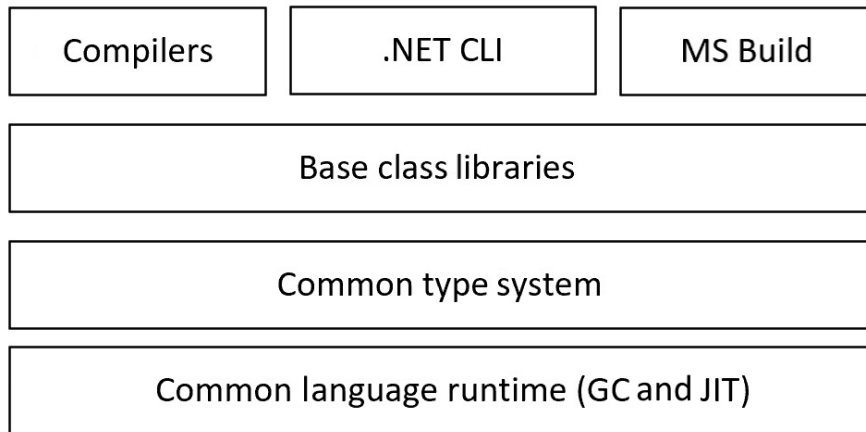


Epic	👑 eCommerce web site for customers to purchase products
Feature	🔧 eCommerce application should have feature for users to register
User Story	👤 As a customer, I want to sign up with email id/password or phone number/OTP, so that I can get access to the eCommerce application
Feature	🔧 eCommerce application should have feature to authenticate and authorize the user
User Story	👤 As a customer, I want to log in using email id/password or phone number/OTP, so that I can start purchasing
User Story	👤 As an administrator, I want to log in using email id/password or phone number/OTP, so that I can add or delete products to/from the catalog
Feature	🔧 eCommerce application should have feature to search and sort products
User Story	👤 As a customer, I want to search products across all categories or selected categories, so that I can select the products easily for purchase
User Story	👤 As a customer, I want to sort products in search results by price/customer-reviews/newest-arrivals, so that I can select the products easily for purchase
Feature	🔧 eCommerce application should have feature to add products to cart or buy directly
User Story	👤 As a customer, I want to add products to cart and stay in same page, so that I can continue shopping
User Story	👤 As a customer, I want to buy product directly, so that I can complete my purchase quickly if I am buying only one product
Feature	🔧 eCommerce application should have feature to review and submit the order
User Story	👤 As a customer, I want to review the cart and edit the product and its quantity, so that I can submit the final order
Feature	🔧 eCommerce application should have feature to send notifications
User Story	👤 As a customer, I want to receive email notifications with summary of products, so that I can have it as confirmation
Feature	🔧 eCommerce application should have feature to search orders
User Story	👤 As a customer, I want to search Orders placed in the last 30/60/90/All days, so that I can refer to them any time to create a copy or check what products I purchased
User Story	👤 As a regular customer, I want to search and resubmit past orders, so that I save time purchasing products I buy often
Feature	🔧 eCommerce application should have feature to generate and download invoice
User Story	👤 As a customer, I want to see and download my invoice, so that I have the proof of bill paid for that shipment
Feature	🔧 eCommerce application should have feature to Support customers when they need
User Story	👤 As a customer, I want to see detailed warning message and error messages in case of unexpected issue with application, so that I know why it failed
User Story	👤 As a customer, I want to get support via chat, so that I can resolve my issues faster





Chapter 2: Introducing .NET 6 Core and Standard



Web & Cloud (4)

**ASP.NET and web development**
Build web applications using ASP.NET Core, ASP.NET, HTML/JavaScript, and Containers including Docker supp...☒

**Azure development**
Azure SDKs, tools, and projects for developing cloud apps and creating resources using .NET and .NET Framework....☒

**Python development**
Editing, debugging, interactive development and source control for Python.☐

**Node.js development**
Build scalable network applications using Node.js, an asynchronous event-driven JavaScript runtime.☐

Desktop & Mobile (5)

**Mobile development with .NET**
Build cross-platform applications for iOS, Android or Windows using Xamarin. This includes a preview of the☒

**.NET desktop development**
Build WPF, Windows Forms, and console applications using C#, Visual Basic, and F# with .NET and .NET Frame...☒

```
C:\>dotnet --version
6.0.101

C:\>dotnet

Usage: dotnet [options]
Usage: dotnet [path-to-application]

Options:
  -h|--help          Display help.
  --info             Display .NET information.
  --list-sdks        Display the installed SDKs.
  --list-runtimes    Display the installed runtimes.

path-to-application:
  The path to an application .dll file to execute.
```

```
C:\examples>dotnet new console --name HelloWorld
The template "Console Application" was created successfully.

Processing post-creation actions...
Running 'dotnet restore' on HelloWorld\HelloWorld.csproj...
  Determining projects to restore...
  Restored C:\examples\HelloWorld\HelloWorld.csproj (in 57 ms).
Restore succeeded.
```

```
C:\examples>dotnet run --project ./HelloWorld/HelloWorld.csproj
Hello World!
```

Version:

.NET Standard 2.0

Available APIs: 32,638 of 37,118

.NET Implementation	Version Support
.NET and .NET Core	✗ 1.0 ✗ 1.1 ✓ 2.0 ✓ 2.1 ✓ 2.2 ✓ 3.0 ✓ 3.1 ✓ 5.0 ✓ 6.0
.NET Framework	✗ 4.5 ✗ 4.5.1 ✗ 4.5.2 ✗ 4.6 ✓ 4.6.1 ✓ 4.6.2 ✓ 4.7 ✓ 4.7.1 ✓ 4.7.2 ✓ 4.8
Mono	✗ 4.6 ✓ 5.4 ✓ 6.4
Xamarin.iOS	✗ 10.0 ✓ 10.14 ✓ 12.16
Xamarin.Android	✗ 7.0 ✓ 8.0 ✓ 10.0
Universal Windows Platform	✗ 8.0 ✗ 8.1 ✗ 10.0 ✓ 10.0.16299 ✓ TBD
Unity	✓ 2018.1

☐

Name

Date modified

Type

net6.0

12/28/2021 6:46 AM

File folder

netstandard2.0

12/28/2021 6:46 AM

File folder

Chapter 3: Introducing C# 10

```
Microsoft Visual Studio Debug Console

Employee { FirstName = Suneel, LastName = Kunani }
HashCode of s1 is :1363263646
HashCode of s2 is :1363263646
Is s1 equals s2 : True
firstname: Suneel, lastname:Kunani
```

```
public struct Employee : IEquatable<Employee>
{
    public string FirstName { get; set; }

    public string LastName { get; set; }

    public Employee(string FirstName, string LastName)
    {
    }

    public override readonly string ToString()
    {
    }

    private readonly bool PrintMembers(StringBuilder builder)
    {
    }

    public static bool operator !=(Employee left, Employee right)
    {
    }

    public static bool operator ==(Employee left, Employee right)
    {
    }

    public override readonly int GetHashCode()
    {
    }

    public override readonly bool Equals(object obj)
    {
    }

    public readonly bool Equals(Employee other)
    {
    }

    public readonly void Deconstruct(out string FirstName, out string LastName)
    {
    }
}
```

```
var Square = (int x) => x * x;
```

Co  `delegate TResult System.Func<in T, out TResult>(T arg)`

Encapsulates a method that has one parameter and returns a value of the type specified by the `int` parameter.

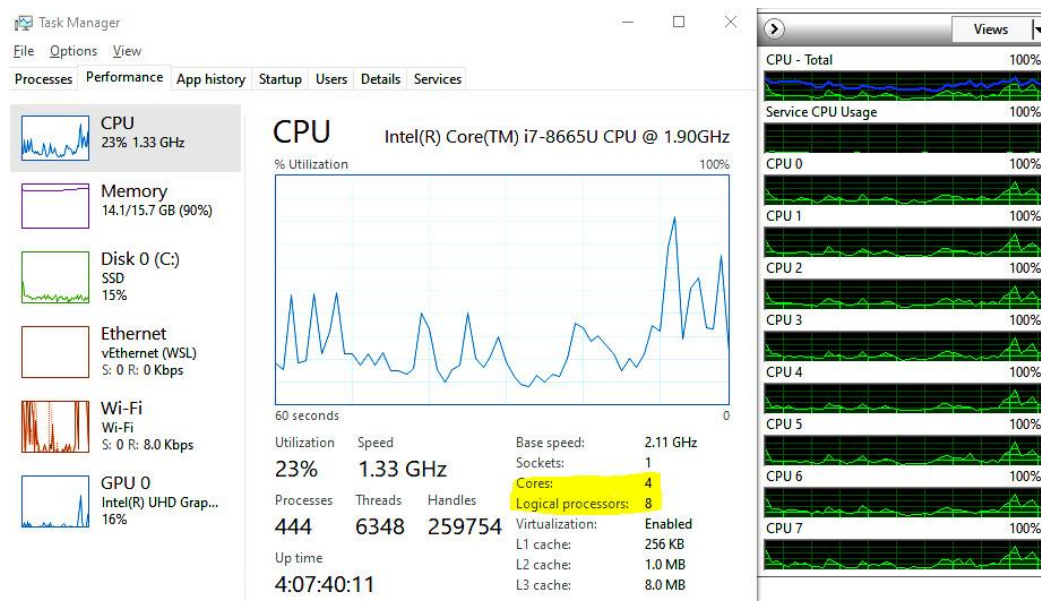
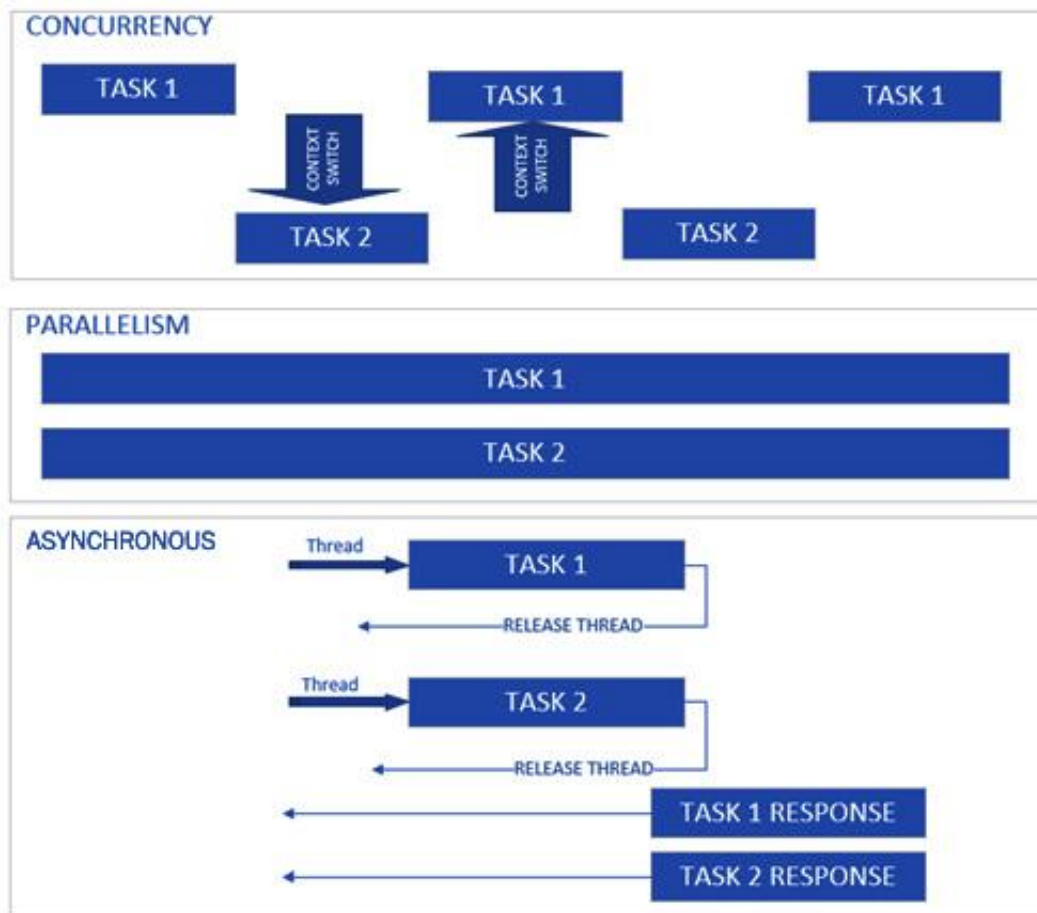
Returns:

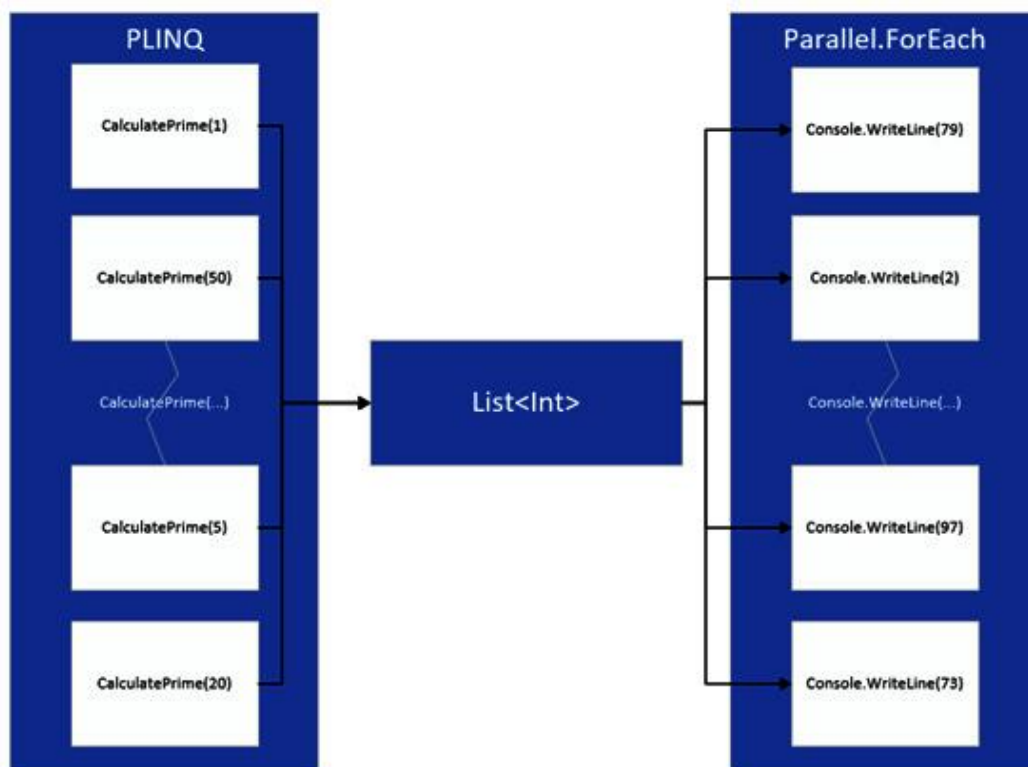
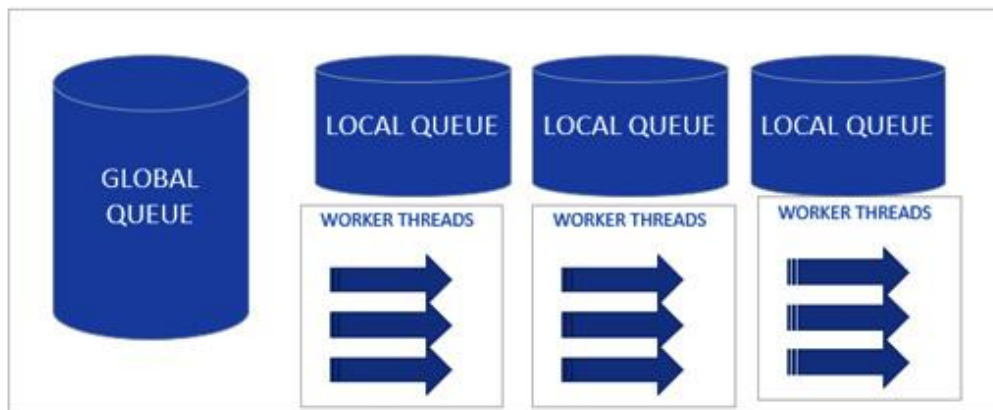
The return value of the method that this delegate encapsulates.

`T` is `int`

`TResult` is `int`

Chapter 4: Threading and Asynchronous Operations





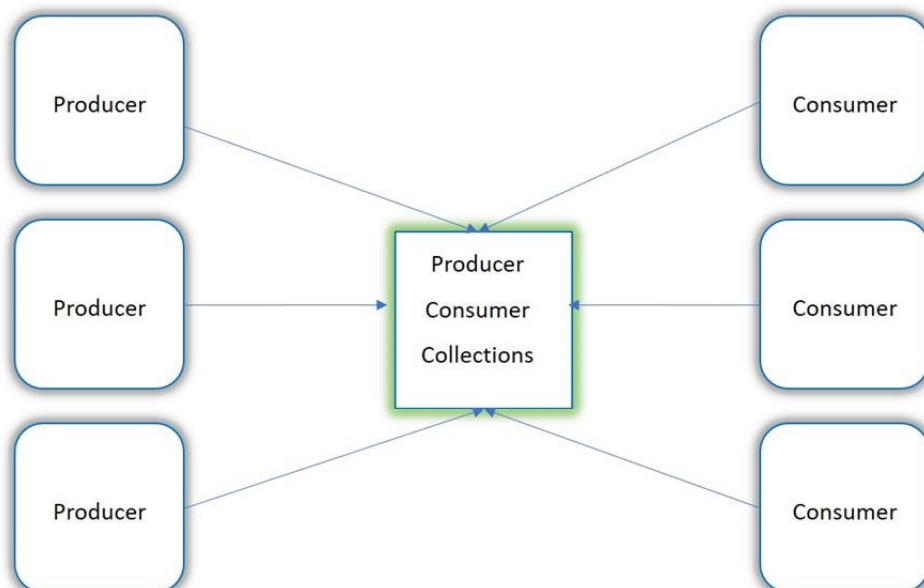
```

0 references      1
static async Task Main(string[] args)
{
    // Call async method
    2 await DownloadFileAsync("https://github.com/Ravindra-a/largefile/blob/master/README.md",
        @"{System.IO.Directory.GetCurrentDirectory()}\download.txt");
    5 Console.WriteLine("File downloaded!!");
    Console.ReadLine();
}

1 reference
private static async Task DownloadFileAsync(string url, string path)
{
    // Create a new web client object
    using WebClient webClient = new WebClient();
    webClient.Headers.Add("user-agent", "Mozilla/5.0 (Windows NT 10.0; WOW64)");
    3 byte[] data = await webClient.DownloadDataTaskAsync(url);
    // Write data in file.
    using var fileStream = File.OpenWrite(path);
    {
        4 await fileStream.WriteAsync(data, 0, data.Length);
    }
}

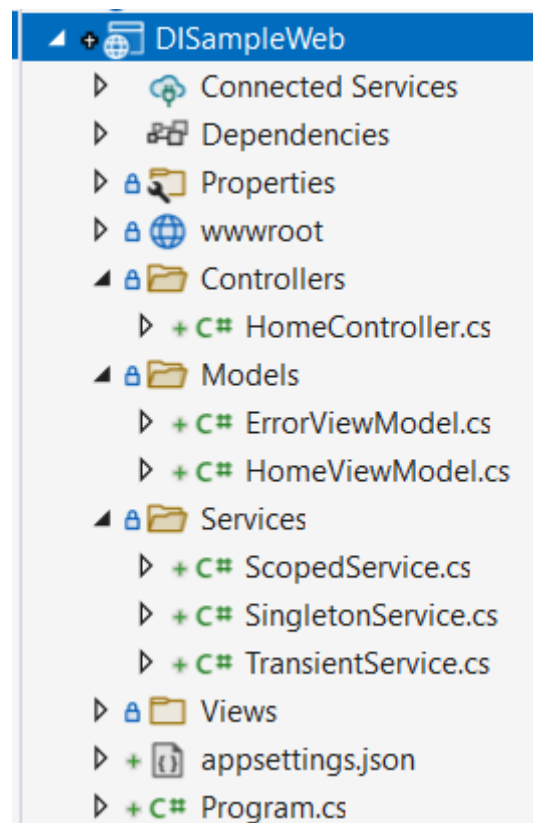
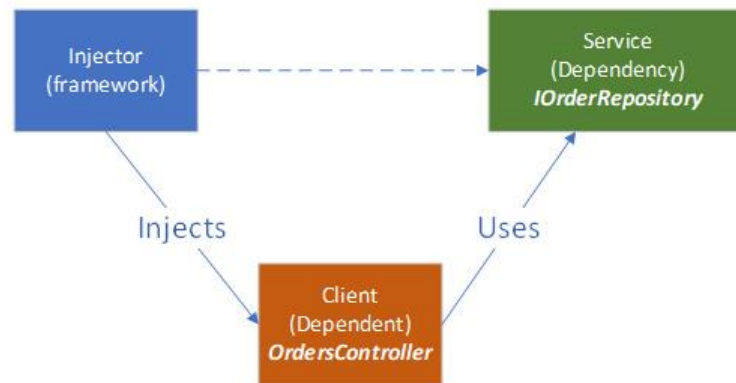
static void Main(string[] args)
{
    // Call async method
    // Create a new web client object
    using WebClient webClient = new WebClient();
    webClient.Headers.Add("user-agent", "Mozilla/5.0 (Windows NT 10.0; WOW64)");
    webClient.DownloadDataTaskAsync("https://github.com/Ravindra-a/largefile/blob/master/README.md").ContinueWith(dataTask =>
    {
        using var fileStream = File.OpenWrite(@"{System.IO.Directory.GetCurrentDirectory()}\download.txt");
        {
            // Write data in file.
            fileStream.WriteAsync(dataTask.Result, 0, dataTask.Result.Length).ContinueWith(writeTask =>
            {
                Console.WriteLine("File downloaded!!");
            });
        }
    });
    Console.ReadLine();
}

```



Chapter 5: Dependency Injection in .NET

6



Singleton.

ID: 38605790

Scoped instance 1

ID: 3748093

Scoped instance 2

ID: 3748093

Transient instance 1

ID: 12314717

Transient instance 2

ID: 30850230

Singleton.

ID: 38605790

Scoped instance 1

ID: 47741942

Scoped instance 2

ID: 47741942

Transient instance 1

ID: 456780

Transient instance 2

ID: 44307732

Autofac.Extensions.DependencyInjection ☐ Include prerelease Package source: [nuget.org](#)

Autofac.Extensions.DependencyInjection by Autofac Contributors, **46.1M** downloads 7.2.0
Autofac implementation of the interfaces in Microsoft.Extensions.DependencyInjection.Abstractions, the .NET Framework dependency injection abstraction.

Autofac.Extensions.Dependency [nuget.org](#)
Installed:

```
[
  {
    "date": "2020-10-25T13:50:42.2369526+05:30",
    "temperatureC": 23,
    "temperatureF": 73,
    "summary": "Freezing"
  }
]
```

Chapter 6: Configuration in .NET 6

The diagram illustrates the configuration architecture in .NET 6, showing the flow from Design Time to Runtime. At Design Time, an Application (orange box) interacts with a Configuration Provider (blue box), which in turn interacts with Configuration Env A (blue box) and Configuration Env B (green box). At Runtime, the Application (orange box) interacts with Configuration Env A (blue box) and Configuration Env B (green box). The Application is shown in two states: Design Time and Runtime.

The screenshot below shows the Visual Studio IDE with the TestConfiguration: Overview window. The code in Program.cs is as follows:

```
1 var builder = WebApplication.CreateBuilder(args);
2
3 // Add services to the container.
4
5 builder.Services.AddControllers();
6 // Learn more about configuring Swagger/OpenAPI at https://aka.ms/aspnetcore/swashbuckle
```

The Locals window shows the configuration providers loaded for the application:

Name	Value
args	{string[0]}
builder	{Microsoft.AspNetCore.Builder.WebApplicationBuilder}
Configuration	{Microsoft.Extensions.Configuration.ConfigurationManager}
Non-Public members	
Microsoft.Extensions.Configuration.IConfigurationBuilder.Properties	{Microsoft.Extensions.Configuration.ConfigurationManager.ConfigurationBuilderProperties}
Microsoft.Extensions.Configuration.IConfigurationBuilder.Sources	{Microsoft.Extensions.Configuration.ConfigurationManager.ConfigurationSources}
Microsoft.Extensions.Configuration.IConfigurationRoot.Providers	Count = 5
[0]	{MemoryConfigurationProvider}
[1]	{Microsoft.Extensions.Configuration.ChainedConfigurationProvider}
[2]	{JsonConfigurationProvider for 'appsettings.json' (Optional)}
[3]	{JsonConfigurationProvider for 'appsettings.Development.json' (Optional)}
[4]	{EnvironmentVariablesConfigurationProvider Prefix: ''}

The PowerShell console shows the command `loud Shell.Succeeded.` and the output `loud Shell.Succeeded.`.

The screenshot below shows the Azure Key Vault interface for the TestKeyVaultForConfig key vault. The Secrets tab is selected, showing a single secret named TestKey with a status of Enabled.

Name	Type	Status
TestKey		✓ Enabled

Microsoft Azure Search resources, services, and docs (G+/)

Home > Default Directory | App registrations

Overview
Getting started
Diagnose and solve problems

Manage

New registration Endpoints Troubleshooting Got feedback?

Welcome to the new and improved App registrations (now Generally Available). See what's new and learn more on how it's changed. →

All applications Owned applications Applications from personal account

Start typing a name or Application ID to filter these results

Home > Default Directory | App registrations >

Register an application

* Name

The user-facing display name for this application (this can be changed later).

TestConfiguration ✓

Supported account types

Who can use this application or access this API?

- ☒ Accounts in this organizational directory only (Default Directory only - Single tenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web e.g. https://myapp.com/auth

By proceeding, you agree to the Microsoft Platform Policies

Register

Home >

TestConfiguration | Certificates & secrets

Search (Ctrl+/)

Overview
Quickstart
Integration assistant (preview)

Manage

Branding

Authentication

Certificates & secrets

Token configuration

API permissions

Expose an API

Owners

Roles and administrators (Preview)

Manifest

Support + Troubleshooting

Troubleshooting

New support request

Add a client secret

Description

TestConfigurationSecret

Expires

- ☒ In 1 year
- ☐ In 2 years
- ☐ Never

Add Cancel

Client secrets

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

+ New client secret

Description	Expires	Value
-------------	---------	-------

No client secrets have been created for this application.

Microsoft Azure TestKeyVaultForDemo

Home > TestKeyVault Deployment

Search (Ctrl+/)

Overview
Inputs

Services No results were found.

Marketplace No results were found.

Resources TestKeyVaultForDemo Key vault

Documentation No results were found.

Resource Groups No results were found.

Searching all subscriptions. [Change](#)

```
"KeyVault": {  
  "Name": "TestKeyVaultForConfig",  
  "AppClientId": "[REDACTED]",  
  "AppClientSecret": "[REDACTED]"  
}
```

Swagger UI

https://localhost:7094/swagger/index.html

TestConfiguration 1.0 OAS3

https://localhost:7094/swagger/v1/swagger.json

WeatherForecast

GET /WeatherForecast

Parameters

No parameters

Execute Clear

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7094/WeatherForecast' \
  -H 'accept: text/plain'
```

Request URL

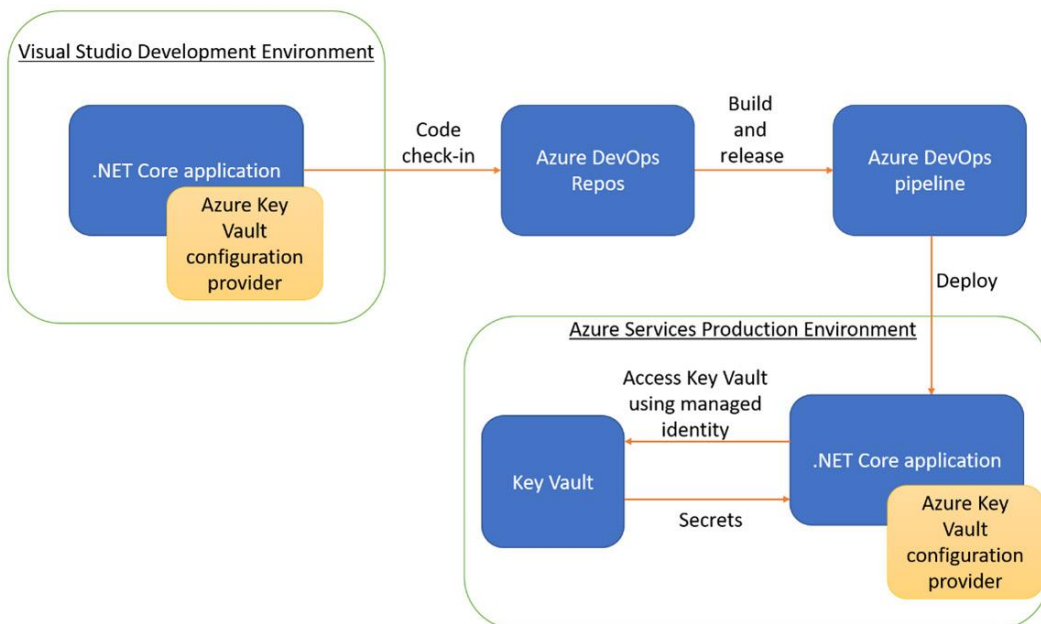
https://localhost:7094/WeatherForecast

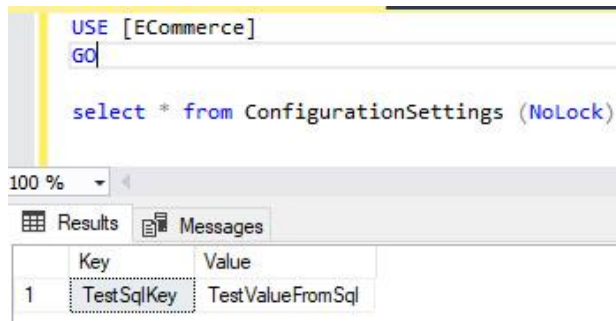
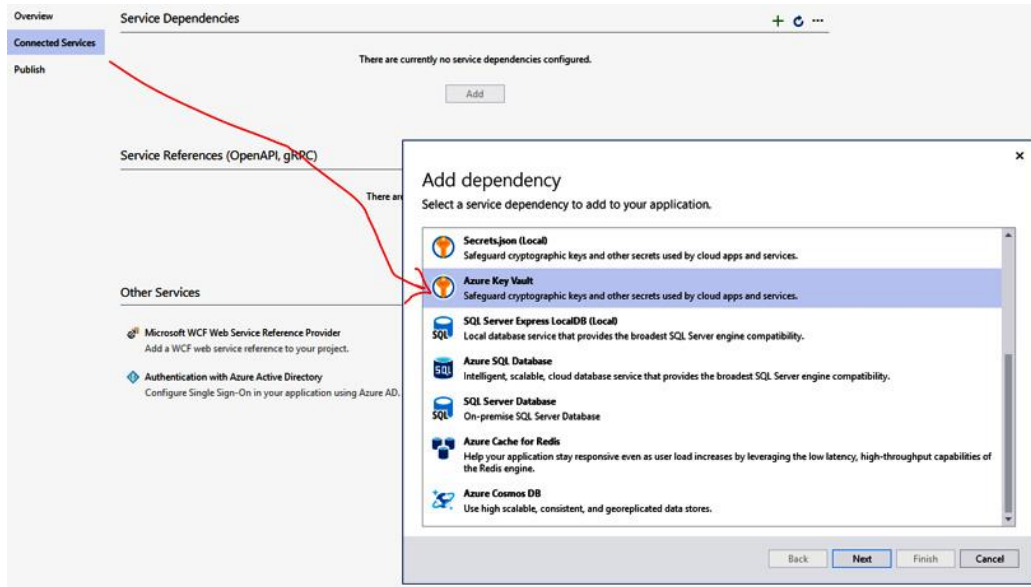
Server response

Code	Details
200	Response body <pre>{ "TestKey", "TestValue" }</pre> Response headers <pre>content-type: application/json; charset=utf-8 date: Tue, 22 Feb 2022 18:35:43 GMT server: Kestrel</pre>

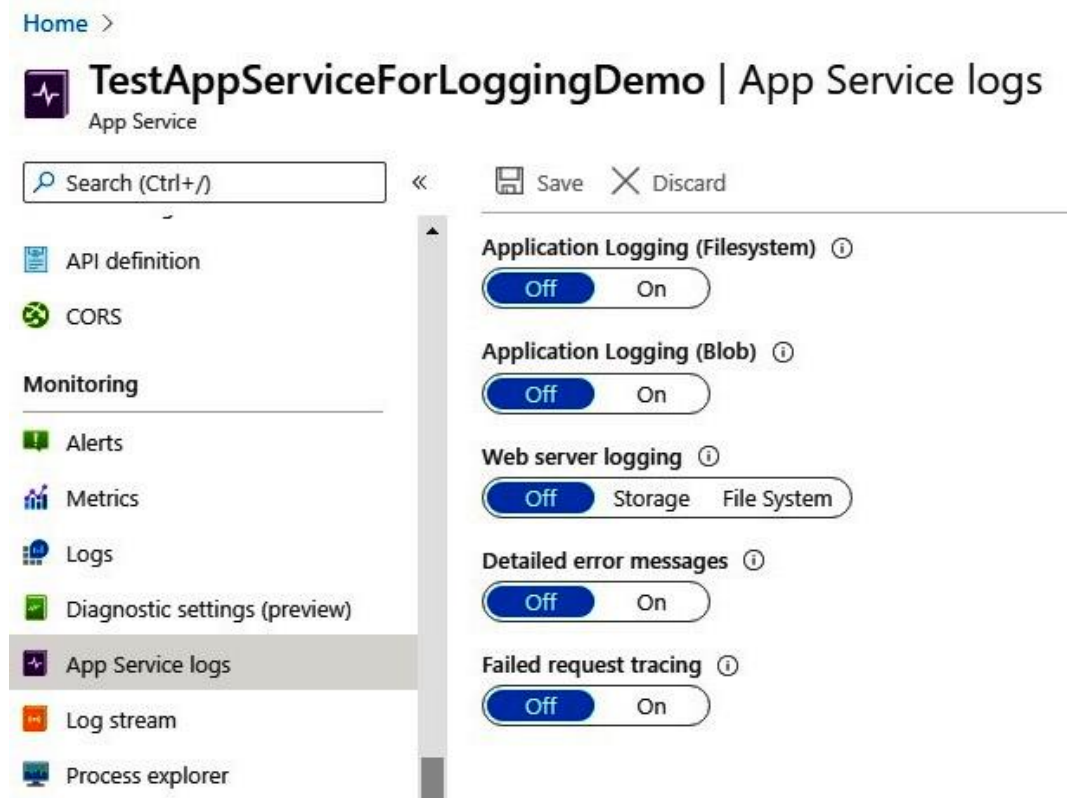
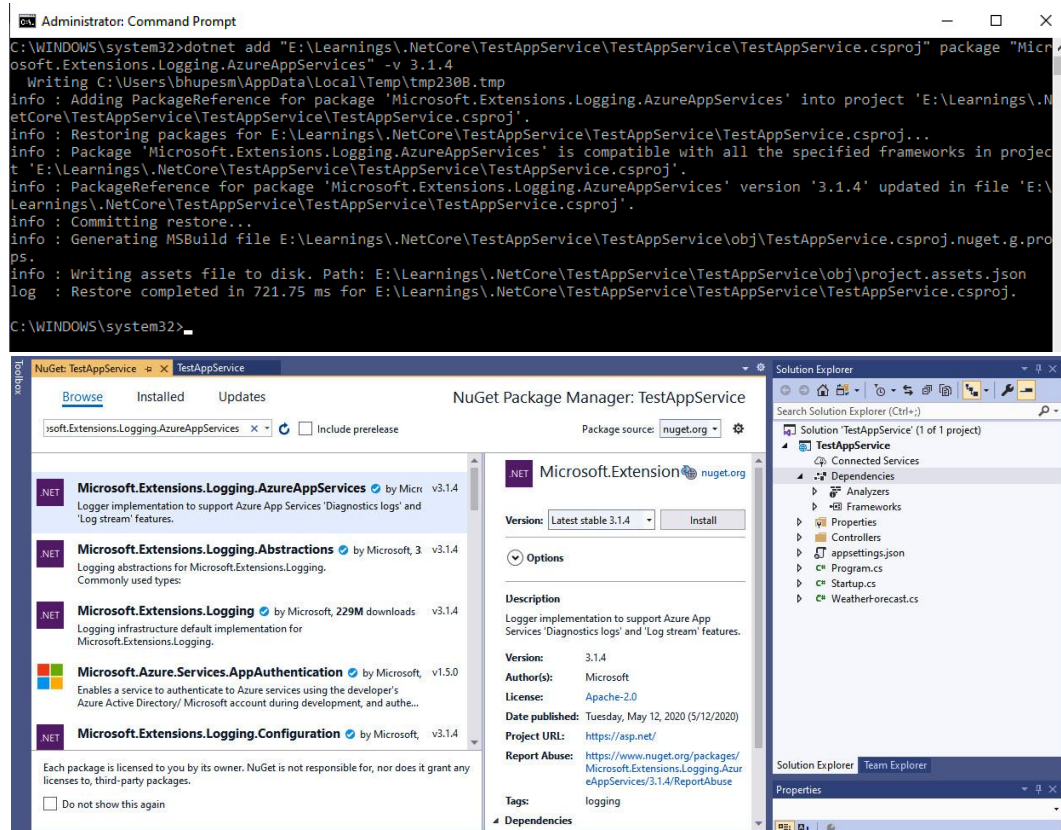
Responses

Code	Description	Links
200	Success	No links





Chapter 7: Logging in .NET 6



Name *
loggingdemostorage ✓
.core.windows.net

Account kind ⓘ

Storage (general purpose v1) ▼

Performance ⓘ

Standard Premium

Replication ⓘ

Locally-redundant storage (LRS) ▼

Home > TestAppService > loggingdemostorage | Containers > loggingdemocontainer

loggingdemocontainer

Container

Search (Ctrl+F)

Upload Change access level

Overview

Access Control (IAM)

Settings

Access policy

Properties

Metadata

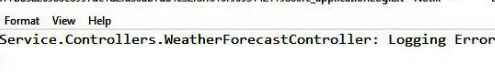
Authentication method: Access key ([Switch to Azure AD User Account](#))

Location: loggingdemocontainer / TestAppServiceForLoggingDemo / 2020 / 06 / 07 / 18

Search blobs by prefix (case-...)

☒ Show deleted blobs

Name	Size
[.]	
6428a2577ba5a26980c6997dc...	

A screenshot of a Windows Notepad application window. The title bar at the top reads "6428a2577ba5a26980c6997dc1d2fa30ab7da4e32f8ff010f9693142119800fc_applicationLog.txt - Not...". Below the title bar is a menu bar with the options "File", "Edit", "Format", "View", and "Help". The main text area of the Notepad contains a single line of text: "TestAppService.Controllers.WeatherForecastController: Logging Error for testing". The text is in a monospaced font. On the right side of the window, there is a vertical scrollbar.

TestAppServiceForLoggingDemo | Log stream

Home > **TestAppService2020060723350Plan**

App Service plan

Search (Ctrl-F) Delete Send us your feedback

Overview

- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Events (review)

Settings

- Apps
- File system storage
- Networking
- Scale up (App Service plan)
- Scale out (App Service plan)

CPU Percentage

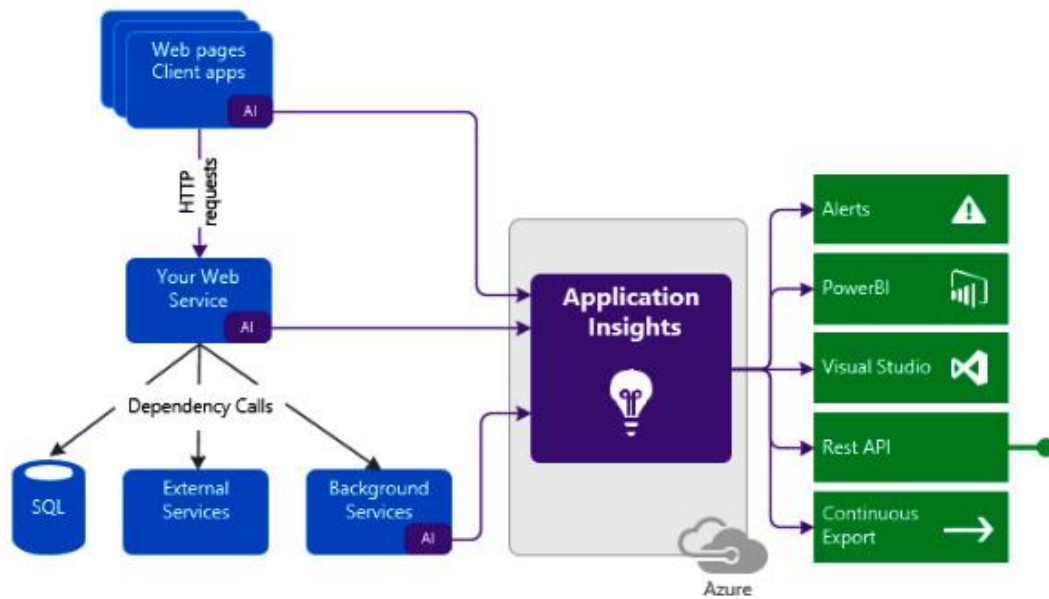
Line graph showing CPU usage over time. The y-axis ranges from 0% to 100%. The x-axis shows time from 11 PM to 12 AM UTC+05:30. A sharp spike is visible at 11:45 PM UTC+05:30.

0.9941%

Memory Percentage

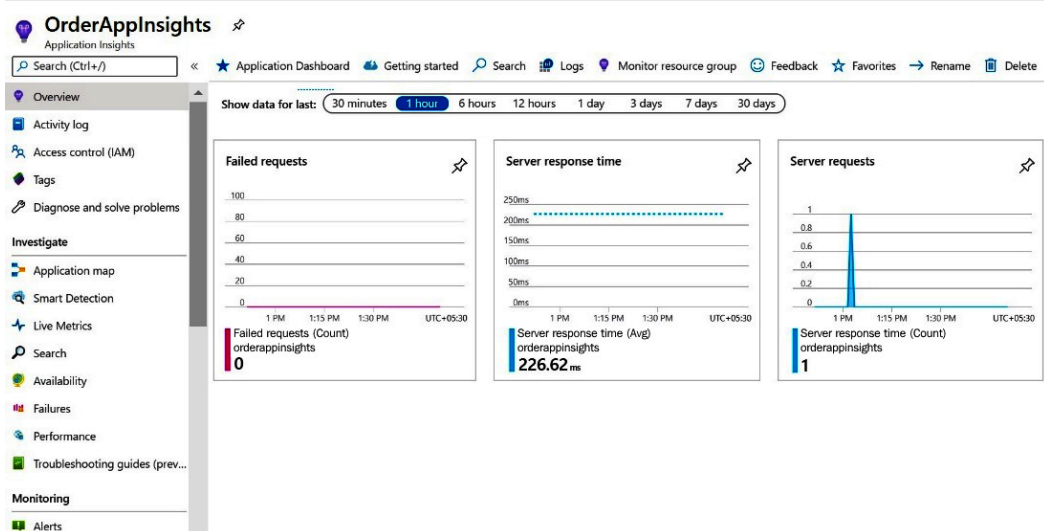
Line graph showing memory usage over time. The y-axis ranges from 0% to 100%. The x-axis shows time from 11 PM to 12 AM UTC+05:30. The usage is relatively stable around 65%.

65.0988%



```

Package Manager Console
Package source: All Default project: TestAppInsights
PM> Install-Package Microsoft.ApplicationInsights.AspNetCore -Version 2.14.0
Restoring packages for E:\Learnings\.NetCore\TestAppService\TestAppInsights\TestAppInsights.csproj...
Installing NuGet package Microsoft.ApplicationInsights.AspNetCore 2.14.0.
Committing restore...
Writing assets file to disk. Path: E:\Learnings\.NetCore\TestAppService\TestAppInsights\obj\project.assets.json
Restored E:\Learnings\.NetCore\TestAppService\TestAppInsights\TestAppInsights.csproj (in 961 ms).
Successfully installed 'Microsoft.ApplicationInsights 2.14.0' to TestAppInsights
Successfully installed 'Microsoft.ApplicationInsights.AspNetCore 2.14.0' to TestAppInsights
Successfully installed 'Microsoft.ApplicationInsights.DependencyCollector 2.14.0' to TestAppInsights
Successfully installed 'Microsoft.ApplicationInsights.EventCounterCollector 2.14.0' to TestAppInsights
Successfully installed 'Microsoft.ApplicationInsights.PerfCounterCollector 2.14.0' to TestAppInsights
Successfully installed 'Microsoft.ApplicationInsights.WindowsServer 2.14.0' to TestAppInsights
Successfully installed 'Microsoft.ApplicationInsights.WindowsServer.TelemetryChannel 2.14.0' to TestAppInsights
Successfully installed 'Microsoft.AspNetCore.Hosting.Abstractions 1.0.2' to TestAppInsights
Successfully installed 'Microsoft.AspNetCore.Hosting.Server.Abstractions 1.0.2' to TestAppInsights
Successfully installed 'Microsoft.AspNetCore.Http 1.0.2' to TestAppInsights
Successfully installed 'Microsoft.AspNetCore.Http.Abstractions 1.0.2' to TestAppInsights
Successfully installed 'Microsoft.AspNetCore.Http.Extensions 1.0.2' to TestAppInsights
Successfully installed 'Microsoft.AspNetCore.Http.Features 1.0.2' to TestAppInsights
  
```



Home >

OrderAppInsights | Live Metrics

Application Insights

Search (Ctrl+V)

Pause Reset Learn more View in Logs Feedback

Tags

Diagnose and solve problems

Investigate

Application map

Smart Detection

Live Metrics

Search

Availability

Failures

Performance

Troubleshooting guides (prev...

Monitoring

Alerts

Metrics

Logs

Workbooks

Usage

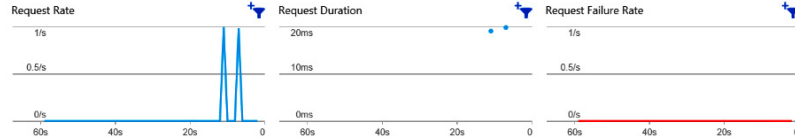
Users

Sessions

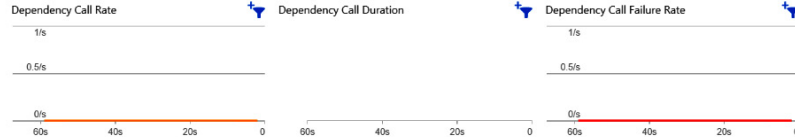
Welcome to the new Live Metrics experience. If you prefer the old experience, click "Open Live Metrics (Classic)" above to return to it.

Last 60 seconds (Live) 1 server online

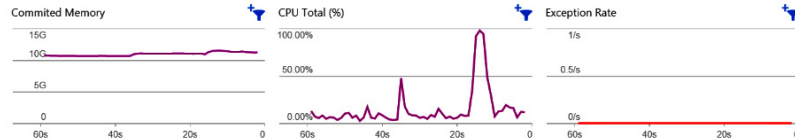
Incoming Requests



Outgoing Requests



Overall Health



OrderAppInsights | Metrics

Application Insights

Search (Ctrl+V)

New chart Refresh Diagnose Share Feedback

Local Time: 6/17 1:30 PM - 6/18 1:30 PM (Auto...

Search

Availability

Failures

Performance

Troubleshooting guides (prev...

Monitoring

Alerts

Metrics

Logs

Workbooks

Usage

Users

Sessions

Events

Funnels

User Flows

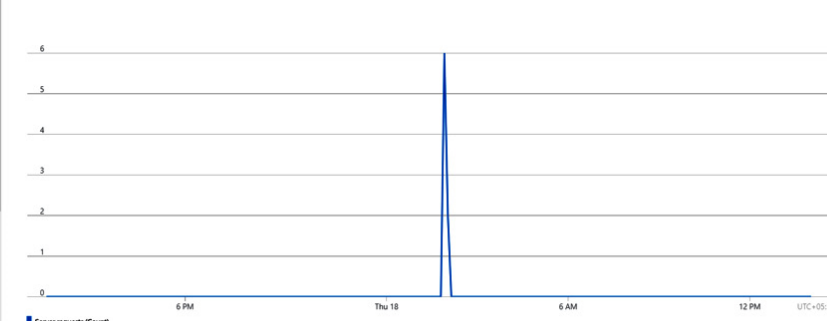
Retention

Impact

Count Server requests for OrderAppInsights

Add metric Add filter Apply splitting Line chart Drill into Logs New alert rule Pin to dashboard

Scope: OrderAppInsights Metric Namespace: Application Insights sta... Metric: Server requests Aggregation: Count



OrderAppInsights | Performance

Application Insights

Search (Ctrl+V)

Refresh Configure Profiler View in Logs Analyze with Workbooks Feedback

Diagnose and solve problems

Investigate

Application map

Smart Detection

Live Metrics

Search

Availability

Failures

Performance

Troubleshooting guides (prev...

Monitoring

Alerts

Metrics

Logs

Workbooks

Usage

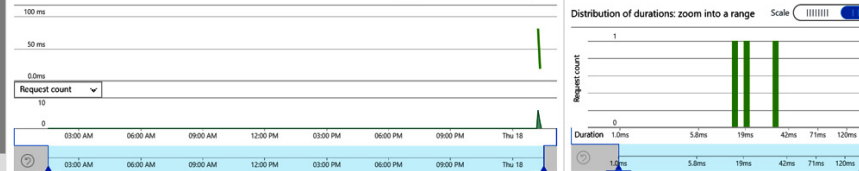
Users

Sessions

Operations Dependencies Roles

Local Time: Last 24 hours Roles: All

Operation times: zoom into a range

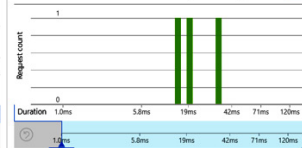


Select operation

OPERATION NAME	DURATION (AVG)	COUNT	PM
Overall	65.4 ms	8	
GET WeatherForecast/Get	65.4 ms	8	

Overall

Distribution of durations: zoom into a range Scale



Insights

No insights were found

OrderAppInsights | Failures

Application Insights

Search (Ctrl+F)

Refresh View in Logs Analyze with Workbooks Feedback

Diagnose and solve problems

Investigate

Application map

Smart Detection

Live Metrics

Search

Availability

Failures

Performance

Troubleshooting guides (prev...

Monitoring

Alerts

Metrics

Logs

Workbooks

Usage

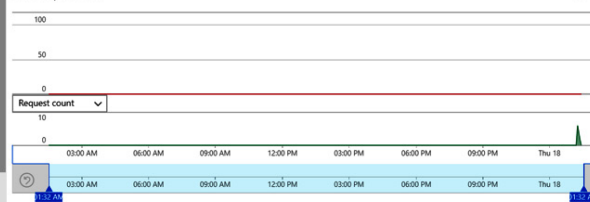
Users

Sessions

Events

Operations Dependencies Exceptions Roles

Failed request count



Select operation

OPERATION NAME	COUNT (FAILED)	COUNT	PM
Overall	0	8	

Overall

Top 3 response codes	COUNT	FILTERING

Top 3 exception types	COUNT	FILTERING

Top 3 failed dependencies	COUNT	FILTERING

Drill into...

OrderAppInsights | Logs

Application Insights

Search (Ctrl+F)

Performance

Troubleshooting guides (prev...

Monitoring

Alerts

Metrics

Logs

Workbooks

Usage

Users

Sessions

Events

New Query 1*

Select scope: All Run Time range: Set to query Save Copy link New alert rule Export

Tables Queries Filter

Search

Group by: Solution Filters: not selected

Favorites

You can add favorites by clicking on the "F" icon

Application Insights

availabilityResults

browserTracing

customEvents

Results Chart Columns Display time (UTC+05:30) Group columns

Completed

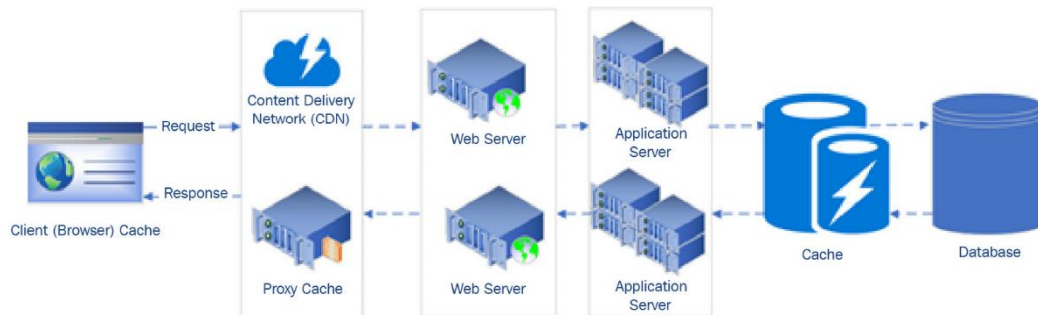
message

4/20/2020, 1:02:55:39 PM All Diagnostic message: Performance counters are unavailable when ...

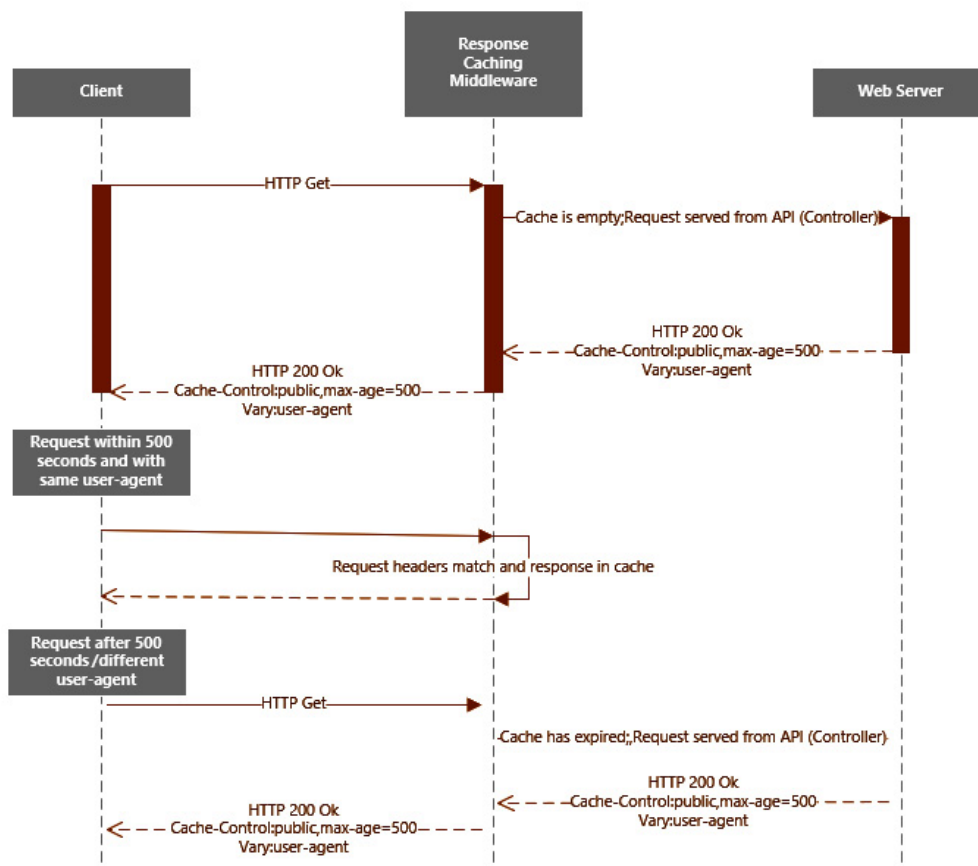
4/20/2020, 1:02:56:48 PM Logging Error for testing 3

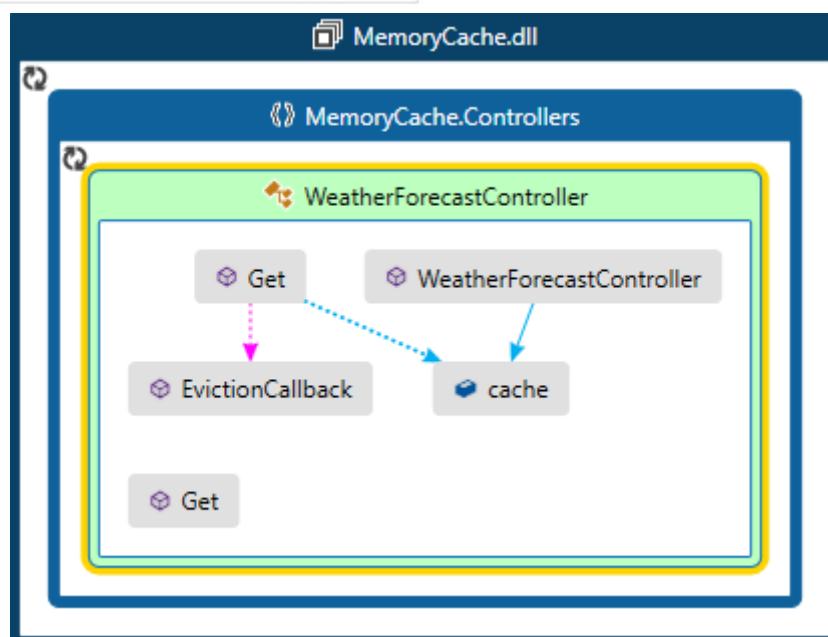
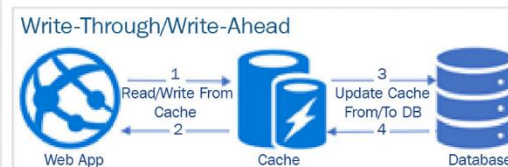
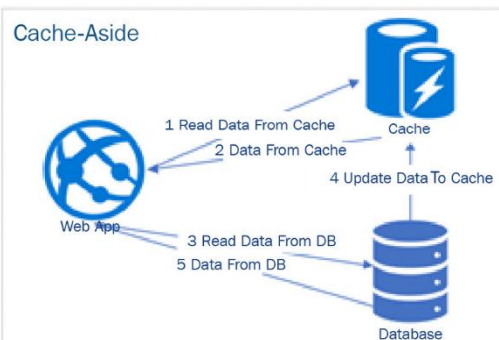
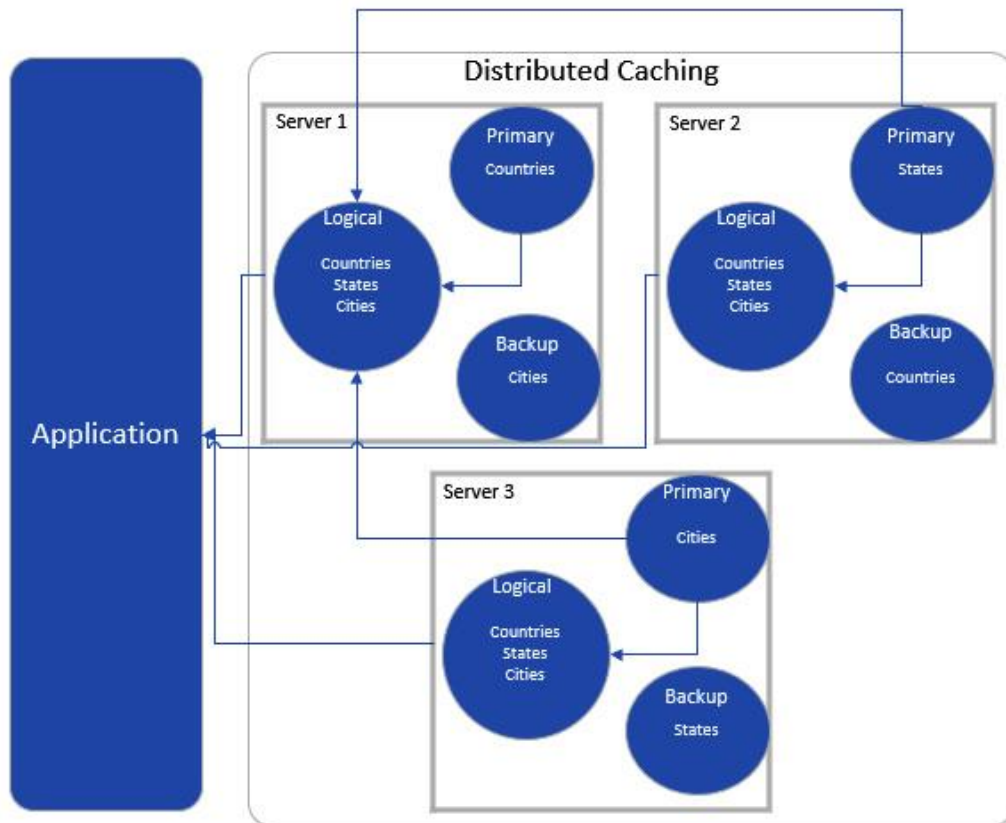
4/20/2020, 1:02:56:49 PM Logging Warning for testing 2

Chapter 8: All You Need to Know about Caching

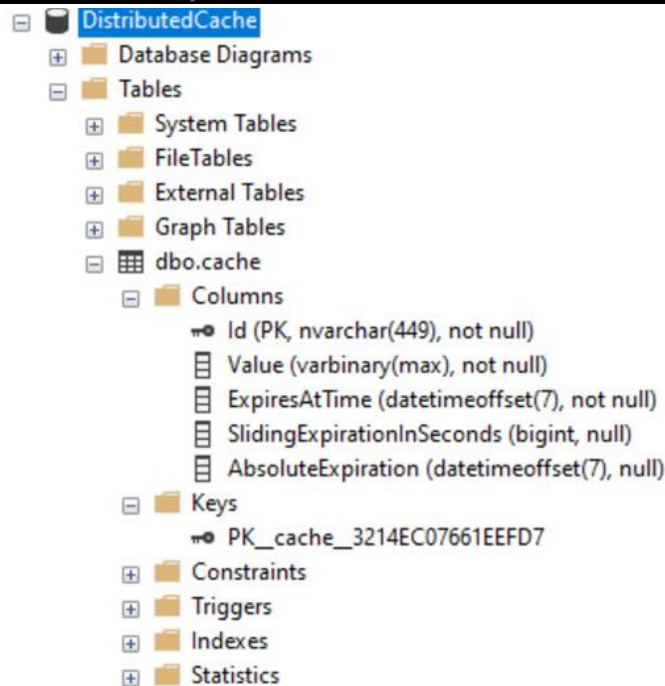


KEY	VALUE
Cache-Control ①	public,max-age=50000
Transfer-Encoding ①	chunked
Content-Type ①	application/json; charset=utf-8
Vary ①	user-agent
Server ①	Microsoft-IIS/10.0
X-Powered-By ①	ASP.NET
Date ①	Sun, 21 Jun 2020 12:59:57 GMT





```
C:\windows\system32>dotnet tool install --global dotnet-sql-cache
You can invoke the tool using the following command: dotnet-sql-cache
Tool 'dotnet-sql-cache' (version '3.1.5') was successfully installed.
C:\windows\system32>dotnet sql-cache create "Data Source=.;Initial Catalog=DistributedCache;Integrated Security
=True;" dbo Cache
Table and index were created successfully.
```



select * from cache

110 %

Results Messages

	Id	Value	ExpiresAtTime	SlidingExpirationInSeconds	AbsoluteExpiration
1	Weather	0x31372D30312D323032322031303A30303A3530	2022-01-17 04:31:40.5128877 +00:00	50	2022-01-17 04:32:30.5071366 +00:00

Search (Ctrl+/) << Regenerate Primary Regenerate Secondary

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems
- Events
- Settings
 - Access keys
 - Advanced settings
 - Scale
 - Cluster size
 - Data persistence
 - Schedule updates

Primary



Secondary



Primary connection string (StackExchange.Redis)



Secondary connection string (StackExchange.Redis)



For information on other clients see:

<http://aka.ms/redisclients>

Home > myResourceGroup > sampleredis >



(PREVIEW) Redis Console

sampleredis

Welcome to secure redis console!

This console connects to your live redis server and all commands are run on the server.

WARNING: Use expensive commands with caution as they can impact your server load!

>TYPE Weather

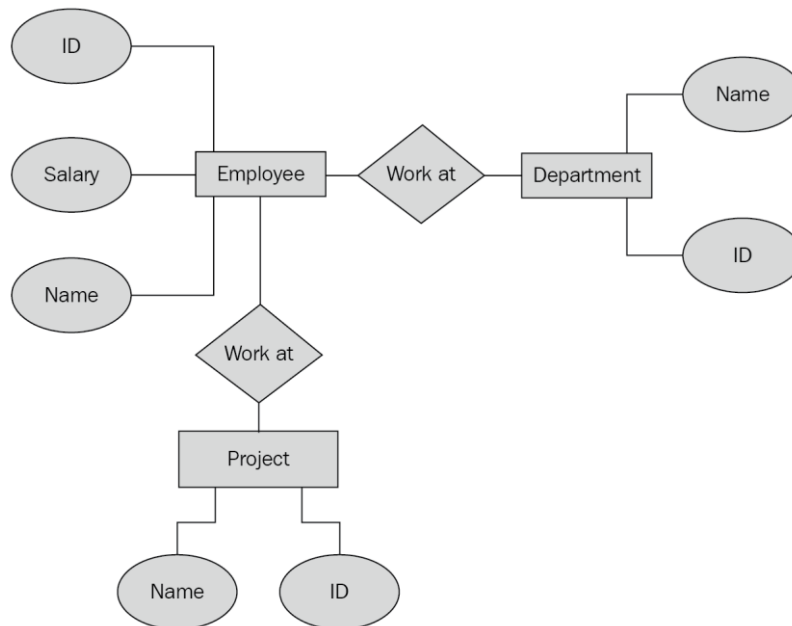
hash

>HGETALL Weather

- 1) "absexp"
- 2) "637287057176266880"
- 3) "sldexp"
- 4) "500000000000"
- 5) "data"
- 6) "6/25/2020 10:21:55 PM"

>

Chapter 9: Working with Data in .NET6



Create Azure Cosmos DB Account - Core (SQL) ...

✓ Validation Success

Basics Global Distribution Networking Backup Policy Encryption Tags Review + create

Creation Time

Estimated Account Creation Time (in minutes) 2

i The estimated creation time is calculated based on the location you have selected

Basics

Subscription	
Resource Group	
Location	West US
Account Name	
API	Core (SQL)
Capacity mode	Provisioned throughput
Geo-Redundancy	Disable
Multi-region Writes	Disable

Backup Policy

Backup policy	Periodic
Backup storage redundancy	Locally-redundant backup storage

Networking

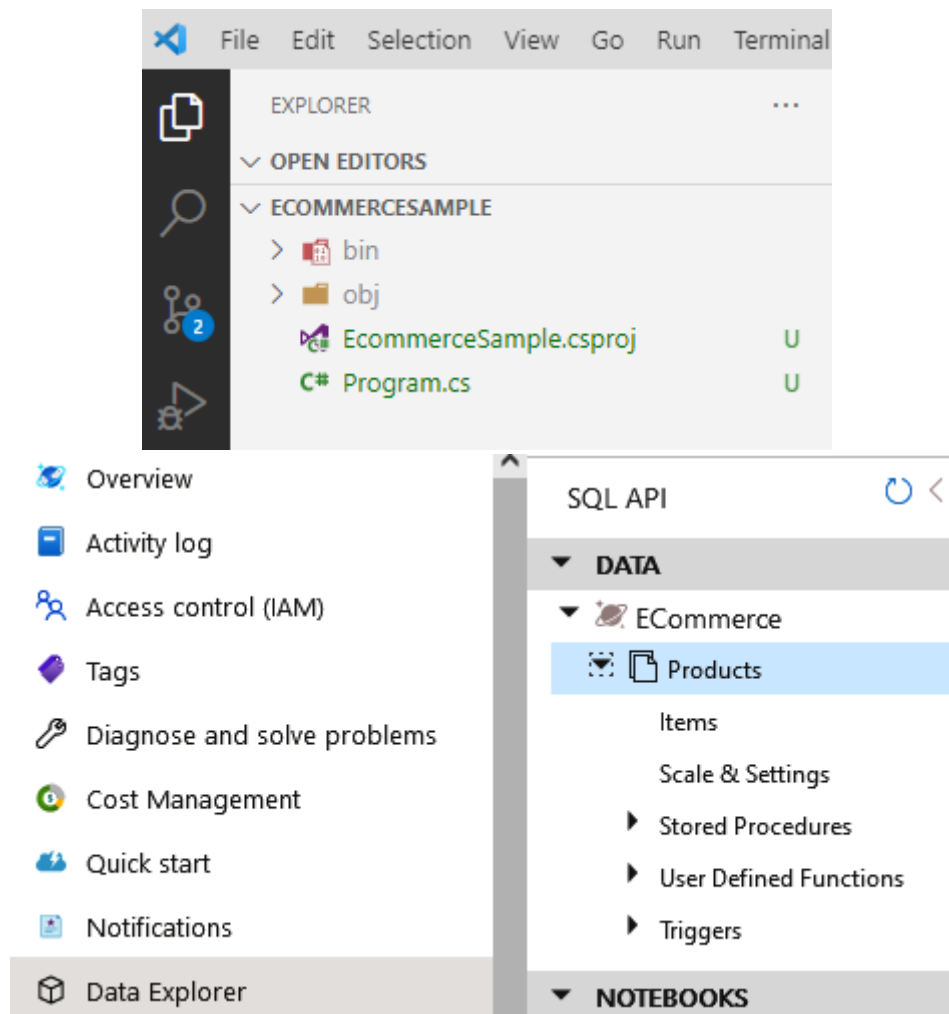
Connectivity method	All networks
---------------------	--------------

Create

Previous

Next

[Download a template for automation](#)



Create storage account

and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below.

[Learn more about Azure storage accounts](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *

Resource group * [Create new](#)

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

Storage account name * ✓

Location *

Performance ☒ Standard ☐ Premium

Account kind

Replication

[Review + create](#)

[< Previous](#)

[Next : Networking >](#)

Storage account name * ⓘ

Location *

Performance ⓘ

Account kind ⓘ

Replication ⓘ

Locally-redundant storage (LRS)

Zone-redundant storage (ZRS)

Geo-redundant storage (GRS)

Read-access geo-redundant storage (RA-GRS)

Geo-zone-redundant storage (GZRS)

Read-access geo-zone-redundant storage (RA-GZRS)

Locally-redundant storage (LRS) ^

```
CA\Program Files\dotnet\dotnet.exe
https://[redacted].blob.core.windows.net/fileuploadsample/
sample.png
https://[redacted].blob.core.windows.net/fileuploadsample/
sample.png?sv=2020-02-10&se=2021-01-05T05%3A50%3A23Z&sr=b&sp=r&sig=o
M3FvKK5DEMqn0hEd4QX1iPVf0zPnxdgYXqIgyUC0w8%3D
```

Storage account

Search (Ctrl+/) Search

Overview
Activity log
Tags
Diagnose and solve problems
Access Control (IAM)
Data transfer
Events
Storage Explorer (preview)

BLOB CONTAINERS

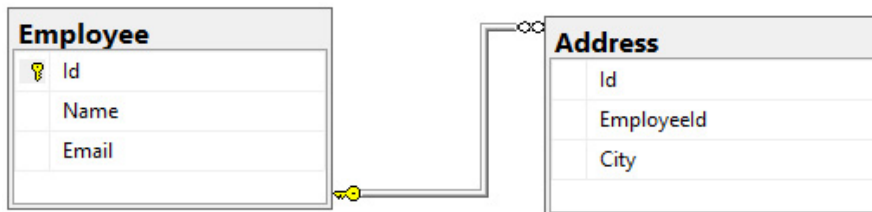
- books
- clothes
- fileuploadsample

FILE SHARES
QUEUES
TABLES

Upload Download Open New Folder

Active blobs (default) fileuploadsample

NAME	ACCESS TIER	ACCESS TIER LAST MODIFIED
sample.png	Hot (inferred)	



EmployeeEF Home Privacy

Welcome

Learn about [building Web apps with ASP.NET Core](#).

1	Sample1	Sample@sample.com	City1 City2
2	Sample2	Sample2@sample.com	City1
3	Sample3	Sample3@sample.com	

Order Processing Services

Invoice Processing Services

Payment Processing Services

User Mgmt. Services

Product and Pricing Services

Product

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

```

1  {
2    "Id": string,
3    "Name": string,
4    "Category": string,
5    "Rating": [
6      {
7        "Stars": integer,
8        "Percentage": integer
9      }
10   ],
11   "Price": integer,
12   "Quantity": number,
13   "CreateDate": string
14   "ImageUrls": array,
15   "Format": array,
16   "Authors": array,
17   "Size": array,
18   "Color": array,
19   "Etag": string
20 }

```

Order

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

```

1  {
2    "Id": string,
3    "UserId": string,
4    "Products": [
5      {
6        "Id": string,
7        "Name": string,
8        "Quantity": integer,
9        "Price": number
10     }
11   ],
12   "OrderStatus": string,
13   "OrderPlacedDate": string,
14   "ShippingAddress": {
15     "Address1": string,
16     "City": string,
17     "Country": string
18   },
19   "TrackingId": integer,
20   "DeliveryDate": string,
21   "Etag": string
22 }

```

Invoice

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

```

1  {
2    "Id": string,
3    "OrderId": string,
4    "PaymentMode": string,
5    "ShippingAddress": {
6      "Address1": string,
7      "City": string,
8      "Country": string
9    },
10   "SoldBy": {
11     "SellerName": string,
12     "Email": string,
13     "Phone": integer
14   },
15   "Products": [
16     {
17       "Id": string,
18       "Name": string,
19       "Quantity": integer,
20       "Price": number
21     }
22   ],
23   "Etag": string
24 }

```

User

1

2

3

4

5

6

7

8

9

10

11

12

13

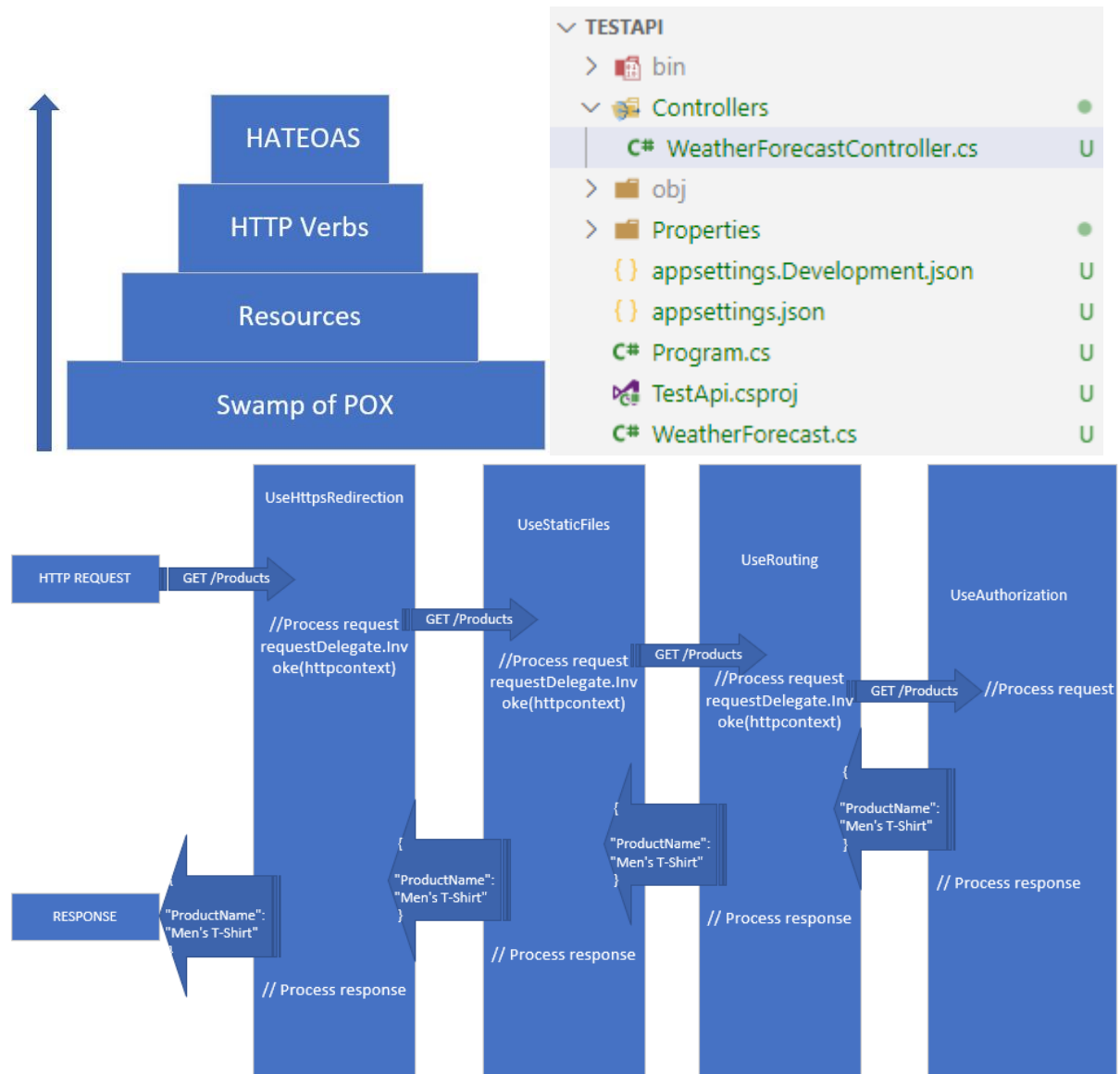
14

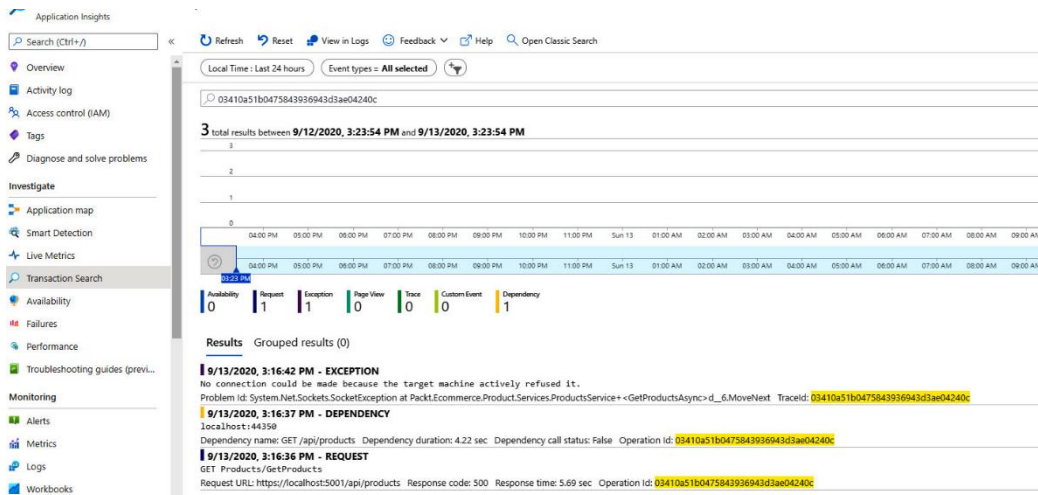
```

1  {
2    "Id": string,
3    "Name": string,
4    "Email": string,
5    "Address": [
6      {
7        "Address1": string,
8        "City": string,
9        "Country": string
10     }
11   ],
12   "PhoneNumber": integer,
13   "Etag": string
14 }

```

Chapter 10: Creating an ASP.NET 6 Web API





```
app.UseRouting();

app.UseAuthorization();

app.Use(next => context =>
{
    Microsoft.AspNetCore.Http.Endpoint endpoint = context.GetEndpoint();
    return next(context);
});

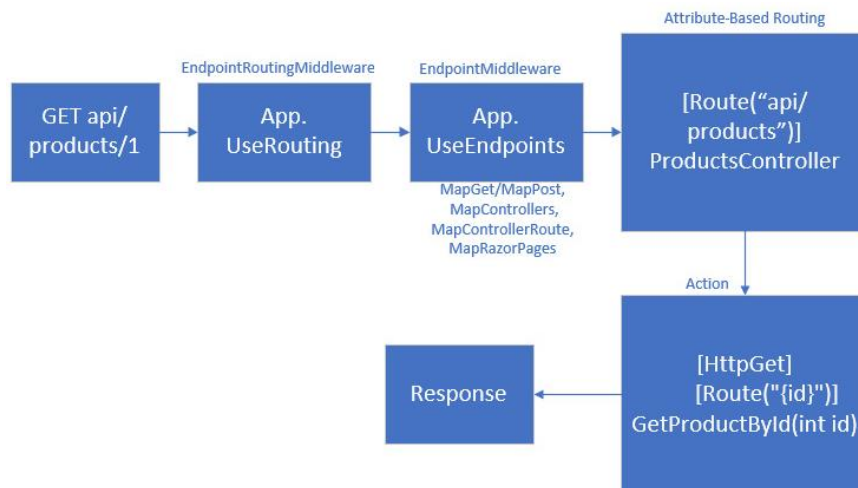
app.UseEndpoints(endpoints =>
{
    endpoints.MapControllers();
});
```

≤ 3,002ms el

endpoint [Packt.Ecommerce.Product.Controllers.ProductsController.GetProductById (Packt.Ecommerce.Product)]

- DisplayName
- Metadata
- Order
- RequestDelegate
- RoutePattern

Method = (System.Threading.Tasks.Task<CreateRequestDelegate>b_0)(Microsoft.AspNetCore.Http.HttpContext)



 Solution 'Packt.Ecommerce' (14 of 14 projects)

-  Core
- ▾  Data
 -  Packt.Ecommerce.Data.Models
 -  Packt.Ecommerce.DataStore
 - ▾  Packt.Ecommerce.DTO.Models
 -  Dependencies
 -  .editorconfig
 -  AddressViewModel.cs
 -  InvoiceDetailsViewModel.cs
 -  OrderDetailsViewModel.cs
 -  OrderStatus.cs
 -  Packt.Ecommerce.DTO.Models.xml
 -  PaymentMode.cs
 -  ProductDetailsViewModel.cs
 -  ProductListViewModel.cs
 -  RatingViewModel.cs
 -  SoldByViewModel.cs
 -  stylecop.json
- ▾  Services
 -  Packt.Ecommerce.DataAccess
 -  Packt.Ecommerce.Invoice
 -  Packt.Ecommerce.Order
 - ▾  Packt.Ecommerce.Product
 -  Connected Services
 -  Dependencies
 -  Properties
 - ▾  Contracts
 -  IProductService.cs
 - ▾  Controllers
 -  ProductsController.cs
 - ▾  Services
 -  ProductsService.cs
 -  .editorconfig
 -  appsettings.json
 -  AutoMapperProfile.cs
 -  GlobalSuppressions.cs
 -  Packt.Ecommerce.Product.xml
 -  Program.cs
 -  stylecop.json
-  Solution Items
-  Tests
-  webapp

History
Collections
APIs

+ New Collection
Trash

Mastering enterprise application developme...
11 requests

Product

POST Create product
PUT Update product
GET get product by Id
GET Get all products
DEL Delete product
GET Filter Products

Orders
Invoice

POST Create product
PUT Update product

Update product

PUT
https://localhost:44346/api/products

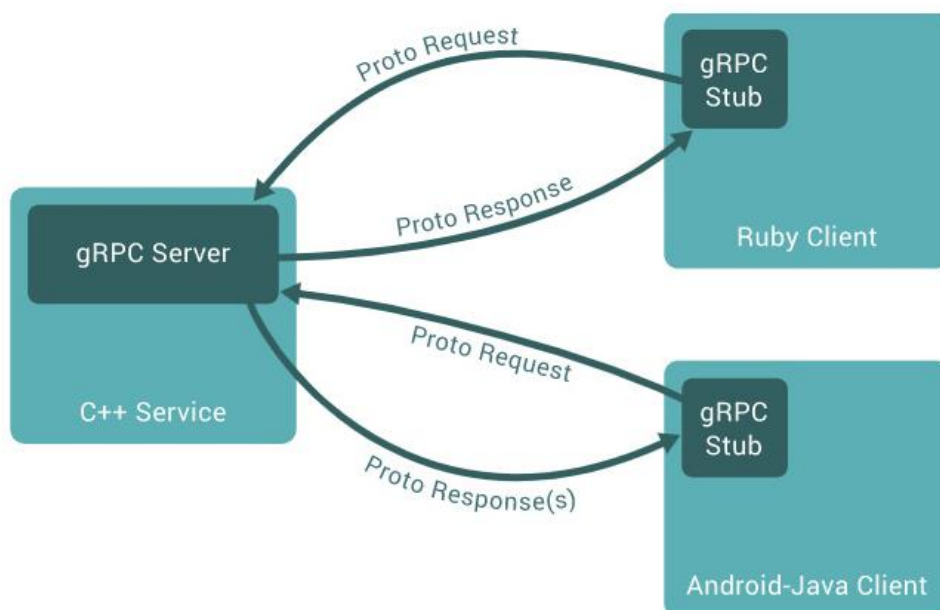
Params
Authorization
Headers (9)
Body
Pre-request Script
Tests
Settings

none
form-data
x-www-form-urlencoded
raw
binary
GraphQL
JSON

```

1
2
3
4
5
6
7
8
9
10
11
{
  "id": "Book.3",
  "name": "AI Crash Course: A Fun and Hands-on Introduction to Machine Learning, Re
  "category": "Books",
  "price": 500,
  "quantity": 10,
  "createdDate": "2020-09-16T16:57:31.1095445Z",
  "imageUrls": [
    "https://ecommerceimagespackt.blob.core.windows.net/books/Book3.PNG"
  ],
  "rating": [

```



Create a new project

Recent project templates

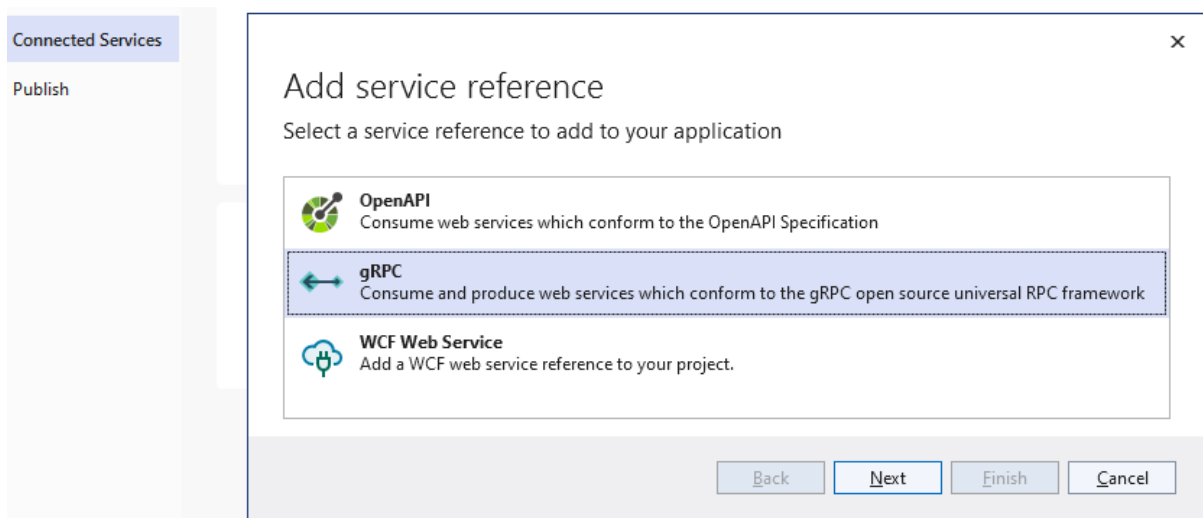
- ASP.NET Core Web API C#
- Class Library C#
- Blazor Server App C#

[Clear all](#)

All languages All platforms All project types

gRPC ASP.NET Core gRPC Service
A project template for creating a gRPC ASP.NET Core service.

C# Linux macOS Windows Cloud Service Web



Add new gRPC service reference

Select a file or URL

☒ File

gRPCDemo\gRPCDemoService\Protos\greet.proto

Browse...

☐ URL

Select the type of class to be generated

Client

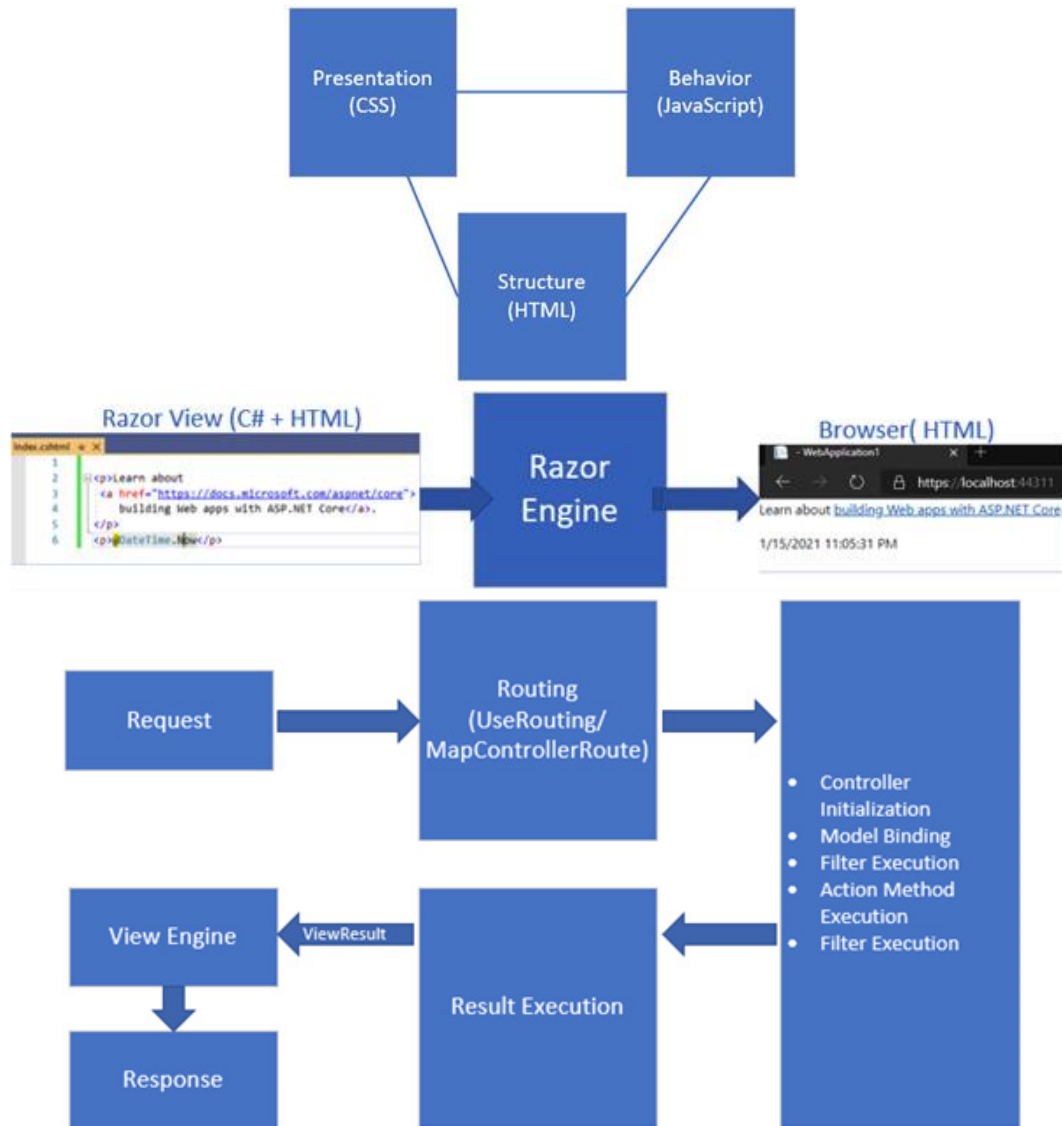
Back

Next

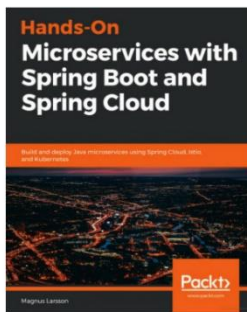
Finish

Cancel

Chapter 11: Creating an ASP.NET 6 Web application







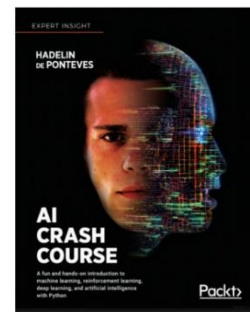
Hands-On Microservices with Spring Boot and Spring Cloud: Build and Deploy Java Microservices Using Spring Cloud, Istio, and Kubernetes

\$ 500



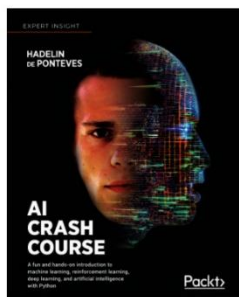
Mastering Kubernetes

\$ 500



AI Crash Course: A Fun and Hands-on Introduction to Machine Learning, Reinforcement Learning, Deep Learning, and Artificial Intelligence with Python

\$ 500



AI Crash Course: A Fun and Hands-on Introduction to Machine Learning, Reinforcement Learning, Deep Learning, and Artificial Intelligence with Python

Authors

Hadelin de Ponteves

Available Formats

E Book

Hard cover

\$ 500

Add to Cart

Description Rating

AI Crash Course: A Fun and Hands-on Introduction to Machine Learning, Reinforcement Learning, Deep Learning, and Artificial Intelligence with Python

Products
Search
All
Sign in

Products / Cart

Qty	Image	Product	Subtotal
1		Mastering Kubernetes	500
1		AI Crash Course: A Fun and Hands-on Introduction to Machine Learning, Reinforcement Learning, Deep Learning, and Artificial Intelligence with Python	500
Total			1000

Checkout form

Billing address

Address

City

Country

Payment

Name on card

Credit card number

Full name as displayed on card

Expiration

CVV

Place Order

Products
Search
All
Sign in

Products / Invoice

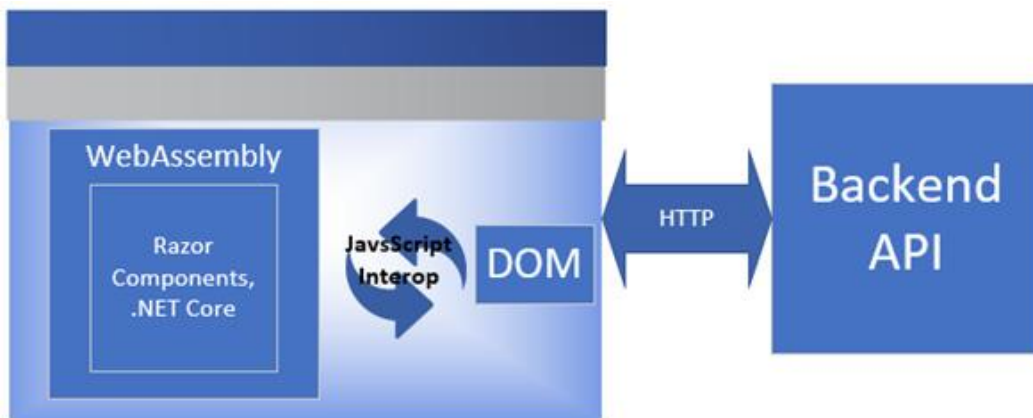
Invoice

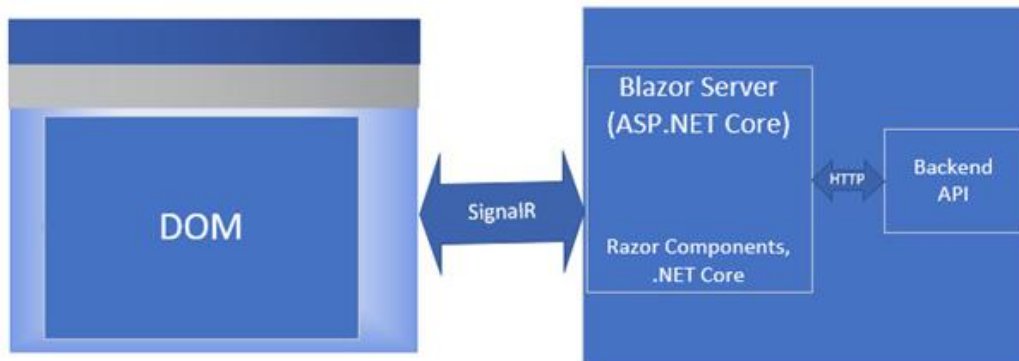
Packt XYZ, Inc.
 Sold By
Packt XYZ, Inc.
 Packt 9076543210 Packt@Packt.com

To
John Doe
 1234 MAIN ST HYDERABAD India

Invoice 587d24b7-0dc7-40d6-8886-5033e453c1f7
Order ID: cf22c351 bcc1 405b 8cf2 41fc09d87c23
Payment Mode: Visa

Qty	Product	Subtotal
1	Mastering Kubernetes	500
1	AI Crash Course: A Fun and Hands-on Introduction to Machine Learning, Reinforcement Learning, Deep Learning, and Artificial Intelligence with Python	500
Total:		1000





Blazor Web

- Home
- Counter
- Fetch data
- Products

Products

[+ Add Product](#)

Id	Name	Price	Quantity	ImageUrls	
Book.1	Hands-On Microservices with Spring Boot and Spring Cloud: Build and Deploy Java Microservices Using Spring Cloud, Istio, and Kubernetes	500	11		Edit
Book.2	Mastering Kubernetes	500	10		Edit
Book.3	AI Crash Course: A Fun and Hands-on Introduction to Machine Learning, Reinforcement Learning, Deep Learning, and Artificial Intelligence with Python	500	10		Edit

Add Product

- Large quantity, please reach out to support to process request.

Product Name :

Product Category :

Product Price :

Product Quantity :

Image URL :

Format :

Authors :

Size :

Colors :

Add Product

ASP.NET Core Web App C# Linux macOS Windows Cloud Service Web

.NET 6.0 (Long-term support)

Individual Accounts

☐ Enable Docker ⓘ

Linux

A database operation failed while processing the request.

SqlException: Cannot open database "aspnet-AuthSample-53bc9b9d-9d6a-45d4-8429-2a2761773502" requested by the login. The login failed. Login failed for user

Applying existing migrations may resolve this issue

There are migrations that have not been applied to the following database(s):

ApplicationDbContext

- 0000000000000000_CreatelIdentitySchema

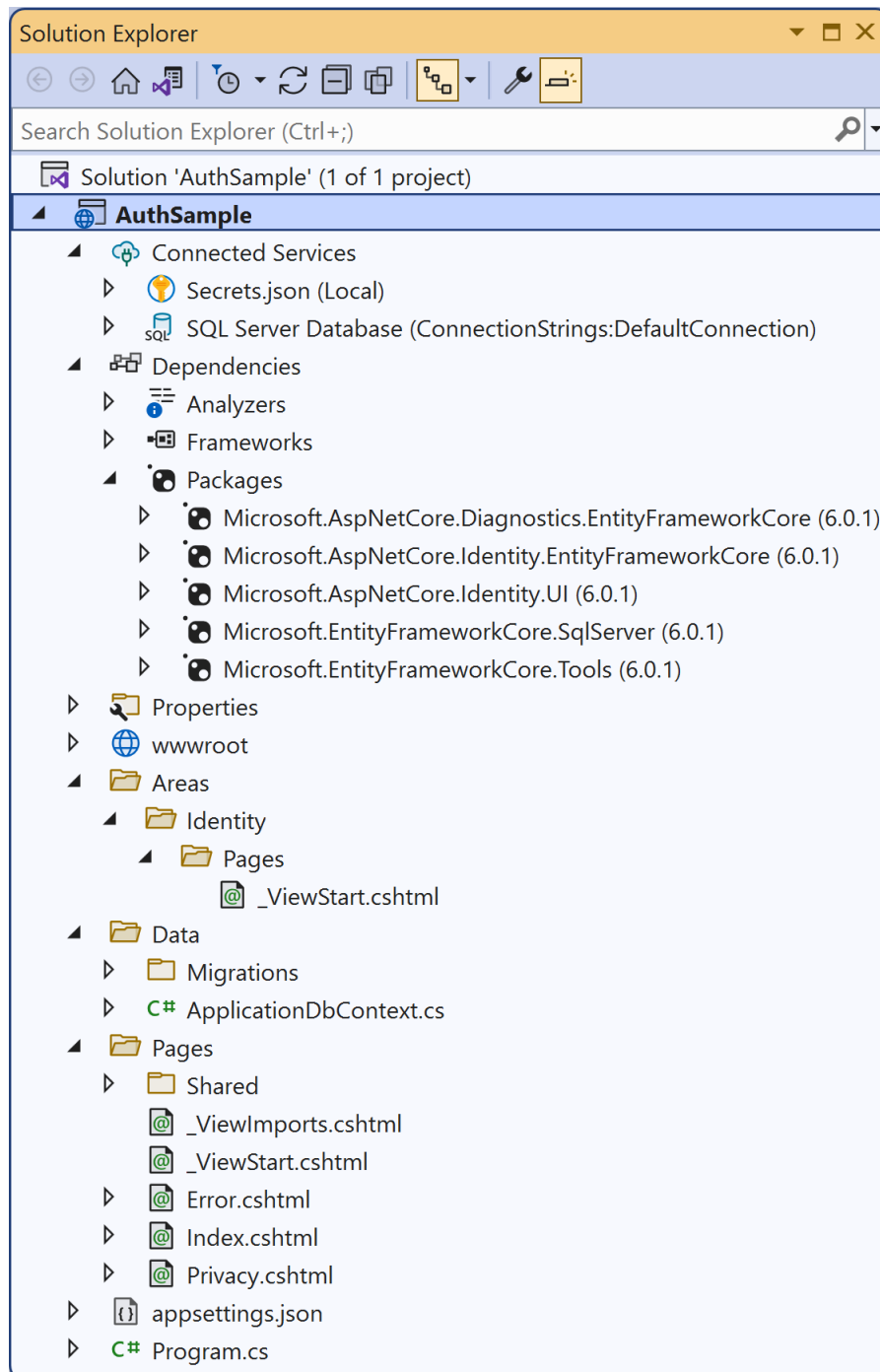
Apply Migrations

In Visual Studio, you can use the Package Manager Console to apply pending migrations to the database:

PM> Update-Database

Alternatively, you can apply pending migrations from a command prompt at your project directory:

```
> dotnet ef database update
```



Add Identity

Select an existing layout page, or specify a new one:

/Areas/Identity/Pages/Account/Manage/_Layout.cshtml



(Leave empty if it is set in a Razor _viewstart file)

☐ Override all files

Choose files to override

- | | | |
|---|---|---|
| ☐ Account\AccessDenied | ☐ Account\ConfirmEmail | ☐ Account\ExternalLogin |
| ☐ Account\ForgotPassword | ☐ Account\ForgotPasswordConfirmation | ☐ Account\Lockout |
| ☒ Account>Login | ☐ Account>LoginWith2fa | ☐ Account>LoginWithRecoveryCode |
| ☐ Account\Logout | ☐ Account\Manage\Layout | ☐ Account\Manage\ManageNav |
| ☐ Account\Manage\StatusMessage | ☒ Account\Manage\ChangePassword | ☐ Account\Manage\DeletePersonalData |
| ☐ Account\Manage\Disable2fa | ☐ Account\Manage\DownloadPersonalData | ☐ Account\Manage\EnableAuthenticator |
| ☐ Account\Manage\ExternalLogins | ☐ Account\Manage\GenerateRecoveryCodes | ☐ Account\Manage\Index |
| ☐ Account\Manage\PersonalData | ☐ Account\Manage\ResetAuthenticator | ☐ Account\Manage\SetPassword |
| ☐ Account\Manage\TwoFactorAuthentication | ☒ Account\Register | ☐ Account\ResetPassword |
| ☐ Account\ResetPasswordConfirmation | | |

Data context class ApplicationDbContext (AuthSample.Data)



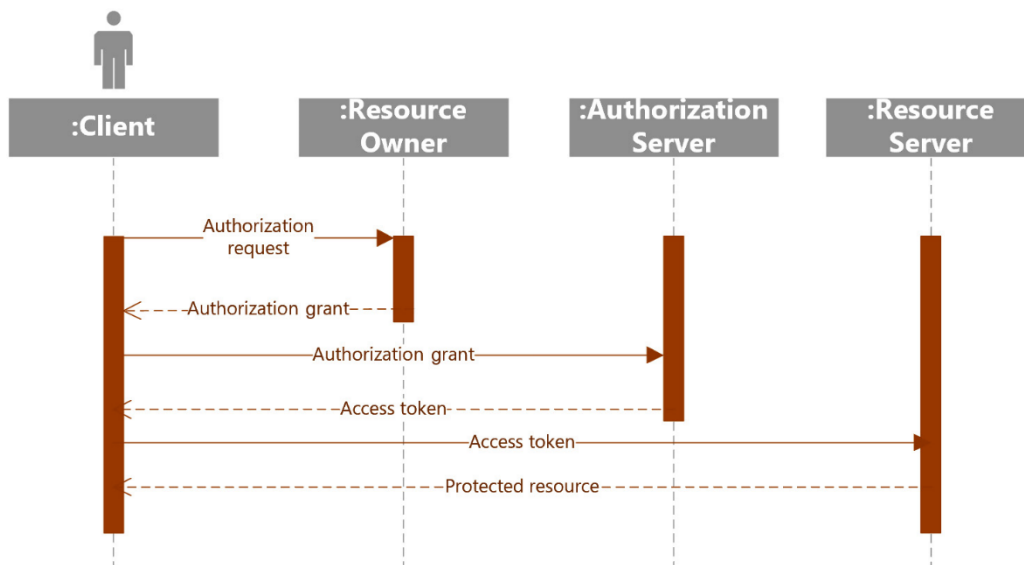
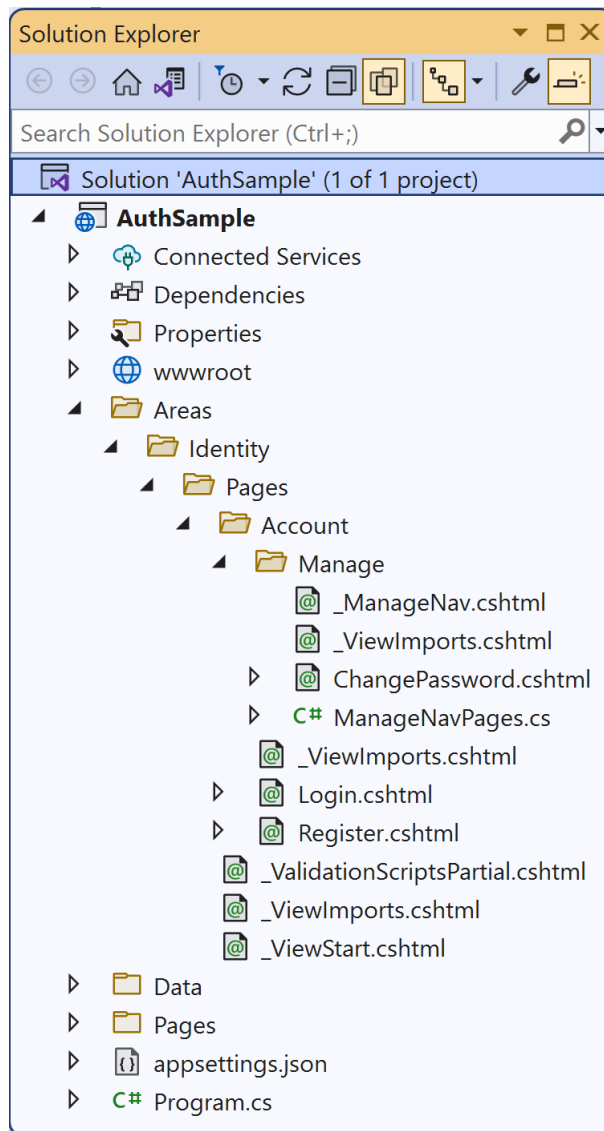
☐ Use SQLite instead of SQL Server

User class



Add

Cancel



Create new B2C Tenant or Link to existing Tenant

 Create a new Azure AD B2C Tenant. ⓘ

 Link an existing Azure AD B2C Tenant to my Azure subscription. ⓘ

Create a tenant



Azure Active Directory

* Basics * **Configuration** Review + create

Directory details

Configure your new directory

Organization name * ⓘ

Packt Ecommerce ✓

Initial domain name * ⓘ

packtecommerce ✓
packtecommerce.onmicrosoft.com

Country/Region ⓘ

United States ▼
✓ Datacenter location - United States
Datacenter location is based on the country/region selected above. Azure Active Directory B2C service is available worldwide.

Review + create

< Previous

Next : Review + create >

Notifications



[More events in the activity log](#) →

[Dismiss all](#) ▼



Create tenant



Tenant creation was successful. Click here to navigate to your new tenant: [Packt Ecommerce](#).

a few seconds ago

 An Azure subscription is required for the full Azure AD B2C experience. To be compliant, click to link a subscription to your tenant. →

^ Essentials

Domain name : packtecommerce.onmicrosoft.com

Tenant type : Production-scale tenant

Billable Units : Per Authentication

Subscription status : No subscription

Create new B2C Tenant or Link to existing Tenant



Create a new Azure AD B2C Tenant. ⓘ



Link an existing Azure AD B2C Tenant to my Azure subscription. ⓘ

Azure AD B2C Resource

Azure AD B2C Tenant * ⓘ

packtecommerce.onmicrosoft.com ▼

Azure AD B2C Resource name

packtecommerce.onmicrosoft.com

Subscription *

▼

Resource group *

(New) rg-ad-packt-ecommerce ▼

[Create new](#)

Resource group location *

East US ▼

Create

Welcome to Azure Active Directory B2C

1

Register an application

The application registration is used to secure your directory by allowing only your applications to make requests and to make sure your users are sent to a trusted place after signing in. [Get started](#)

2

Add identity provider(s)

Identity providers are the different types of accounts your users can use to sign into your application. [Get started](#)

3

Create a user flow

User flows define the experience for your users signing up and signing into your application. [Get started](#)

Register an application

* Name

The display name for this application (this can be changed later).

ECommerce-Web ✓

Supported account types

Who can use this application or access this API?

- ☐ Accounts in this organizational directory only (Packt Ecommerce only - Single tenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- ☒ Accounts in any identity provider or organizational directory (for authenticating users with user flows)

[Help me choose...](#)

Redirect URI (recommended)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web e.g. https://myapp.com/auth

Permissions

Azure AD B2C requires this app to be consented for openid and offline_access permissions. You must be an app administrator to grant admin consent (you can do this later from the Permissions menu).

☒ Grant admin consent to openid and offline_access permissions

By proceeding, you agree to the [Microsoft Platform Policies](#)

Register

Home > Azure AD B2C

Azure AD B2C | Identity providers

packtecommerce.onmicrosoft.com

Search (Ctrl+/)

Overview

Manage

- App registrations
- Applications (Legacy)
- Identity providers
- API connectors (Preview)
- Company Branding
- User attributes
- Users
- Roles and administrators
- Policies
- User flows

+ New OpenID Connect provider | Got feedback?

Identity provider

- Amazon
- Facebook
- GitHub (Preview)
- Google
- LinkedIn
- Local account
- Microsoft Account
- QQ (Preview)
- Twitter
- WeChat (Preview)
- Weibo (Preview)

Configure local IDP

Save Discard

Local accounts ⓘ

- ☐ Username
- ☒ Email

Create OAuth client ID

A client ID is used to identify a single app to Google's OAuth servers. If your app runs on multiple platforms, each will need its own client ID. See [Setting up OAuth 2.0](#) for more information.

Application type *
Web application

[Learn more](#) about OAuth client types

Name *
Packt Ecommerce

The name of your OAuth 2.0 client. This name is only used to identify the client in the console and will not be shown to end users.

The domains of the URIs you add below will be automatically added to your [OAuth consent screen](#) as [authorized domains](#).

Authorized JavaScript origins ⓘ

For use with requests from a browser

+ ADD URI

Authorized redirect URIs ⓘ

For use with requests from a web server

URIs

https://packtecommerce.b2clogin.com/packtecommerce.onmicrosoft.com/c

+ ADD URI

OAuth client created

The client ID and secret can always be accessed from Credentials in APIs & Services



OAuth is limited to 100 [sensitive scope logins](#) until the [OAuth consent screen](#) is verified. This may require a verification process that can take several days.

Your Client ID

2q3jdh.apps.

Your Client Secret

3j

OK

Configure social IDP



Google



Save



Discard

Configure your social provider. [Learn more about configuring Google as an identity provider.](#)

Origin URL

https://packtecommerce.b2clogin.com

Callback URL

https://packtecommerce.b2clogin.com/packtecommerce.onmicrosoft.com/oauth2/auth...

Name *

Google

Client ID *

9dh.apps.googleusercontent.com

Client secret *

O3j

[Home](#) > [Azure AD B2C](#) >

Create a user flow

User flows are predefined, configured policies that you can use to set up authentication experiences for your end users. Select a user flow type to get started. [Learn more.](#)

Select a user flow type



Sign up and sign in

Enables a user to create an account or sign in to their account.



Profile editing

Enables a user to configure their user attributes.



Password reset

Enables a user to choose a new password after verifying their email.



Sign up

Enables a user to create a new account.



Sign in

Enables a user to sign in to their account.



Sign in using resource owner password credentials (ROPC)

Enables a user with a local account to sign in directly in native applications(no browser required).

Create

Sign up and sign in (Recommended)

 New user flows will now use the Ocean Blue template by default instead of the classic template!

Get started with your user flow with a few basic selections. Don't worry about getting everything right here, you can modify your user flow after you've created it.

1. Name

The unique string used to identify this user flow in requests to Azure AD B2C. This cannot be changed after a user flow has been created.

B2C_1_*

2. Identity providers *

Identity providers are the different types of accounts your users can use to log into your application. You need to select at least one for a valid user flow [providers](#).

Please select at least one identity provider

Local accounts

☐ None

☒ Email signup

Social identity providers

☒  Google

☒  Facebook

Create

Create



5. User attributes and token claims

User attributes are values collected on sign up. Claims are values about the user returned to the application in the token. You can create custom attributes for use in your directory.

	Collect attribute	Return claim
City ⓘ	☐	☐
Country/Region ⓘ	☒	☐
Display Name ⓘ	☐	☐
Email Address ⓘ	☒	☐
Email Addresses ⓘ	☐	☐
Given Name ⓘ	☒	☒
Identity Provider ⓘ	☐	☐
Identity Provider Access Token ⓘ	☐	☐
Job Title ⓘ	☐	☐
Legal Age Group Classification ⓘ	☐	☐
Postal Code ⓘ	☐	☐

Ok

< Cancel



Sign in with your email address

[Forgot your password?](#)

Sign in

Don't have an account? [Sign up now](#)

Sign in with your social account



Google



Facebook



Send verification code

Country/Region

Country/Region

Create

Web

Quickstart Docs

Redirect URIs

The URIs we will accept as destinations when returning authentication responses (tokens) after successfully authenticating users. Also referred to as reply URLs. [Learn more about Redirect URIs and their restrictions](#)

This app has implicit grant settings enabled. If you are using any of these URIs in a SPA with MSAL.js 2.0, you should migrate URIs. →

Add URI

Logout URL

This is where we send a request to have the application clear the user's session data. This is required for single sign-out to work correctly.

e.g. <https://myapp.com/logout>

Implicit grant

Allows an application to request a token directly from the authorization endpoint. Checking Access tokens and ID tokens is recommended only if the application has a single-page architecture (SPA), has no back-end components, does not use the latest version of MSAL.js with auth code flow, or it invokes a web API via JavaScript. ID Token is needed for ASP.NET Core Web Apps. [Learn more about the implicit grant flow](#)

To enable the implicit grant flow, select the tokens you would like to be issued by the authorization endpoint:

- ☒ Access tokens
- ☒ ID tokens

Chapter 13: Implementing Authorization in .NET 6

AuthSample Home Privacy Admin Hello admin@abc.com! Logout

Welcome

Learn about [building Web apps with ASP.NET Core](#).

AuthSample Home Privacy Support Hello support@abc.com! Logout

Welcome

Learn about [building Web apps with ASP.NET Core](#).

Home > Azure AD B2C

 **Azure AD B2C | App registrations** 

padtocommerce.onmicrosoft.com

 Search (Ctrl+/) <

[+ New registration](#) [Endpoints](#) [Troubleshooting](#) [Download](#) [Preview features](#) | [Got feedback?](#)

 Overview

Manage

 App registrations

 Applications (Legacy)

 Identity providers

 API connectors (Preview)

 Company Branding

 User attributes

 Users

 Roles and administrators

 Welcome to the new and improved App registrations (now Generally Available). See what's new and learn more on how it's changed. [→](#)

 Starting June 30th, 2020 we will no longer add any new features to Azure Active Directory Authentication Library (ADAL) and Azure AD

All applications **Owned applications** **Applications from personal account**

 Eco

Display name

 Ecommerce-Web

[Home](#) > [Packt Ecommerce](#) >

Ecommerce-Web

 Search (Ctrl+[/](#))

 Delete  Endpoints  Preview features

 Overview

 Integration assistant

Manage

 Branding

 Authentication

 Certificates & secrets

 API permissions

 Expose an API

 Owners

 Manifest

Support + Troubleshooting

 Troubleshooting

^ Essentials

Display name : [Ecommerce-Web](#)

Application (client) ID :

Directory (tenant) ID :

Object ID :

 Starting June 30th, 2020 we will no longer add any new features to Azure Active Direct upgraded to Microsoft Authentication Library (MSAL) and Microsoft Graph. [Learn more](#)

Tutorials

[Use the Graph API with Azure AD B2C](#)

[Request Azure AD B2C access tokens](#)

[Home](#) > [Packt Ecommerce](#) > [Ecommerce-Web](#)

Ecommerce-Web | Manifest

 Search (Ctrl+[/](#))

 Save  Discard  Upload  Download

 Overview

 Integration assistant

Manage

 Branding

 Authentication

 Certificates & secrets

 API permissions

The editor below allows you to update this application

```
1 {
2   "id": "203c9b9c-a235-4804-8473-1cf3d
3   "acceptMappedClaims": null,
4   "accessTokenAcceptedVersion": 2,
5   "addIns": [],
6   "allowPublicClient": null,
7   "appId": "1ae40a96-60d7-4641-bb81-bc
8   "appRoles": [
9   ],
10  "oauth2AllowUrlPathMatching": false,
```

Chapter 14: Health and Diagnostics

The screenshot displays the Visual Studio interface with three main components:

- NuGet Package Manager:** Shows the search results for `Microsoft.Extensions.Diagnostics.Health`. The package `Microsoft.Extensions.Diagnostics.HealthChecks` by Microsoft, version 6.0.2, is selected. It is described as "Components for performing health checks in .NET applications". The right-hand pane shows the package is installed and the version is 6.0.2, with buttons for "Uninstall" and "Update".
- REST Client:** A window titled "Healthy" shows a GET request to `https://localhost:44365/health`. The response is a JSON object indicating a healthy status:

```
{  "Status": "Healthy",  "HealthChecks": [    {      "Component": "Product Service",      "Status": "Healthy",      "Description": null    },    {      "Component": "Order Service",      "Status": "Healthy",      "Description": null    }  ],  "HealthCheckDuration": "00:00:00.7641736"}
```
- Solution Explorer:** Shows the project structure for "Solution 'Packt.Ecommerce' (11 of 11 projects)". The `HealthCheck` folder is selected, revealing files like `ProcessMonitor.cs`, `ProcessMonitorHealthCheckBuilderExtensions.cs`, `Helpers`, `Middlewares`, `Models`, `Options`, `Validator`, `.editorconfig`, `GlobalSuppressions.cs`, `Packt.Ecommerce.Common.xml`, and `stylecop.json`.

← → ↻ 🔒 https://localhost:44365/health

```
{
  "Status": "Healthy",
  "HealthChecks": [
    {
      "Component": "Product Service",
      "Status": "Healthy",
      "Description": null
    },
    {
      "Component": "Order Service",
      "Status": "Healthy",
      "Description": null
    },
    {
      "Component": "Notepad monitor",
      "Status": "Healthy",
      "Description": null
    }
  ],
  "HealthCheckDuration": "00:00:03.9274025"
}
```

★ Application Dashboard 🏠 Getting started 🔍 Search 📄 Logs 📍 Monitor resource group 🗨 Feedback ⭐ Favorites → Rename 🗑 Delete

Essentials

Resource group (change) : pact

Location : ██████████

Subscription (change) : ██████████

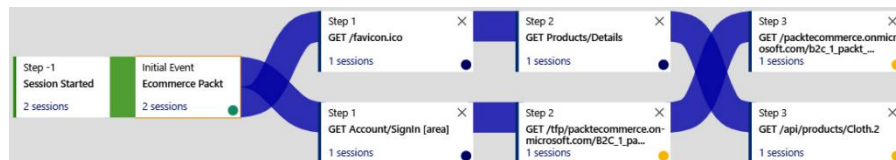
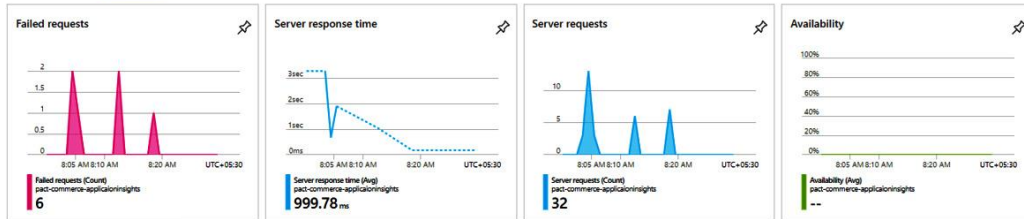
Subscription ID : ██████████

Tags (change) : [Click here to add tags](#)

Instrumentation Key : ██████████

Connection String : ██████████

Show data for last: 30 minutes 1 hour 6 hours 12 hours 1 day 3 days 7 days 30 days



Search (Ctrl+ /)

- Overview
- Activity log
- Access control (IAM)
- Tags
- Diagnose and solve problems

Investigate

- Application map
- Smart Detection
- Live Metrics
- Search
- Availability
- Failures
- Performance
- Troubleshooting guides (previ...
- Monitoring
- Alerts

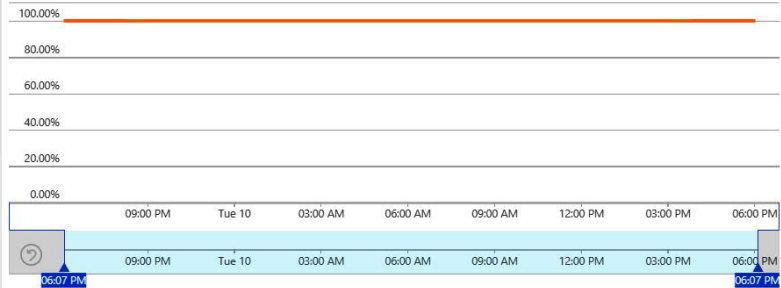
+ Add test Refresh View in Logs Feedback

Local Time: Last 24 hours

+ Add test Refresh View in Logs Feedback

Local Time: Last 24 hours

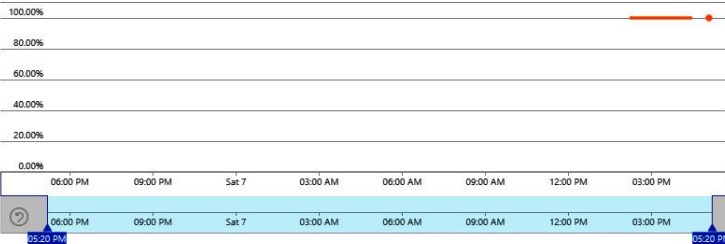
Availability



Select availability test

AVAILABILITY TEST	20 MIN	AVAILABILITY	DURATION (AVG)
Overall (including 1 deleted test)	100.00%	100.00%	307 ms

Availability



Select availability test

AVAILABILITY TEST	20 MIN	AVAILABILITY	DURATION (AVG)
Overall (including 1 deleted test)	100.00%	100.00%	109 ms
Commerce availability test	100.00%	100.00%	111 ms
Brazil South	100.00%	100.00%	260 ms
East Asia	100.00%	100.00%	42.0 ms
Japan East	100.00%	100.00%	111 ms
Southeast Asia	100.00%	100.00%	74.0 ms
UK South	100.00%	100.00%	69.0 ms

Overall

Availability results	COUNT
Successful	123

Drill into...

123 Successful 0 Failed

Edit test ✕

URL ping test ▼

URL * ⓘ

<https://pactcommerce.azurewebsites.net/health> ✓

Parse dependent requests ⓘ

☐

Enable retries for availability test failures. ⓘ

☒

Test frequency ⓘ

5 minutes ▼

^ Test locations

☒ Select/Deselect All

☒ West Europe

☐ West US

☐ UK South

☐ UK West

☒ Southeast Asia

☐ South Central US

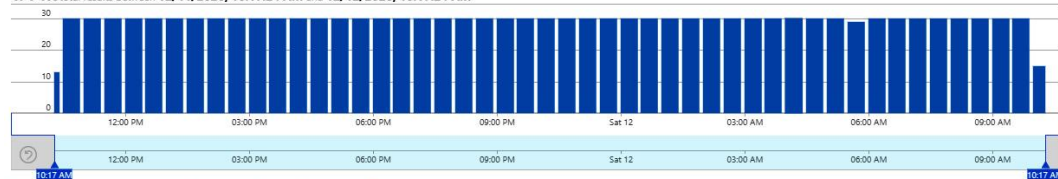
☒ North Central US

[Refresh](#) [Reset](#) [View in Logs](#) [Feedback](#) [Help](#) [Open Classic Search](#)

Local Time: Last 24 hours Event types = All selected +

Place search terms here, e.g. an Operation ID or trace text (optional)

1.44k total results between 12/11/2020, 10:17:24 AM and 12/12/2020, 10:17:24 AM



Availability 1.44k Request 0 Exception 0 Page View 0 Trace 0 Custom Event 0 Dependency 0

Results Grouped results (0)

Sort by time Newest first Oldest first

12/12/2020, 10:14:23 AM - AVAILABILITY

Commerce availability test1

Availability message: Passed Test location: Japan East Test duration: 114.00 ms

12/12/2020, 10:14:18 AM - AVAILABILITY

Commerce availability test1

Availability message: Passed Test location: Southeast Asia Test duration: 74.00 ms

12/12/2020, 10:12:29 AM - AVAILABILITY

Commerce availability test1

Availability message: Passed Test location: North Europe Test duration: 48.00 ms

[Refresh](#) [Reset](#) [View in Logs](#) [Feedback](#) [Help](#) [Open Classic Search](#)

Local Time: Last 30 days

Event types = Request

Request Response ... = 500 ✕

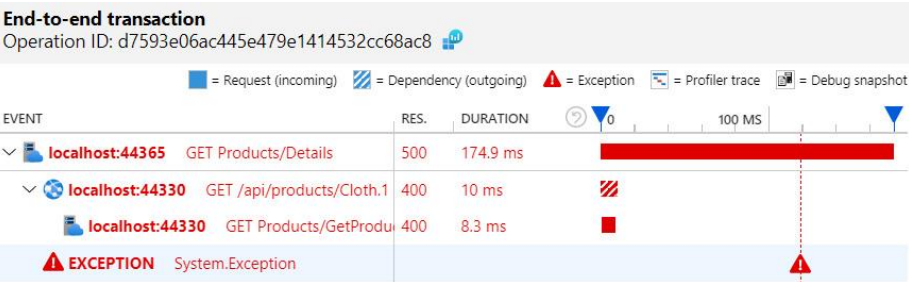
Place search terms here, e.g. an Operation ID or trace text (optional)

Results Grouped results (0)

12/5/2020, 6:19:48 AM - REQUEST

GET Products/Details [📄](#)

Request URL: <https://localhost:44365/Products/Details?productId=Cloth.1> Response code: 500 Response time: 174.86 ms



pact-commerce-applicaioninsights | Logs

Application Insights

Search (Ctrl+I)

Live Metrics

Search

Availability

Failures

Performance

Troubleshooting guides (previ...

Monitoring

Alerts

Metrics

Logs

Workbooks

Usage

Users

Sessions

Events

Queries

Always show Queries

Community Git repo

Documentation

Category

Search

Resource Type : Application Insights

Add filter

★ Favorites

All Queries

Application Insights

Response time trend

Chart request duration over the last 12 hours.

Run

Example query

Request count trend

Chart Request count over the last day.

Run

Example query

Response time buckets

Show how many requests are in each performance-bucket.

Run

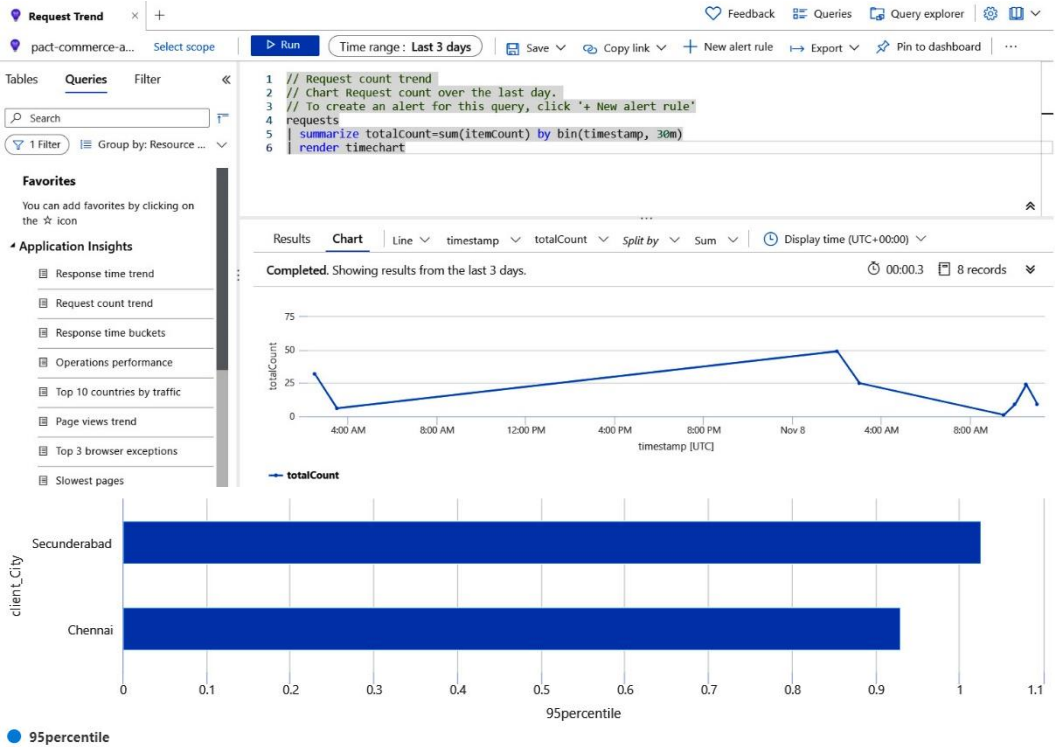
Example query

Operations performance

Calculate request count and duration by operations.

Run

Example query



requestName	exceptionType	count
GET Products/Index	System.Net.Sockets.SocketException	18
POST Cart/Index	System.Net.Sockets.SocketException	16
GET Products/Details	System.Exception	20
GET Products/Index	System.InvalidOperationException	15

Local time : **Last 24 hours**

Event types : **Exception**



Search

Place search terms here, e.g. an Operation ID or trace text (optional)

41 total results between **11/7/2020 9:15 AM** and **11/8/2020 9:15 AM**



Exception
41

Results Grouped results (3)

Sort by time **Newest first** Oldest first

11/8/2020, 8:57:20 AM - EXCEPTION

Operation is not valid due to the current state of the object.
Problem Id: System.InvalidOperationException at Packt.Ecommerce.Web.Services.ECom...

11/8/2020, 8:56:30 AM - EXCEPTION

Operation is not valid due to the current state of the object.
Problem Id: System.InvalidOperationException at Packt.Ecommerce.Web.Services.ECom...

[Search results](#)
[Learn more](#)
[Copy link](#)
[Feedback](#)
[Leave preview](#)

Welcome to the new correlation experience in Application Map and Transaction Details. If you prefer the old experience, click "Leave preview" above to return to it.

End-to-end transaction

Operation ID: c926000418086a408b3156c416fe3d8d

EVENT	RES.	DURATION			
localhost:44365 GET Products/index	500	30.7 ms			
localhost:44330 GET /api/products/	200	9 ms			
localhost:44330 GET Products/GetProdu	200	5.7 ms			
EXCEPTION System.InvalidOperatio					

[Create work item](#)
[Open debug snapshot](#)

EXCEPTION
System.InvalidOperationException

Exception Properties

[Show all](#)

Event time	11/8/2020, 8:57:20 AM (Local time)	...
Message	Operation is not valid due to the current state of the object.	...
Exception type	System.InvalidOperationException	...
Failed method	Packt.Ecommerce.Web.Services.ECommerceService +<GetProductsAsync>d__4.MoveNext	...
Custom Properties		
FormattedMessage	An unhandled exception has occurred while executing the request.	...
AspNetCoreEnvironment	Development	...

Debug Snapshot

[Help](#)
[Send the team an email](#)

Have 2 minutes to give us your feedback on the Snapshot Debugger? [Yes, let's do it.](#) [No, maybe later.](#)

You don't have access

Click the 'Add Application Insights Snapshot Debugger Role' button below.

Add Application Insights Snapshot Debugger Role

If the problem persists, please create a support ticket or send us an email directly. snapshothelp@microsoft.com

[Troubleshooting documentation](#)

For all inquiries please include this correlation id: **2hmmm8us**

Have 2 minutes to give us your feedback on the Snapshot Debugger? [Yes, let's do it.](#) [No, maybe later.](#)

[Download Snapshot](#)

Opens in Visual Studio Enterprise

Call Stack

METHOD
[Managed to Native Transition]
System.Threading.Tasks.Task<System.Collections....
[Resuming Async Method]
void System.Runtime.CompilerServices.AsyncTask...
void System.Threading.ExecutionContext.RunInter...
void System.Runtime.CompilerServices.AsyncTask...
void System.Runtime.CompilerServices.AsyncTask...

Locals

NAME	VALUE	TYPE
Function Arguments		
filterCriteria	null	string
Variables		
▸ \$exception	{System.Invali...	System.Invali...
▸ this	{Packt.Ecom...	Packt.Ecomm...
▸ products	Count = 7	System.Colle...
▸ productReque	{Method: GET...	System.Net.H...

Minidump File Summary

11/8/2020 9:31:03 AM

Dump Summary		Actions
Dump File	ddd2860c28c6423cae6efd35d0020a06.dmp : C:\Users\skunani\AppData\Local\Temp\99bd6418-5b6b-49ae-95	► Debug with Managed Only
Last Write Time	11/8/2020 9:31:03 AM	► Debug with Mixed
Process Name	iiexpress.exe : C:\Program Files\IIS Express\iiexpress.exe	► Debug with Native Only
Process Architecture	x64	🔧 Debug Managed Memory
Exception Code	0xE0434352	📄 Set symbol paths
Exception Information		📄 Copy all to clipboard
Heap Information	Present	
Error Information		
System Information		
OS Version	10.0.19042	
CLR Version(s)	5.0.20.36411	
Modules		

Disassembly ddd2860c28c6423ca_20a06.diagsession appsettings.Development.json ProductsController.cs appsettings.json appsettings.json ECommerceServices Startup.

Packt.Ecommerce.Web 2 references | Ravindra Akella, 21 days ago | 1 author, 1 change

```
public async Task<IEnumerable<ProductListViewModel>> GetProductsAsync(string filterCriteria = null)
{
    IEnumerable<ProductListViewModel> products = new List<ProductListViewModel>();
    using var productRequest = new HttpRequestMessage(HttpMethod.Get, $"{this.applicationSettings.ProductsApiEndpoint}");
    var productResponse = await this.httpClient.SendAsync(productRequest).ConfigureAwait(false);

    if (!productResponse.IsSuccessStatusCode)
    {
        await this.ThrowServiceToServiceErrors(productResponse).ConfigureAwait(false);
    }

    if (productResponse.StatusCode != System.Net.HttpStatusCode.NoContent)
    {
        products = await productResponse.Content.ReadFromJsonAsync<IEnumerable<ProductListViewModel>>().ConfigureAwait(false);
    }

    // To Simulate an error uncomment below line
    if (products.Any())
    {
        throw new InvalidOperationException();
    }

    return products;
}

/// <inheritdoc/>
public async Task<ProductDetailsViewModel> GetProductByIdAsync(string productId, string productName)
{
}
```

Exception Thrown

System.InvalidOperationException: 'Operation is not valid due to the current state of the object.'

View Details | Copy Details | Start Live Share session...

Exception Settings

☒ Break when this exception type is thrown

Except when thrown from:

☐ Packt.Ecommerce.Web.dll

Open Exception Settings | Edit Conditions

+ New More actions ▾

Ready to publish.

Settings

Configuration Debug 

Target Framework net6.0 

Deployment Mode Framework-dependent 

Target Runtime Portable 

[Show all settings](#)

Hosting

Subscription 727346fa-7d9f-4a27-8f02-66f3afa812c6 

Resource group aquagenie-rg

Resource name ActionableMessageapi20220421103639

Site: <https://actionablemessageapi20220421103639.azurewebsites.net> 

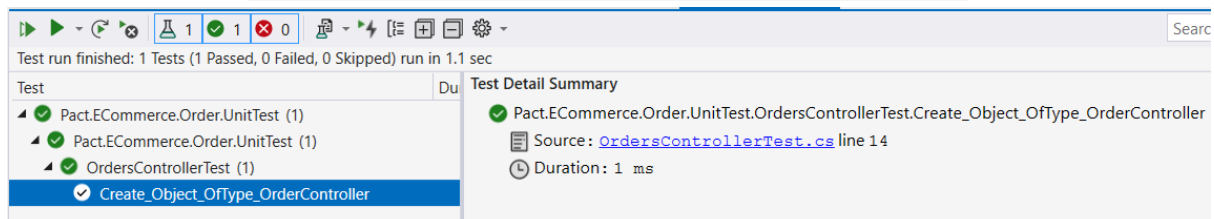
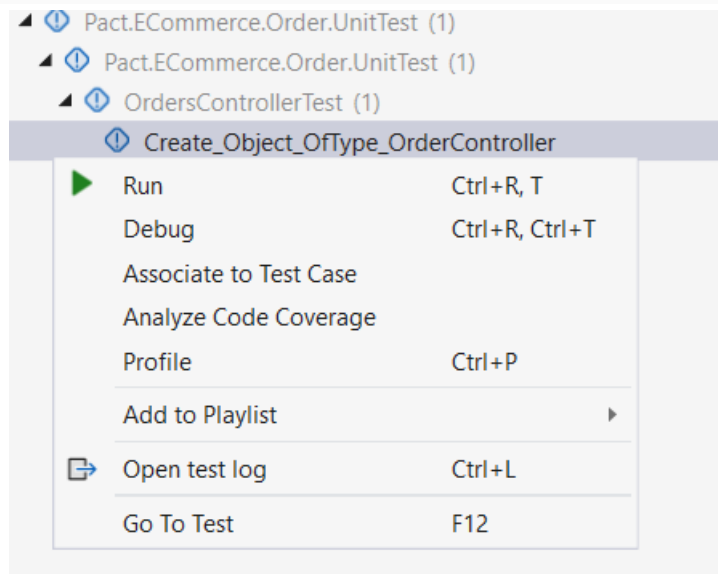
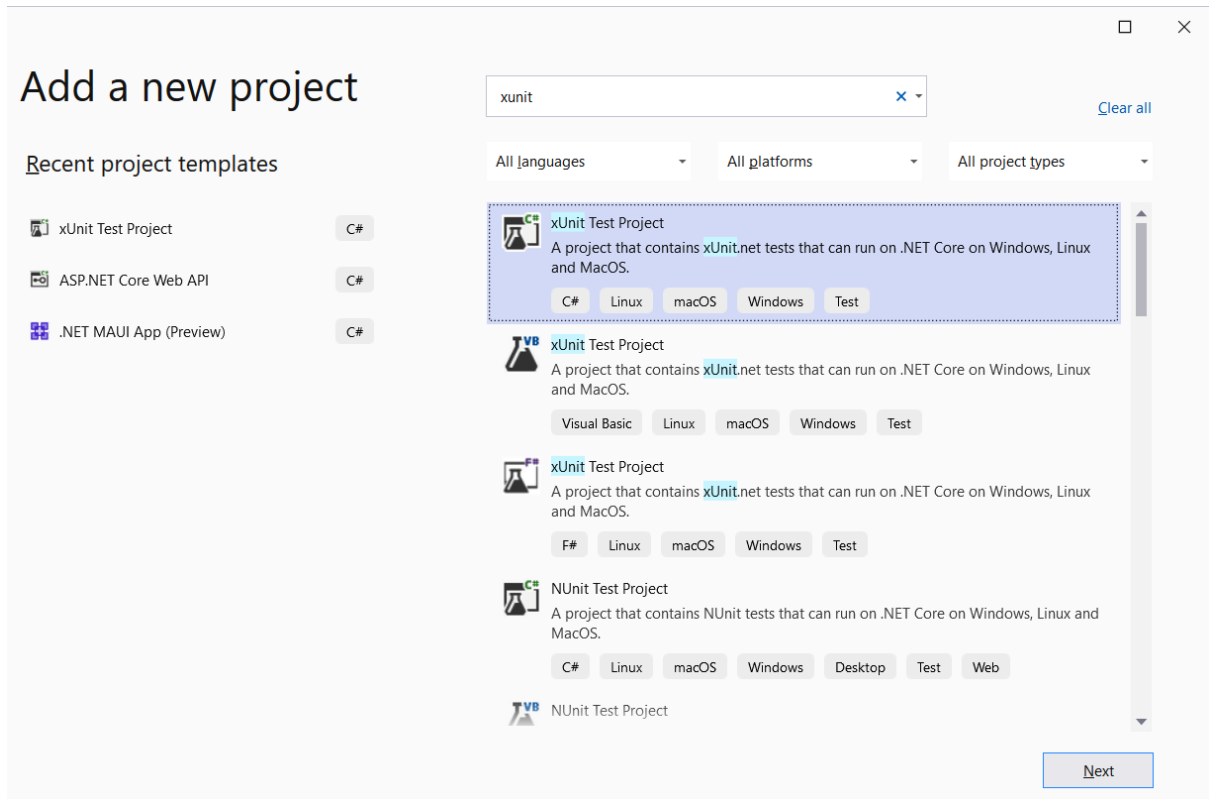
Service Dependencies

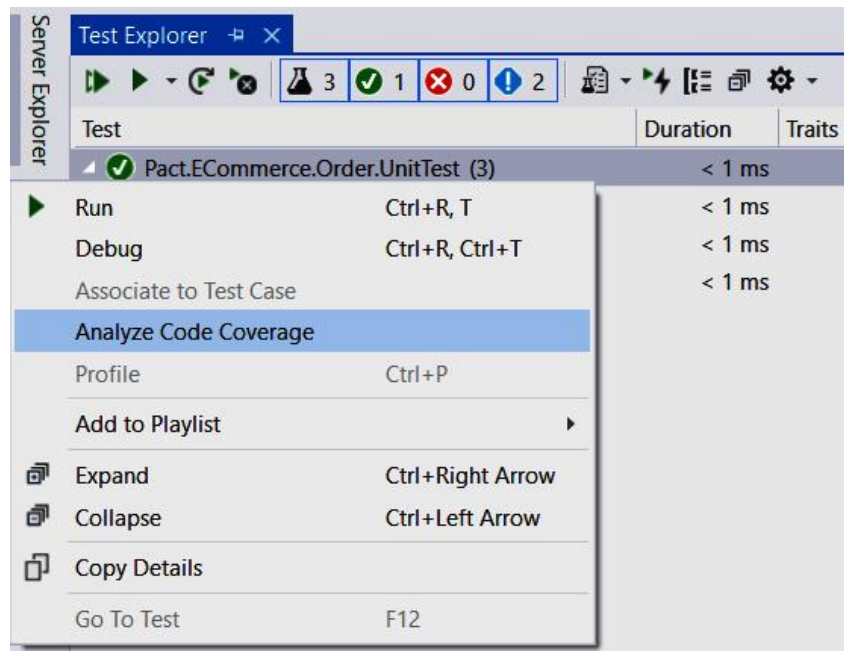
 Application Insights

 Microsoft identity platform

- ...
-  Manage Azure App Service settings
 -  Open in Azure portal
 -  Associate instance
 -  Attach Debugger
 -  Stop application
 -  View streaming logs
 -  Start application
 -  Stop application
 -  Download publish profile
 -  Open troubleshooting guide

Chapter 15: Testing





Code Coverage Results

2020-11-28 14_09_49.c

Hierarchy	Not Covered (Blocks)	Not Covered (% Blocks)	Covered (Blocks)	Covered (% Blocks)
2020-11-28 14_09_49.coverage	408	86.62%	63	13.38%
packt.ecommerce.dto.models.dll	89	98.89%	1	1.11%
packt.ecommerce.order.dll	319	96.37%	12	3.63%
Pactt.ECommerce.Order	100	100.00%	0	0.00%
Pactt.ECommerce.Order.Controllers	40	76.92%	12	23.08%
OrdersController	0	0.00%	2	100.00%
OrdersController.<AddOrderAsync>d_4	9	100.00%	0	0.00%
OrdersController.<GetOrderById>d_3	0	0.00%	10	100.00%
OrdersController.<GetOrdersAsync>d_2	11	100.00%	0	0.00%
OrdersController.<UpdateOrderAsync>d_5	20	100.00%	0	0.00%
Pactt.ECommerce.Order.Services	179	100.00%	0	0.00%
packt.ecommerce.order.unittest.dll	0	0.00%	50	100.00%

Test Explorer

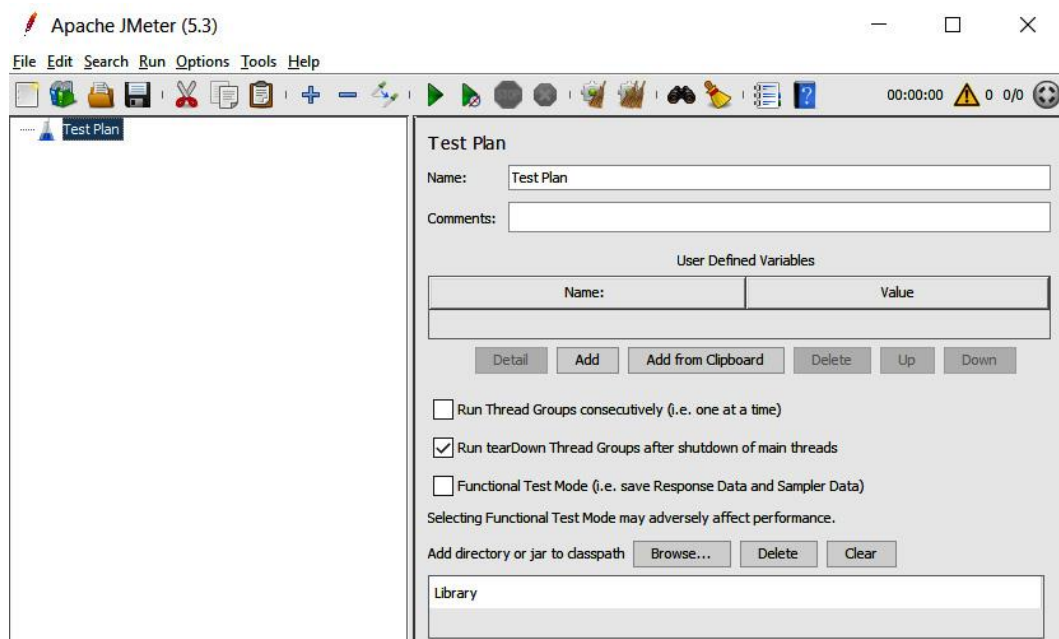
Test	Duration	Traits
Packt.ECommerce.FunctionalTest (1)	6.2 sec	
Packt.ECommerce.FunctionalTest (1)	6.2 sec	
HomePageTest (1)	6.2 sec	
When_Application_Launched_Title_Should_be_ECommerce_Pact	6.2 sec	

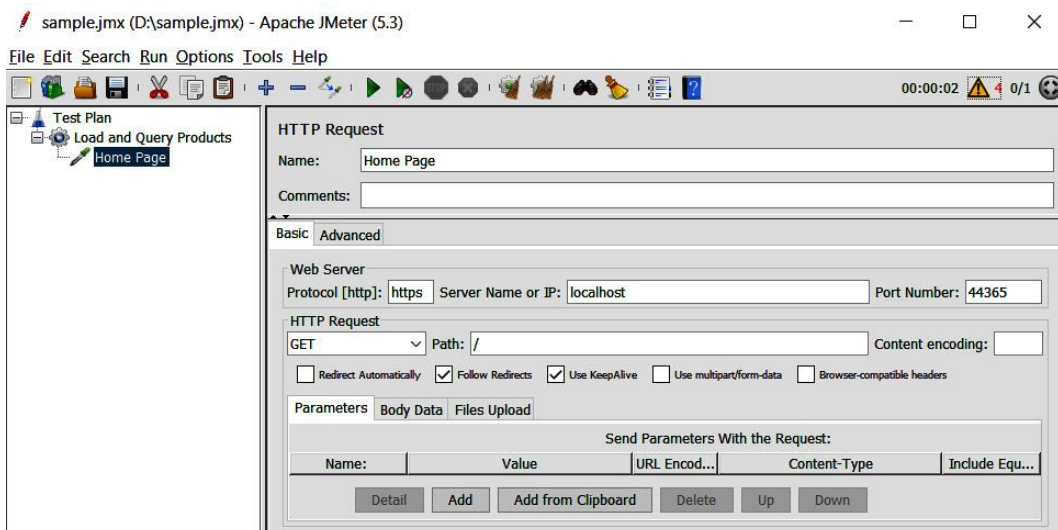
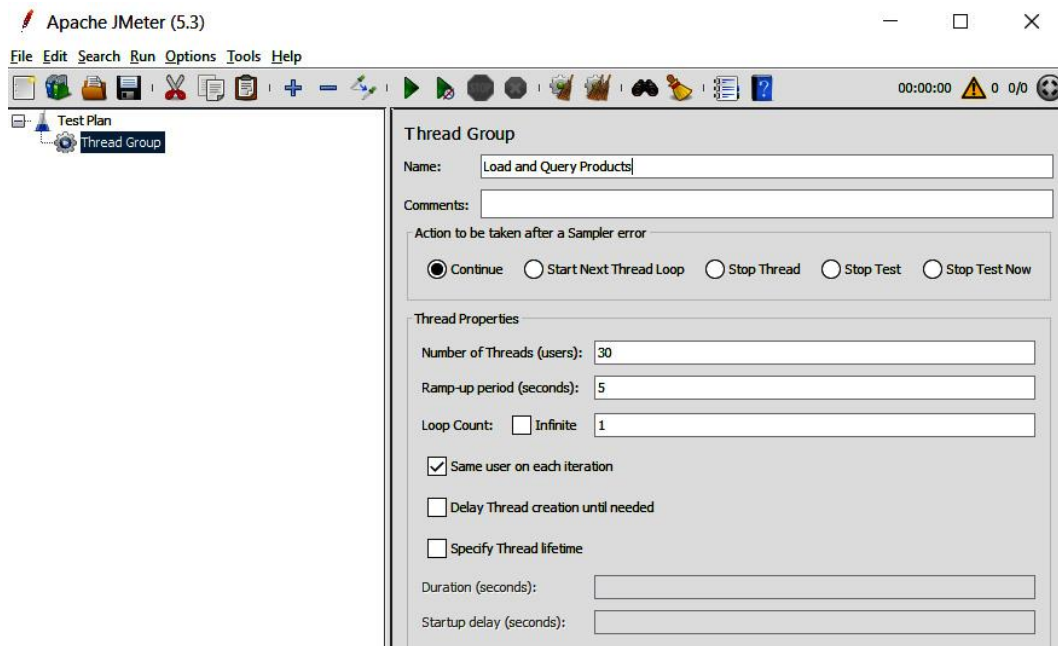
Test Detail Summary

When_Application_Launched_Title_Should_be_ECommerce_Pact

Source: [HomePageTest.cs](#) line 25

Duration: 6.2 sec





sample.jmx (D:\sample.jmx) - Apache JMeter (5.3)

File Edit Search Run Options Tools Help

00:00:07 4 0/30

Test Plan
Load and Query Products
Home Page
Product Details

HTTP Request

Name: Product Details
Comments:

Basic Advanced

Web Server
Protocol [http]: https Server Name or IP: localhost Port Number: 44365

HTTP Request
GET Path: /Products/Details Content encoding:
☐ Redirect Automatically ☒ Follow Redirects ☒ Use KeepAlive ☐ Use multipart/form-data ☐ Browser-compatible headers

Parameters Body Data Files Upload

Send Parameters With the Request:

Name	Value	URL Encod...	Content-Type	Include Equ...
productId	Cloth.3		text/plain	☒
productName	Orange%20Shirt		text/plain	☒

Detail Add Add from Clipboard Delete Up Down

sample.jmx (D:\sample.jmx) - Apache JMeter (5.3)

File Edit Search Run Options Tools Help

00:00:07 4 0/30

Test Plan
Load and Query Products
Home Page
Product Details
View Results in Table

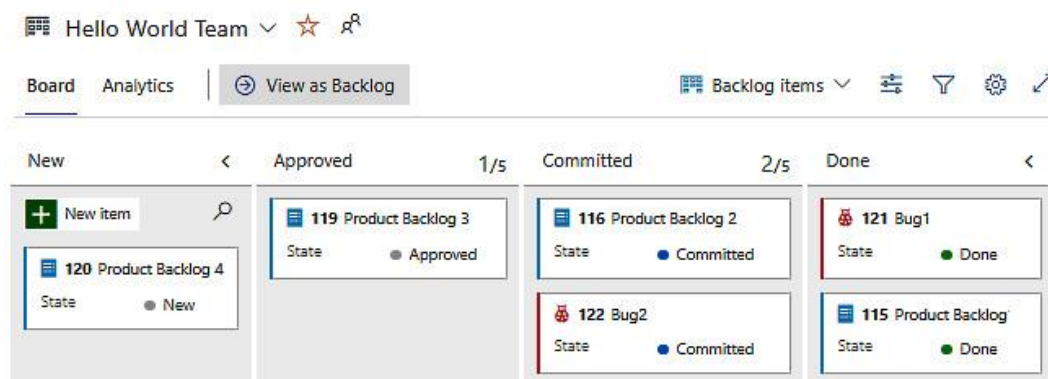
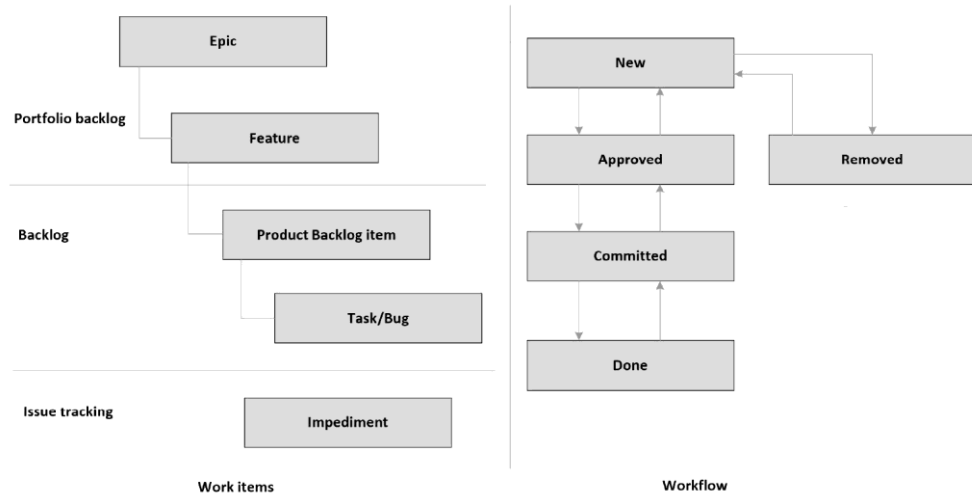
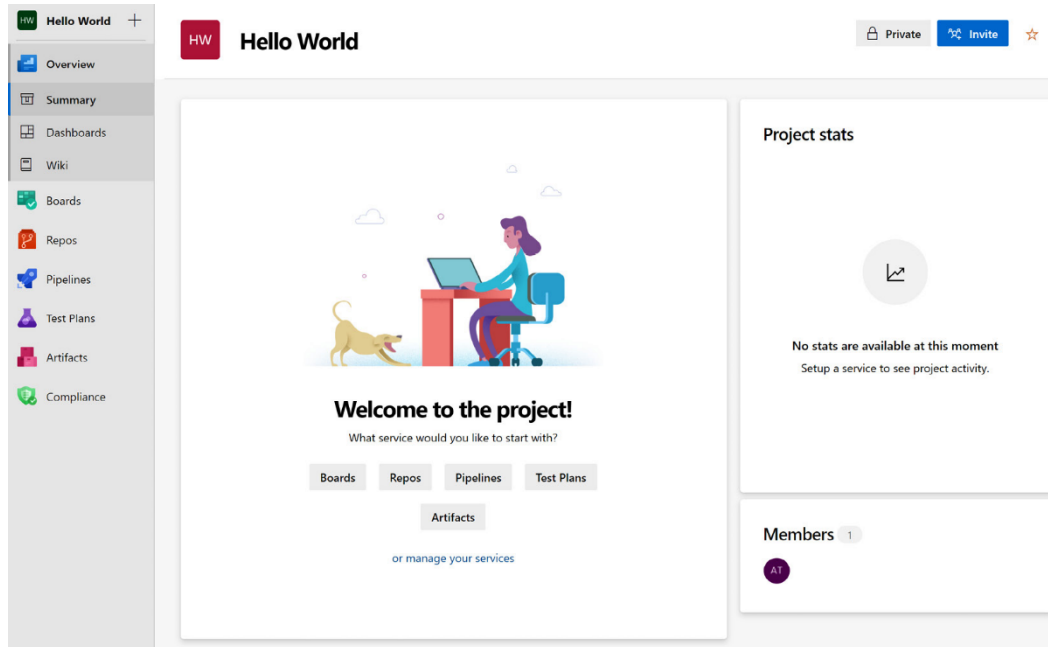
View Results in Table

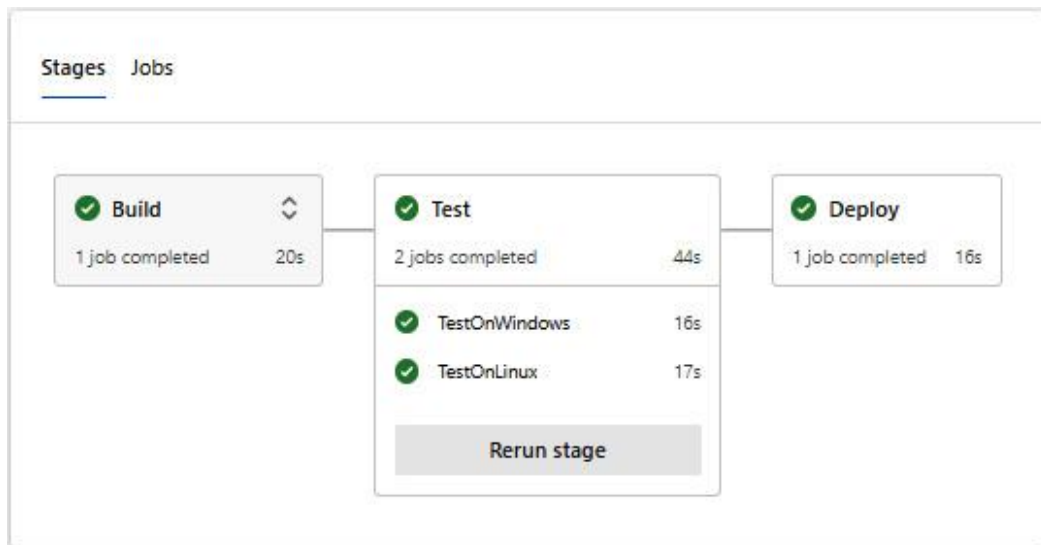
Name: View Results in Table
Comments:

Write results to file / Read from file
Filename: Browse... Log/Display Only: ☐ Errors ☐ Successes Configure

Sample #	Start Time	Thread Name	Label	Sample Tim...	Status	Bytes	Sent Bytes	Latency	Connect Ti...
1	06:38:08.032	Load and Qu...	Home Page	2074	✓	12700	120	2074	2068
2	06:38:08.197	Load and Qu...	Home Page	2058	✓	12700	120	2058	2052
3	06:38:10.106	Load and Qu...	Product Details	240	✓	14196	181	239	0
4	06:38:08.365	Load and Qu...	Home Page	2062	✓	12718	120	2062	2058
5	06:38:10.255	Load and Qu...	Product Details	236	✓	14178	181	236	0
6	06:38:08.531	Load and Qu...	Home Page	2084	✓	12718	120	2084	2080
7	06:38:10.427	Load and Qu...	Product Details	231	✓	14196	181	231	0
8	06:38:08.698	Load and Qu...	Home Page	2068	✓	12718	120	2068	2065
9	06:38:10.615	Load and Qu...	Product Details	234	✓	14178	181	234	0
10	06:38:08.866	Load and Qu...	Home Page	2073	✓	12700	120	2073	2069
11	06:38:10.767	Load and Qu...	Product Details	234	✓	14196	181	234	0
12	06:38:09.032	Load and Qu...	Home Page	2088	✓	12700	120	2088	2084
13	06:38:10.939	Load and Qu...	Product Details	235	✓	14196	181	235	0
14	06:38:09.202	Load and Qu...	Home Page	2073	✓	12700	120	2073	2069
15	06:38:11.121	Load and Qu...	Product Details	232	✓	14178	181	232	0
16	06:38:09.365	Load and Qu...	Home Page	2076	✓	12718	120	2076	2072
17	06:38:11.276	Load and Qu...	Product Details	233	✓	14196	181	233	0
18	06:38:09.533	Load and Qu...	Home Page	2066	✓	12700	120	2066	2061
19	06:38:11.441	Load and Qu...	Product Details	234	✓	14178	181	234	0
20	06:38:09.700	Load and Qu...	Home Page	2084	✓	12700	120	2084	2080
21	06:38:11.600	Load and Qu...	Product Details	232	✓	14178	181	232	0
22	06:38:09.867	Load and Qu...	Home Page	2054	✓	12700	120	2054	2049

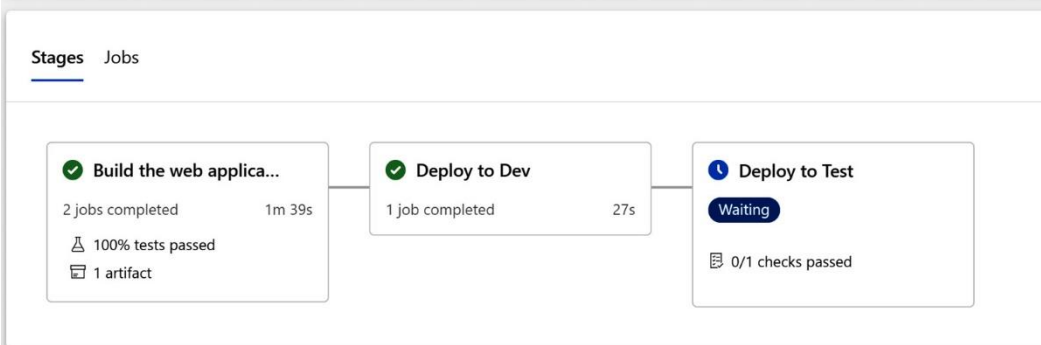
Chapter 16: Deploying the Application in Azure





1 approval needs your review before this run can continue to Deploy to Test

Review



← Jobs in run #20210201.2

HelloWorld

Build the web application

>	Build job	1m 5s
>	Run Tests	21s
Deploy to Dev		
▼	Deploy	23s
	Initialize job	3s
	Download	3s
	Azure App Service Deploy: website	16s
	Finalize Job	<1s
Deploy to Test		
	Deploy	

Initialize job

View raw log

```
1 Starting: Initialize job
2 Agent name: 'Hosted Agent'
3 Agent machine name: 'fv-az462-95'
4 Current agent version: '2.181.1'
5 Operating System
6 Virtual Environment
7 Current image version: '20210123.1'
8 Agent running as: 'vsts'
9 Prepare build directory.
10 Set build variables.
11 Download all required tasks.
12 Downloading task: DownloadBuildArtifacts (0.178.0)
13 Downloading task: AzureWebApp (1.168.3)
14 Checking job knob settings.
15 Knob: AgentToolsDirectory = /opt/hostedtoolcache Source: ${AGENT_TOOLS_DIRECTORY}
16 Knob: AgentPerflog = /home/vsts/perflog Source: ${VSTS_AGENT_PERFLOG}
17 Finished checking job knob settings.
18 Start tracking orphan processes.
19 Finishing: Initialize job
```

Create new project



Project name *

Description

Visibility



Public

Anyone on the internet can view the project. Certain features like TFVC are not supported.



Private

Only people you give access to will be able to view this project.

Advanced

Version control ?

Git

▼

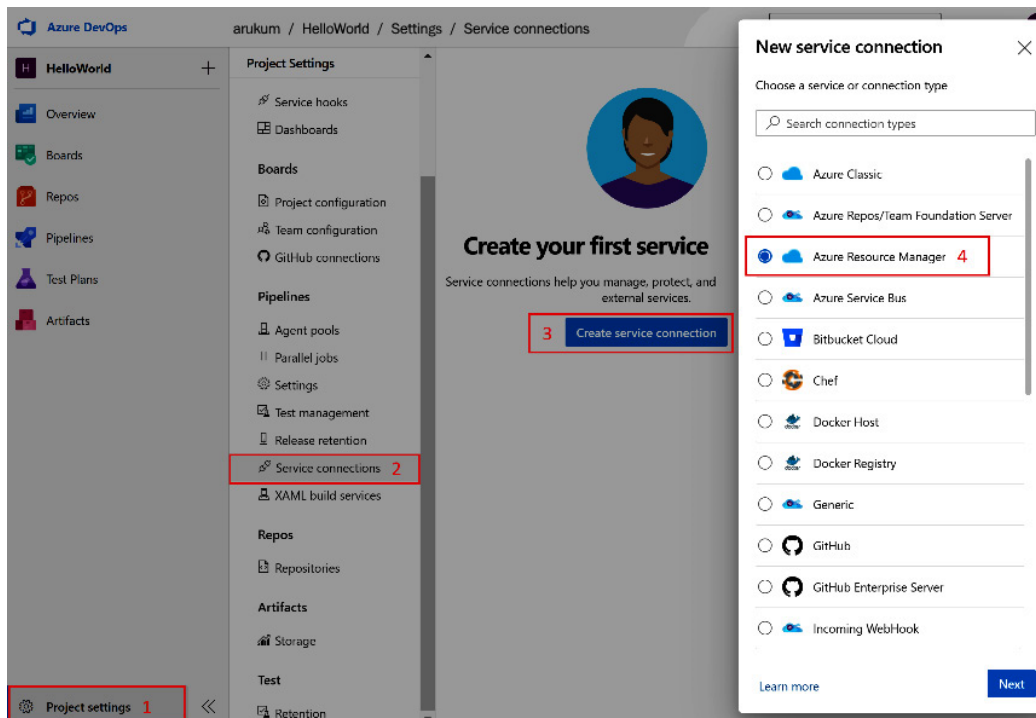
Work item process ?

Agile

▼

Cancel

Create



New Azure service connection

Azure Resource Manager

Authentication method

- ☒  Service principal (automatic) Recommended
- ☐  Service principal (manual)
- ☐  Managed identity
- ☐  Publish Profile

Need help choosing a connection type?

Back

Next

Connect Select Configure Review

New pipeline

Where is your code?



Azure Repos Git YAML
Free private Git repositories, pull requests, and code search



Bitbucket Cloud YAML
Hosted by Atlassian



GitHub YAML
Home to the world's largest community of developers



GitHub Enterprise Server YAML
The self-hosted version of GitHub Enterprise



Other Git
Any generic Git repository



Subversion
Centralized version control by Apache

Use the classic editor to create a pipeline without YAML.

✓ Connect ✓ Select **Configure** Review

New pipeline

Configure your pipeline



ASP.NET
Build and test ASP.NET projects.



ASP.NET Core (.NET Framework)
Build and test ASP.NET Core projects targeting the full .NET Framework.



.NET Desktop
Build and run tests for .NET Desktop or Windows classic desktop solutions.



Universal Windows Platform
Build a Universal Windows Platform project using Visual Studio.



Xamarin.Android
Build a Xamarin.Android project.



Xamarin.iOS
Build a Xamarin.iOS project.



Starter pipeline
Start with a minimal pipeline that you can customize to build and deploy your code.



Existing Azure Pipelines YAML file
Select an Azure Pipelines YAML file in any branch of the repository.

Select an existing YAML file



Select an Azure Pipelines YAML file in any branch of the repository.

Branch

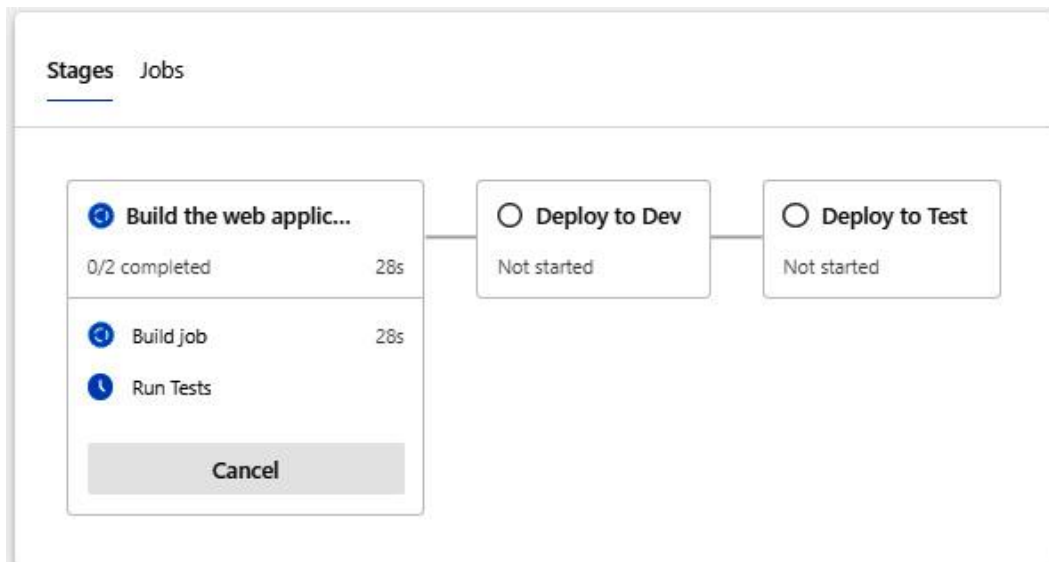
main

Path

/azure-ci-pipeline.yml

Select a file from the dropdown or type in the path to your file

HelloWorld



Overview
Boards
Repos
Pipelines
Pipelines
Environments
Releases

Environments

New environment

Environment	Status	Last activity
dev	✓ #20201217.3 on HelloW	Yesterday
test	✓ #20201217.3 on HelloW	Yesterday

test
Automatically created environment

Add resource

Deployments

Run	Jobs
Update azure-ci-pipeline.yml for Azure Pipelines #20201217.3 on HelloWorld	✓ Deploy
Update azure-ci-pipeline.yml for Azure Pipelines #20201217.2 on HelloWorld	✓ Deploy Yesterday 30s

- Edit
- Security
- Approvals and checks
- Delete

Add check



 Search check types

- ☒  **Approvals**
Approvers should grant approval for deployment
- ☐  **Branch control**
Allow deployments based on branches linked to the run
- ☐  **Business Hours**
Ensure the deployment is started in a specific time window
- ☐  **Evaluate artifact (preview)**
Ensure artifacts adhere to custom policies (container images only)
- ☐  **Exclusive Lock**
Limit access to this resource to only a single stage at a time
- ☐  **Invoke Azure Function**
Invoke an Azure Function
- ☐  **Invoke REST API**
Invoke a REST API as a part of your pipeline.
- ☐  **Query Azure Monitor alerts**
Observe the configured Azure Monitor rules for active alerts
- ☐  **Required template**
Ensure the pipeline extends one or more YAML templates

Approvals



Approvers

 Add users and groups

Instructions to approvers (optional)

Advanced



☒ Allow approvers to approve their own runs

Control options

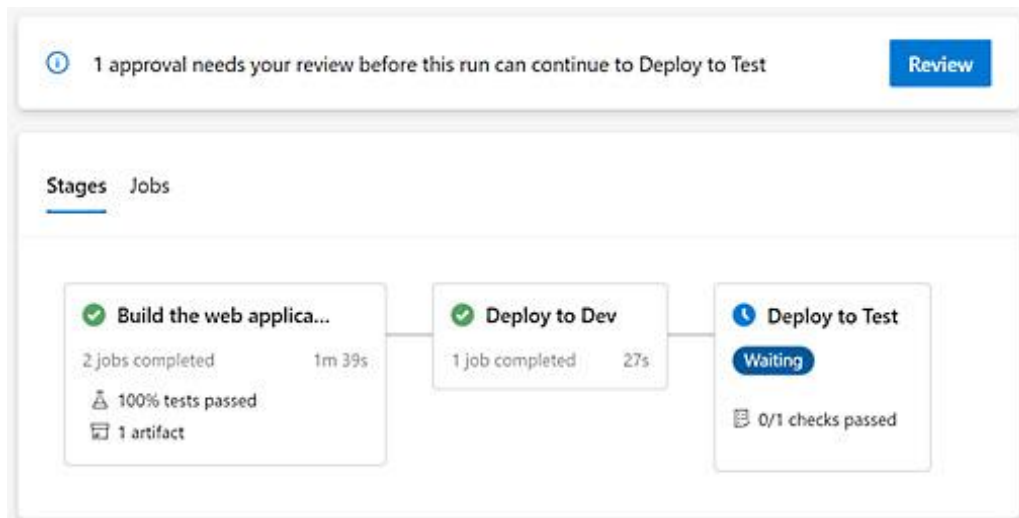


Timeout

30

Days





Approval

Waiting • Timeout in 29d

Resource

test

Requirement

All approvers must approve

Waiting on me

Reject

Approve