AZURE-MINI-PROJECT

Steps to create a web API project

1. From the File menu, select New > Project.
2. Enter Web API in the search box.
3. Select the ASP.NET Core Web API template and select Next.
4. In the Configure your new project dialog, name the project "Mini_Project" and select Next.

>>In the Additional information dialog: >>Confirm the Framework is .NET 6.0 (Longtermsupport).

>>Confirm the checkbox for Use controllers(uncheck to use minimal APIs) is checked. >>Select Create.

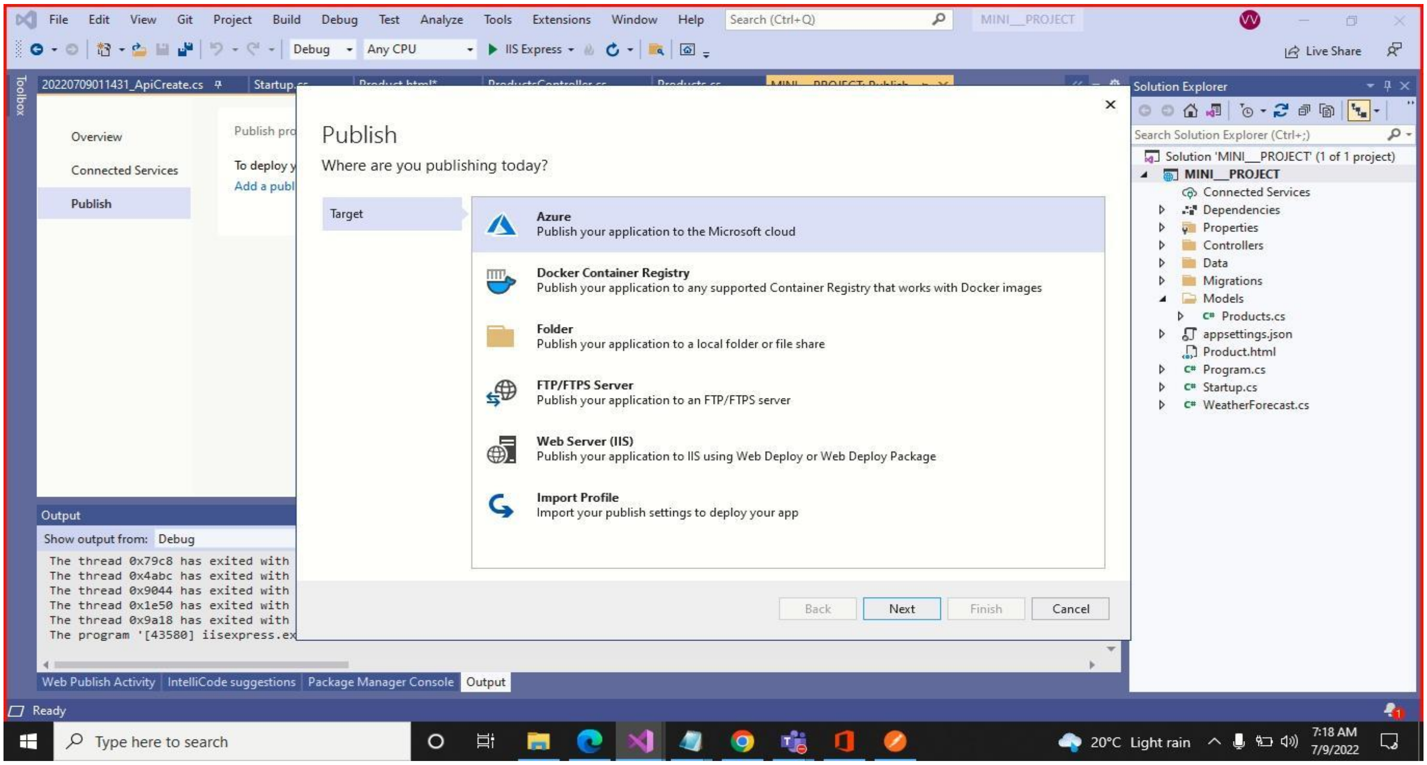
5. Add a model class with properties:-
6. In Solution Explorer, right-click the project. Select "Add >> New Folder". Name the folder "Models". Right click the Models folder and select "Add >> Class". Name the class "products" and select Add. >>product id >>product name. >>Price >>Brand >>Manufacture Date >>Expiration Date
6. Add NuGet packages From the Tools menu, select NuGet Package Manager >> Package Manager Console for Solution.
7. Add Web-Api Controller. In Solution Explorer, right-click on the controller Create a web Api controller.

Azure Hosting:-

1. Host the web api in azure and consume the same using JQuery Client :-

1. In Solution Explorer, right-click the project and select Publish:

2. In the Publish dialog, select Azure and select the Next button:



Publish

Where are you publishing today?

Target

Azure
Publish your application to the Microsoft cloud

Docker Container Registry
Publish your application to any supported Container Registry that works with Docker images

Folder
Publish your application to a local folder or file share

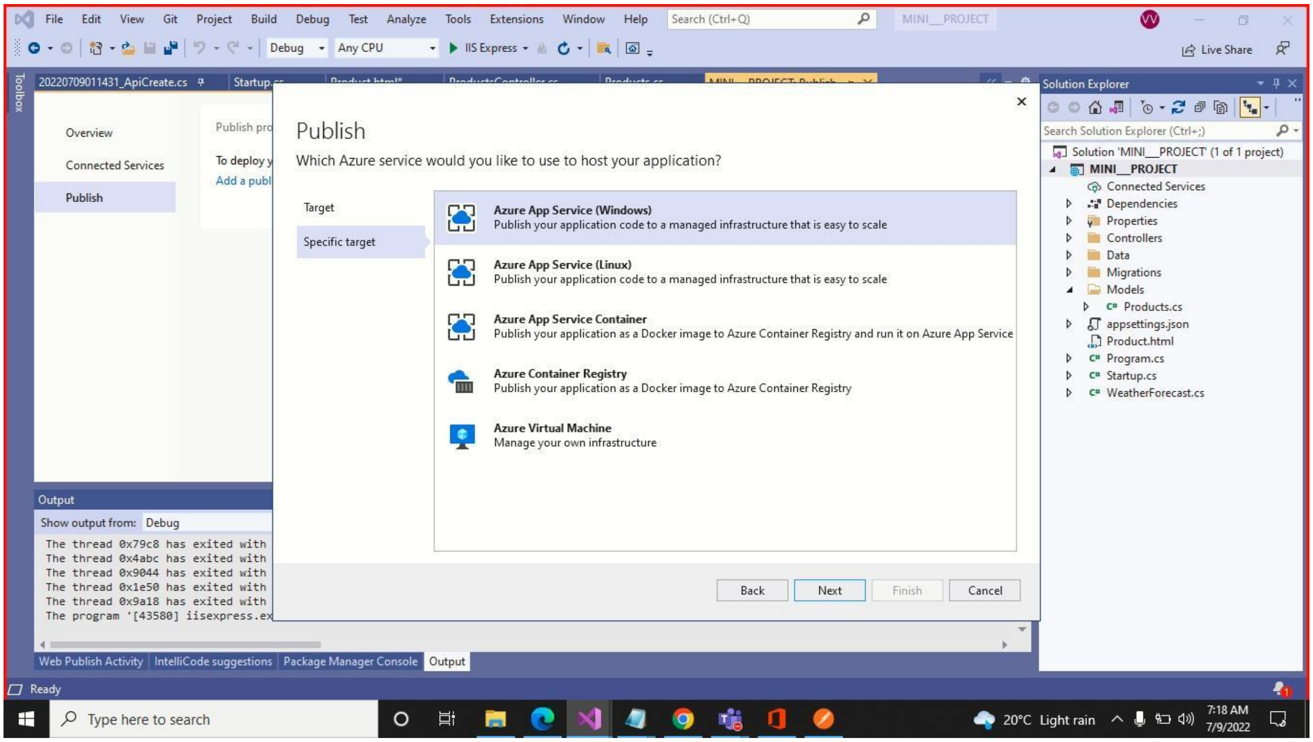
FTP/FTPS Server
Publish your application to an FTP/FTPS server

Web Server (IIS)
Publish your application to IIS using Web Deploy or Web Deploy Package

Import Profile
Import your publish settings to deploy your app

Show output from: Debug

```
The thread 0x79c8 has exited with
The thread 0x4abc has exited with
The thread 0x9044 has exited with
The thread 0x1e50 has exited with
The thread 0x9a18 has exited with
The program '[43580] iisexpress.ex
```



Publish

Which Azure service would you like to use to host your application?

Target

Specific target

Azure App Service (Windows)
Publish your application code to a managed infrastructure that is easy to scale

Azure App Service (Linux)
Publish your application code to a managed infrastructure that is easy to scale

Azure App Service Container
Publish your application as a Docker image to Azure Container Registry and run it on Azure App Service

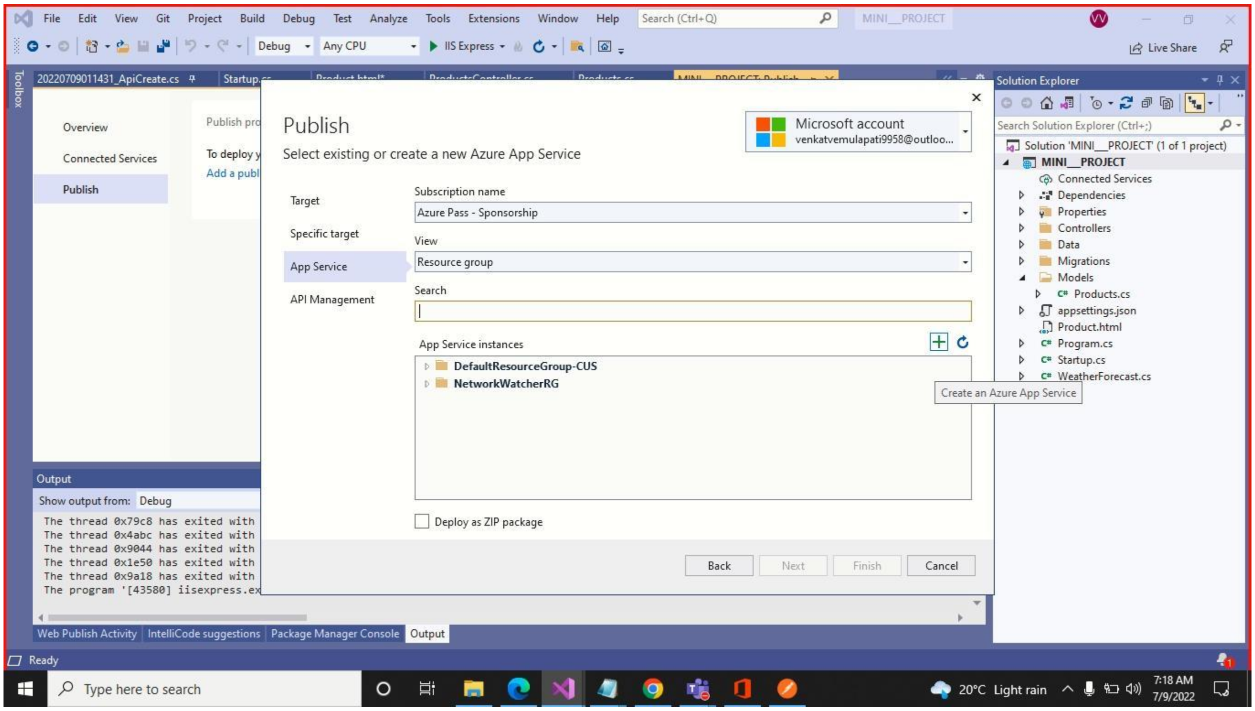
Azure Container Registry
Publish your application as a Docker image to Azure Container Registry

Azure Virtual Machine
Manage your own infrastructure

Back | Next | Finish | Cancel

```
The thread 0x79c8 has exited with
The thread 0x4abc has exited with
The thread 0x9044 has exited with
The thread 0x1e50 has exited with
The thread 0x9a18 has exited with
The program '[43580] iisexpress.ex
```

3. Select Azure app service (window) and next.



Publish

Select existing or create a new Azure App Service

Microsoft account
venkatvemulapati9958@outloo...

Target

Specific target

App Service

API Management

Subscription name: Azure Pass - Sponsorship

View: Resource group

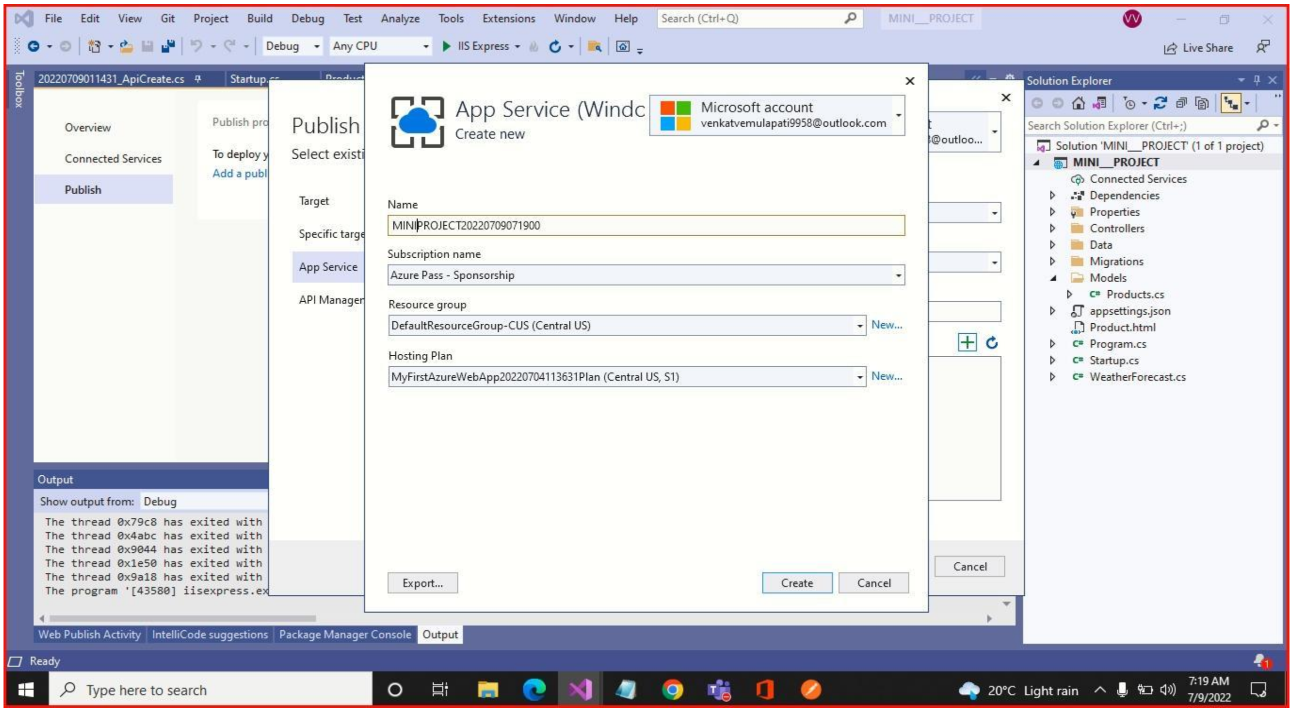
Search:

App Service instances
- DefaultResourceGroup-CUS
- NetworkWatcherRG

□ Deploy as ZIP package

Back | Next | Finish | Cancel

```
The thread 0x79c8 has exited with
The thread 0x4abc has exited with
The thread 0x9044 has exited with
The thread 0x1e50 has exited with
The thread 0x9a18 has exited with
The program '[43580] iisexpress.ex
```



App Service (Windows)
Create new

Microsoft account
venkatvemulapati9958@outlook.com

Name: MINIPROJECT20220709071900

Subscription name: Azure Pass - Sponsorship

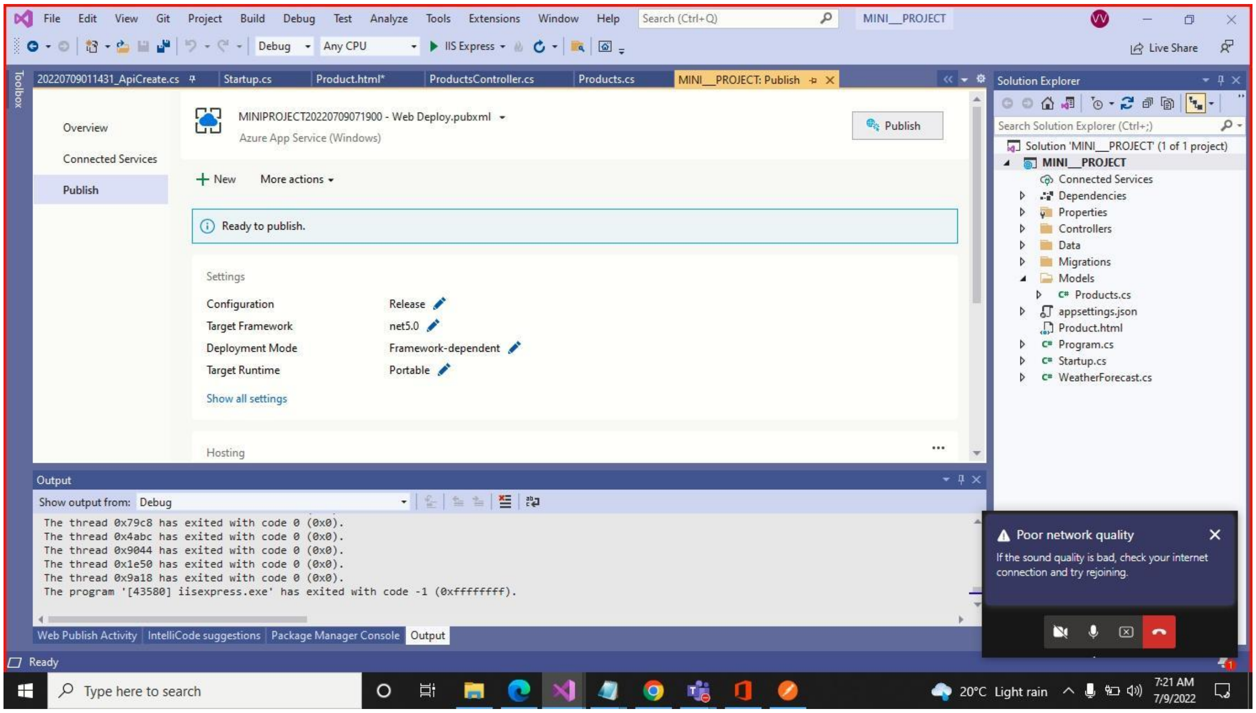
Resource group: DefaultResourceGroup-CUS (Central US)

Hosting Plan: MyFirstAzureWebApp20220704113631Plan (Central US, S1)

```
The thread 0x79c8 has exited with
The thread 0x4abc has exited with
The thread 0x9044 has exited with
The thread 0x1e50 has exited with
The thread 0x9a18 has exited with
The program '[43580] iisexpress.ex
```

4. Create App service

5. Click on publishing.



MINIPROJECT20220709071900 - Web Deploy.pubxml
Azure App Service (Windows)

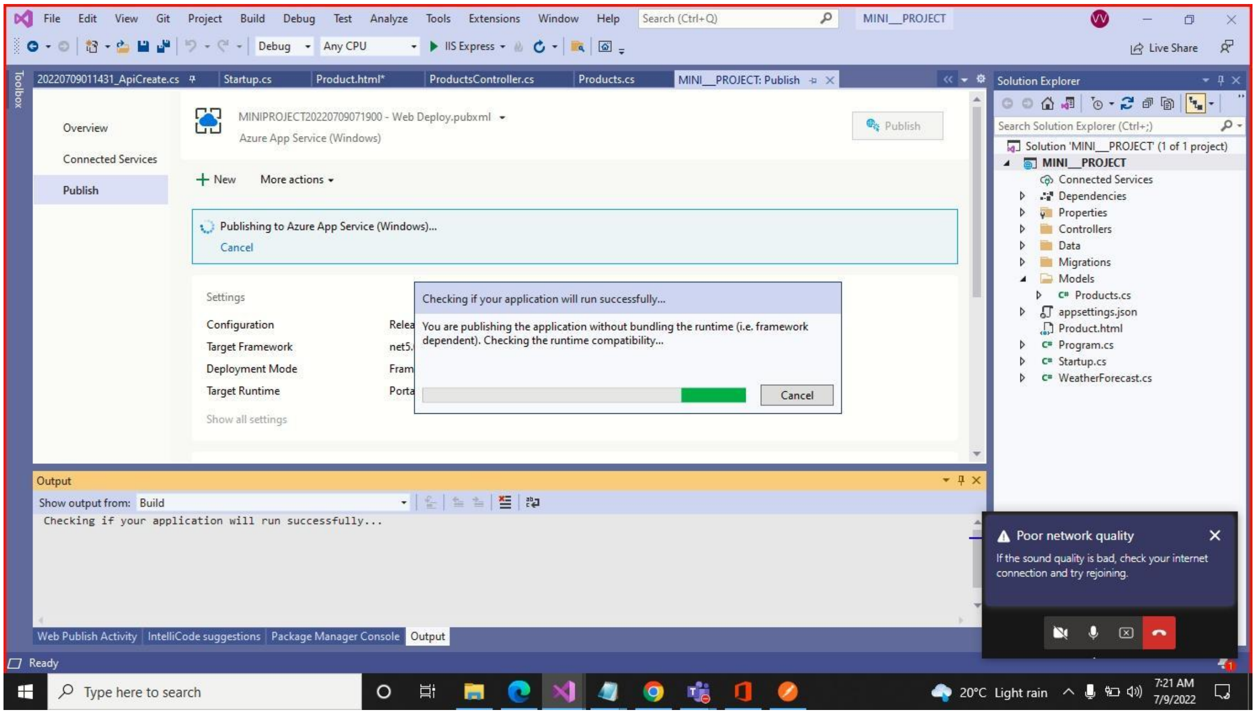
Ready to publish.

Settings

Configuration	Release
Target Framework	net5.0
Deployment Mode	Framework-dependent
Target Runtime	Portable

```
The thread 0x79c8 has exited with code 0 (0x0).
The thread 0x4abc has exited with code 0 (0x0).
The thread 0x9044 has exited with code 0 (0x0).
The thread 0x1e50 has exited with code 0 (0x0).
The thread 0x9a18 has exited with code 0 (0x0).
The program '[43580] iisexpress.exe' has exited with code -1 (0xffffffff).
```

Poor network quality
If the sound quality is bad, check your internet connection and try rejoining.


MINIPROJECT20220709071900 - Web Deploy.pubxml

Azure App Service (Windows)

Publishing to Azure App Service (Windows)...

Cancel

Checking if your application will run successfully...

You are publishing the application without bundling the runtime (i.e. framework dependent). Checking the runtime compatibility...

Settings

Configuration Relea

Target Framework net5.

Deployment Mode Fram

Target Runtime Porta

Show all settings

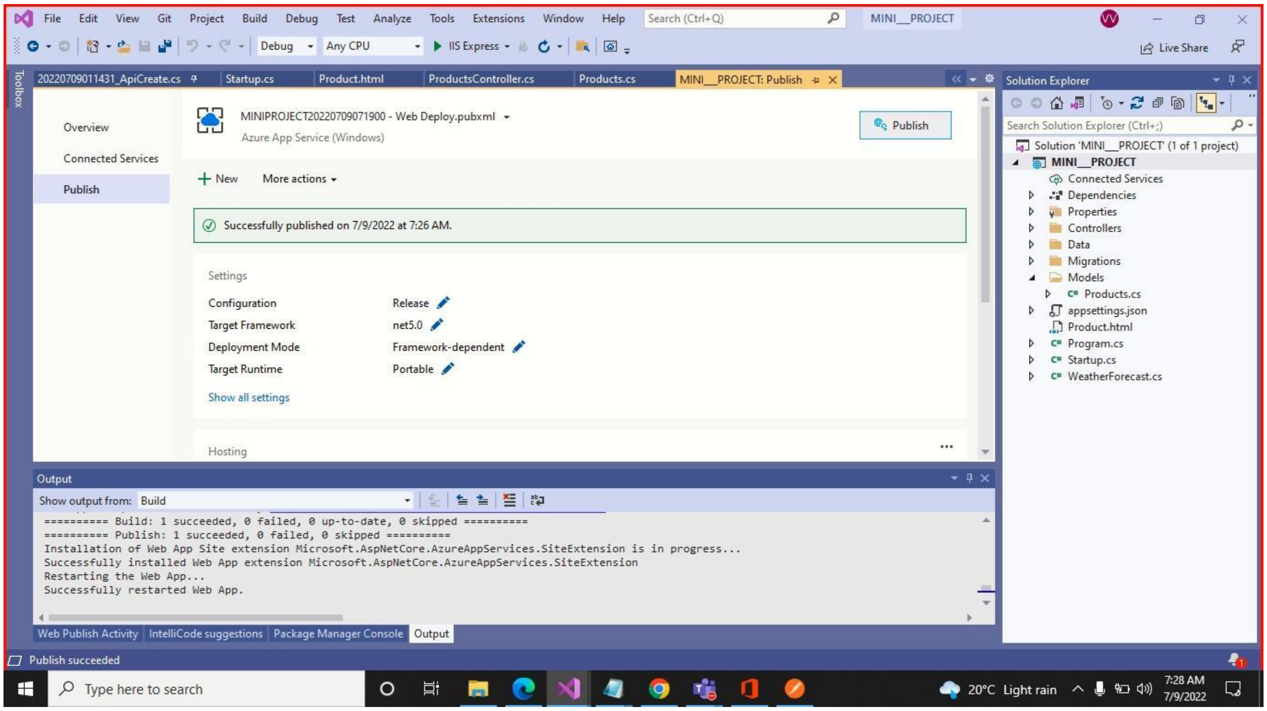
Show output from: Build

```
Checking if your application will run successfully...
```

Poor network quality

If the sound quality is bad, check your internet connection and try rejoining.

6. After publishing sucessfully


MINIPROJECT20220709071900 - Web Deploy.pubxml

Azure App Service (Windows)

Successfully published on 7/9/2022 at 7:26 AM.

Settings

Configuration Release

Target Framework net5.0

Deployment Mode Framework-dependent

Target Runtime Portable

Show all settings

Hosting

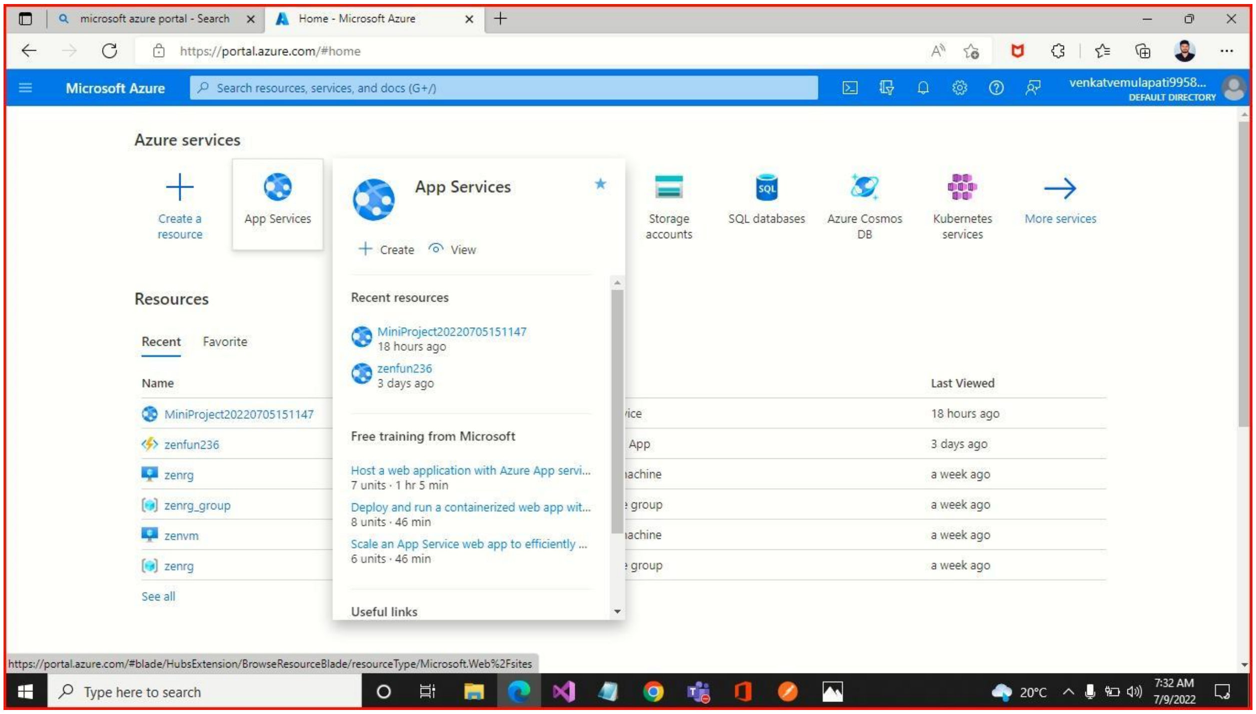
Show output from: Build

```
========== Build: 1 succeeded, 0 failed, 0 up-to-date, 0 skipped ==========
========== Publish: 1 succeeded, 0 failed, 0 skipped ==========
Installation of Web App Site extension Microsoft.AspNetCore.AzureAppServices.SiteExtension is in progress...
Successfully installed Web App extension Microsoft.AspNetCore.AzureAppServices.SiteExtension
Restarting the Web App...
Successfully restarted Web App.
```

Publish succeeded

2.Configure Scale out by adding rules for custom scaling :-

A scale out operation is the equivalent of creating multiple copies of your web site and adding a load balancer to distribute the demand between them. When you scale out a web site in Windows Azure Web Sites there is no need to configure load balancing separately since this is already provided by the platform.



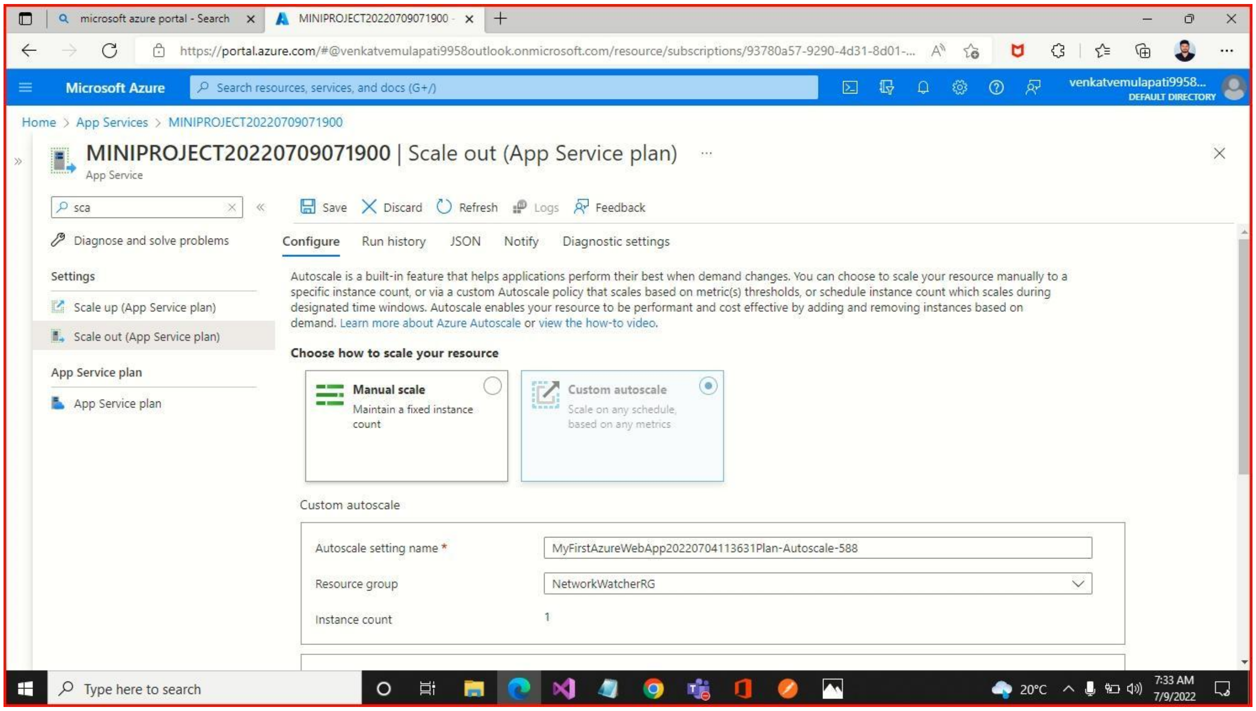
Name		Last Viewed
MiniProject20220705151147	ice	18 hours ago
zenfun236	App	3 days ago
zenrg	achine	a week ago
zenrg_group	group	a week ago
zenvm	achine	a week ago
zenrg	group	a week ago

Follow the Bellow images to add the scale out to our web site.

1.select Custom Auto Scale.

2.Click on Add a rule.

3.Add your rules and click on Add button and Save changes.



Home > App Services > MINIPROJECT20220709071900

MINIPROJECT20220709071900 | Scale out (App Service plan)

App Service

Configure | Run history | JSON | Notify | Diagnostic settings

Autoscale is a built-in feature that helps applications perform their best when demand changes. You can choose to scale your resource manually to a specific instance count, or via a custom Autoscale policy that scales based on metric(s) thresholds, or schedule instance count which scales during designated time windows. Autoscale enables your resource to be performant and cost effective by adding and removing instances based on demand. Learn more about Azure Autoscale or view the how-to video.

Choose how to scale your resource

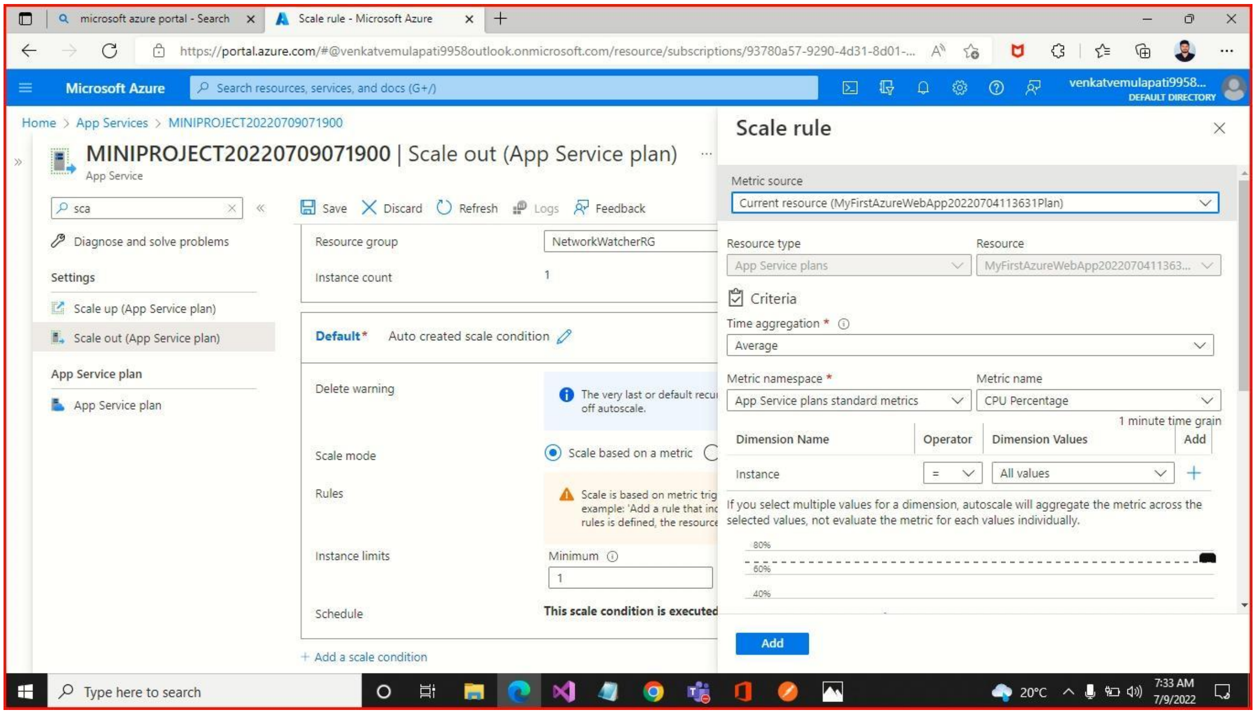
○ **Manual scale** Maintain a fixed instance count

● **Custom autoscale** Scale on any schedule, based on any metrics

Custom autoscale

Autoscale setting name *	MyFirstAzureWebApp20220704113631Plan-Autoscale-588
Resource group	NetworkWatcherRG
Instance count	1

microsoft azure portal - Search
MINIPROJECT20220709071900 ·
https://portal.azure.com/#@venkatvemulapati9958outlook.onmicrosoft.com/resource/subscriptions/93780a57-9290-4d31-8d01-...
Microsoft Azure
Search resources, services, and docs (G+/)
venkatvemulapati9958...
DEFAULT DIRECTORY
sca
Diagnose and solve problems
Settings
Scale up (App Service plan)
Scale out (App Service plan)
App Service plan
App Service plan
Save
Discard
Refresh
Logs
Feedback
Type here to search
20°C
7:33 AM
7/9/2022



Home > App Services > MINIPROJECT20220709071900

MINIPROJECT20220709071900 | Scale out (App Service plan)

App Service

Resource group	NetworkWatcherRG
Instance count	1

Default* Auto created scale condition

Delete warning	The very last or default recu off autoscale.
Scale mode	● Scale based on a metric ○
Rules	Scale is based on metric trig example: 'Add a rule that inc rules is defined, the resource
Instance limits	Minimum 1
Schedule	**This scale condition is executed**

+ Add a scale condition

Scale rule

Metric source

Current resource (MyFirstAzureWebApp20220704113631Plan)

Resource type	Resource
App Service plans	MyFirstAzureWebApp202207041136...

Criteria

Time aggregation *

Average

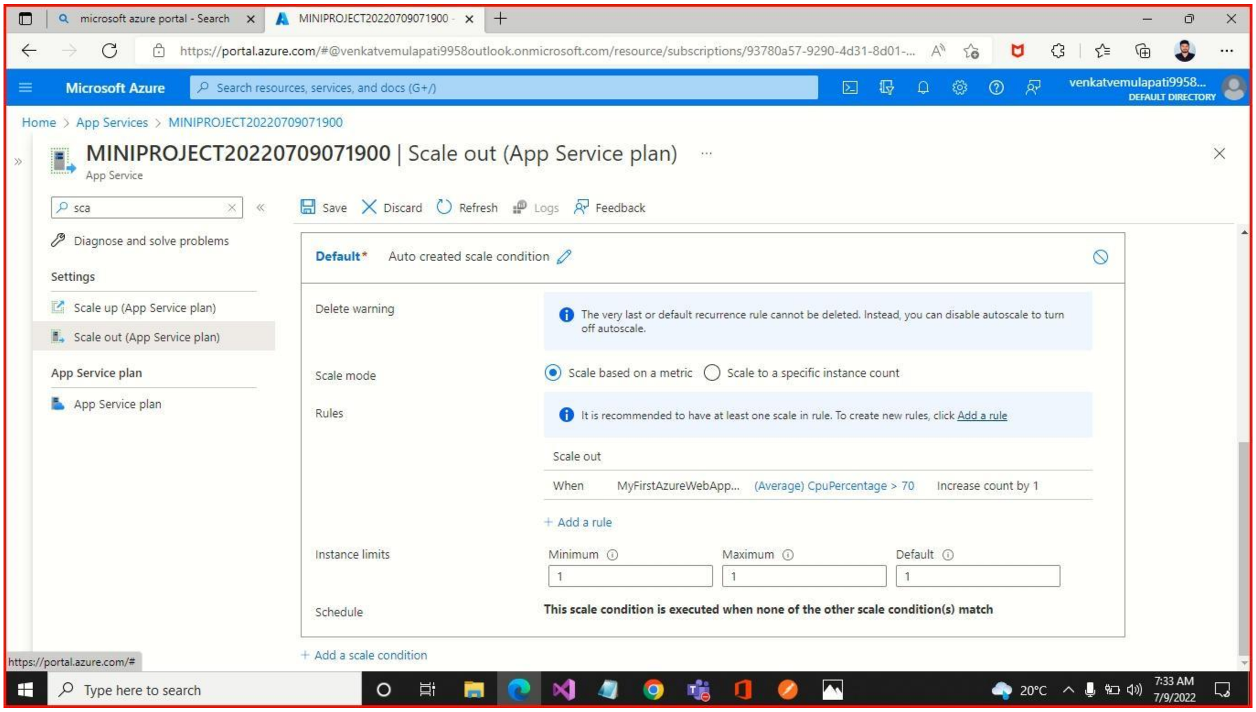
Metric namespace *	Metric name
App Service plans standard metrics	CPU Percentage

1 minute time grain

Dimension Name	Operator	Dimension Values	Add
Instance	=	All values	+

If you select multiple values for a dimension, autoscale will aggregate the metric across the selected values, not evaluate the metric for each values individually.

80%
60%
40%
Add
microsoft azure portal - Search
Scale rule - Microsoft Azure
https://portal.azure.com/#@venkatvemulapati9958outlook.onmicrosoft.com/resource/subscriptions/93780a57-9290-4d31-8d01-...
Microsoft Azure
Search resources, services, and docs (G+/)
venkatvemulapati9958...
DEFAULT DIRECTORY
sca
Diagnose and solve problems
Settings
Scale up (App Service plan)
Scale out (App Service plan)
App Service plan
App Service plan
Save
Discard
Refresh
Logs
Feedback
Type here to search
20°C
7:33 AM
7/9/2022



Home > App Services > MINIPROJECT20220709071900

MINIPROJECT20220709071900 | Scale out (App Service plan)

App Service

Default* Auto created scale condition

Delete warning: The very last or default recurrence rule cannot be deleted. Instead, you can disable autoscale to turn off autoscale.

Scale mode: ● Scale based on a metric ○ Scale to a specific instance count

Rules: It is recommended to have at least one scale in rule. To create new rules, click Add a rule

Scale out

When MyFirstAzureWebApp... (Average) CpuPercentage > 70 Increase count by 1

Instance limits: Minimum 1 Maximum 1 Default 1

Schedule: This scale condition is executed when none of the other scale condition(s) match

microsoft azure portal - Search
MINIPROJECT20220709071900
https://portal.azure.com/#@venkatvemulapati9958outlook.onmicrosoft.com/resource/subscriptions/93780a57-9290-4d31-8d01-...
Microsoft Azure
Search resources, services, and docs (G+/)
venkatvemulapati9958...
DEFAULT DIRECTORY
sca
Diagnose and solve problems
Settings
Scale up (App Service plan)
Scale out (App Service plan)
App Service plan
App Service plan
Save
Discard
Refresh
Logs
Feedback
+ Add a rule
+ Add a scale condition
Type here to search
20°C
7:33 AM
7/9/2022

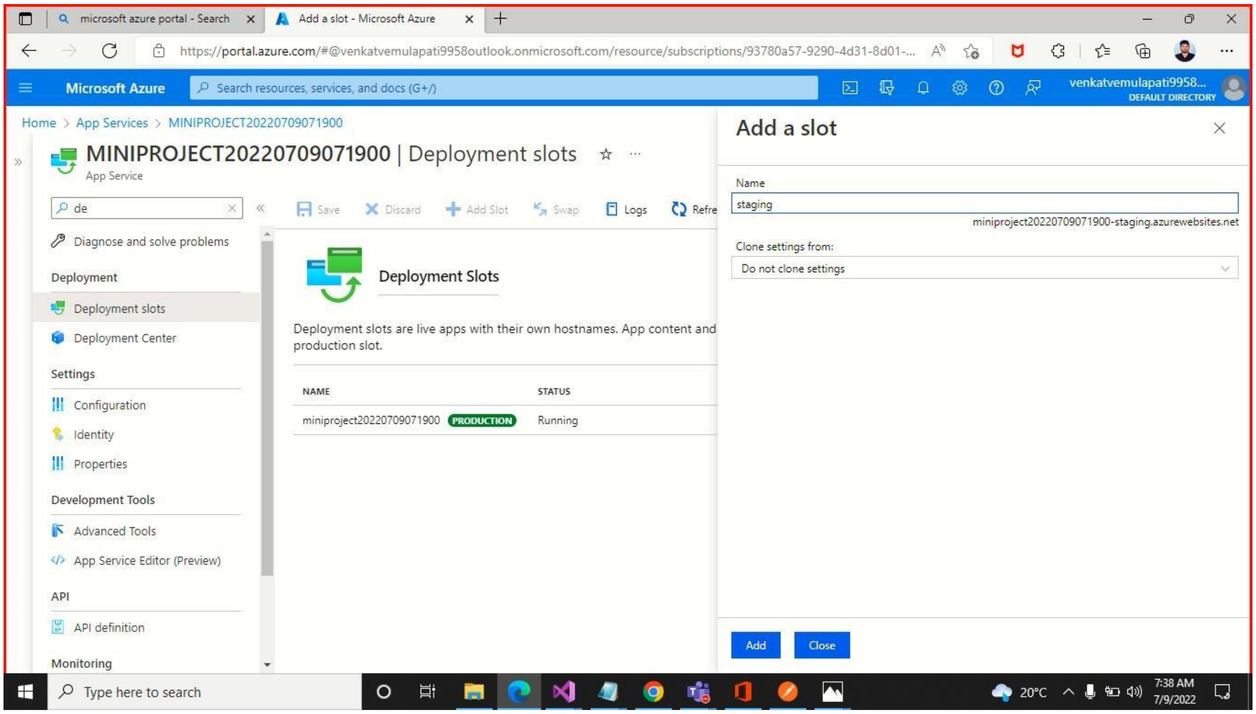
3.Configure Deployment Slots for Staging and Production :-

Azure Functions deployment slots allow your function app to run different instances called "slots". Slots are different environments exposed via a publicly available endpoint. One app instance is always mapped to the production slot, and you can swap instances assigned to a slot on demand. Function apps running under the Apps Service plan may have multiple slots, while under the Consumption plan only one slot is allowed.

Follow the bellow images to add deployment slots.

1.Click on Add Slot.

2.Enter The slot name and click on add button.



Home > App Services > MINIPROJECT20220709071900

MINIPROJECT20220709071900 | Deployment slots

App Service

Deployment Slots

Deployment slots are live apps with their own hostnames. App content and production slot.

NAME	STATUS
miniproject20220709071900 PRODUCTION	Running

Add a slot

Name: staging

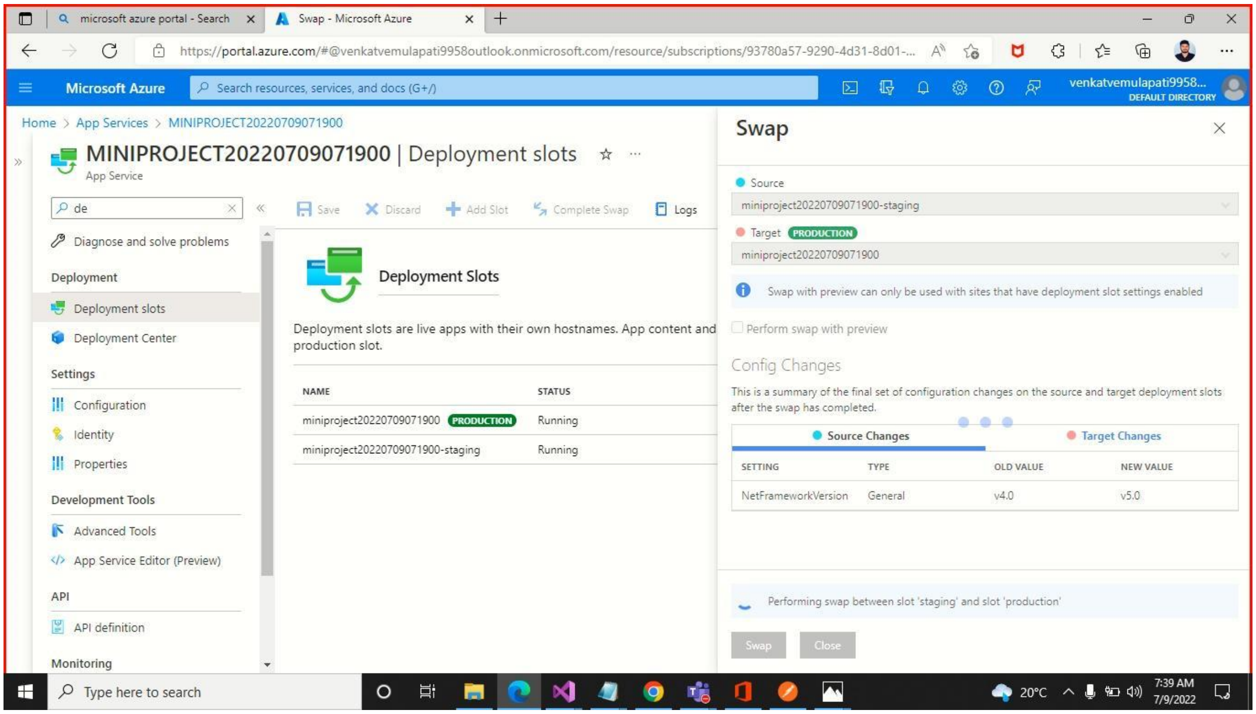
miniproject20220709071900-staging.azurewebsites.net

Clone settings from: Do not clone settings

The following reflect how functions are affected by swapping slots:

Traffic redirection is seamless; no requests are dropped because of a swap. This seamless behavior is a result of the next function triggers being routed to the swapped slot.

.Finally swapping the slots



Home > App Services > MINIPROJECT20220709071900

MINIPROJECT20220709071900 | Deployment slots

App Service

Deployment Slots

Deployment slots are live apps with their own hostnames. App content and production slot.

NAME	STATUS
miniproject20220709071900 PRODUCTION	Running
miniproject20220709071900-staging	Running

Swap

Source: miniproject20220709071900-staging

Target PRODUCTION: miniproject20220709071900

Swap with preview can only be used with sites that have deployment slot settings enabled

□ Perform swap with preview

Config Changes

This is a summary of the final set of configuration changes on the source and target deployment slots after the swap has completed.

Source Changes | Target Changes

SETTING	TYPE	OLD VALUE	NEW VALUE
NetFrameworkVersion	General	v4.0	v5.0

Performing swap between slot 'staging' and slot 'production'

4.Configure Application Insights for the project :-

Application Insights is a feature of Azure Monitor that provides extensible application performance management (APM) and monitoring for live web apps. Developers and DevOps professionals can use Application Insights to:

Automatically detect performance anomalies.

Help diagnose issues by using powerful analytics tools.

See what users actually do with apps.

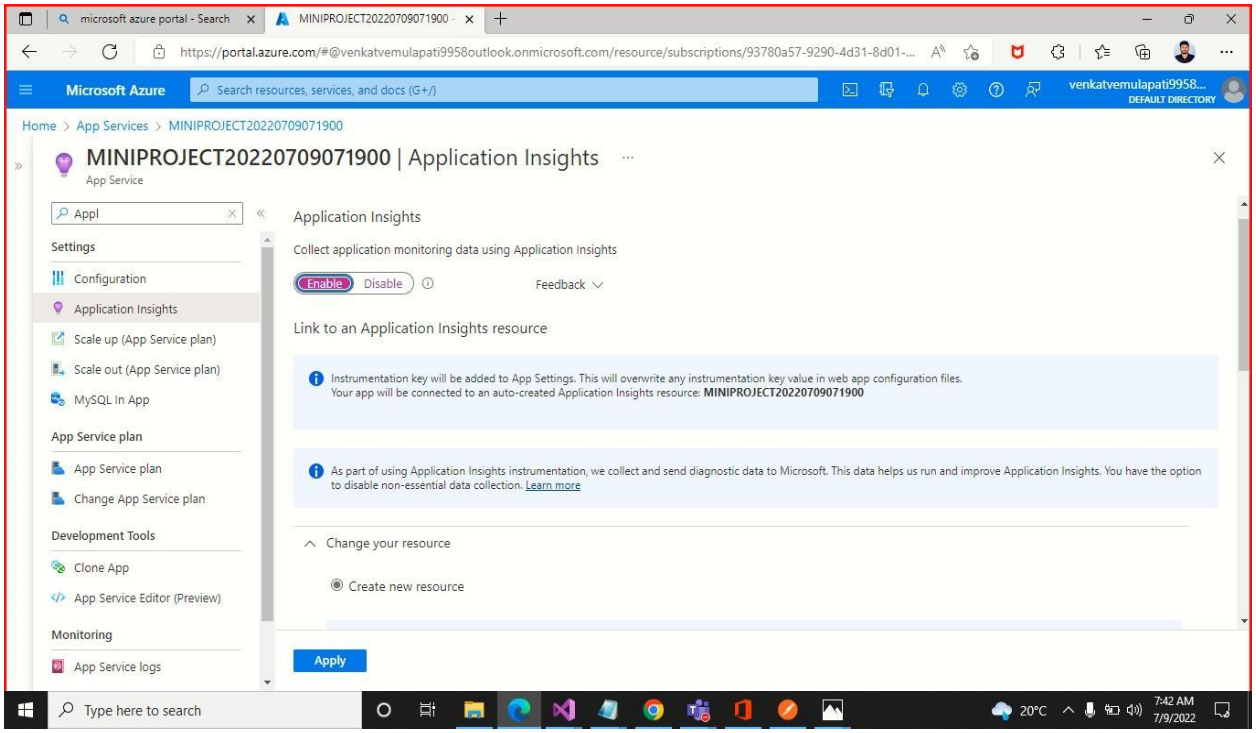
Application Insights:

1. Supports a wide variety of platforms, including .NET, Node.js, Java, and Python.
2. Works for apps hosted on-premises, hybrid, or on any public cloud.
3. Integrates with DevOps processes.

Follow the bellow images to add Application insights:

1. Trun on Application Insights.
2. Select Existing Resource.

3. Click on the apply



microsoft azure portal - Search
MINIPROJECT20220709071900 -
https://portal.azure.com/#@venkatvemulapati9958outlook.onmicrosoft.com/resource/subscriptions/93780a57-9290-4d31-8d01-...
Microsoft Azure
Search resources, services, and docs (G+/)
venkatvemulapati9958...
DEFAULT DIRECTORY
Home > App Services > MINIPROJECT20220709071900
App Service
Appl
Settings
Configuration
Application Insights
Scale up (App Service plan)
Scale out (App Service plan)
MySQL In App
App Service plan
App Service plan
Change App Service plan
Development Tools
Clone App
App Service Editor (Preview)
Monitoring
App Service logs
Feedback
Apply
Type here to search
20°C
7:42 AM
7/9/2022

MINIPROJECT20220709071900 | Application Insights

Application Insights

Collect application monitoring data using Application Insights

[✓ Enable] Disable

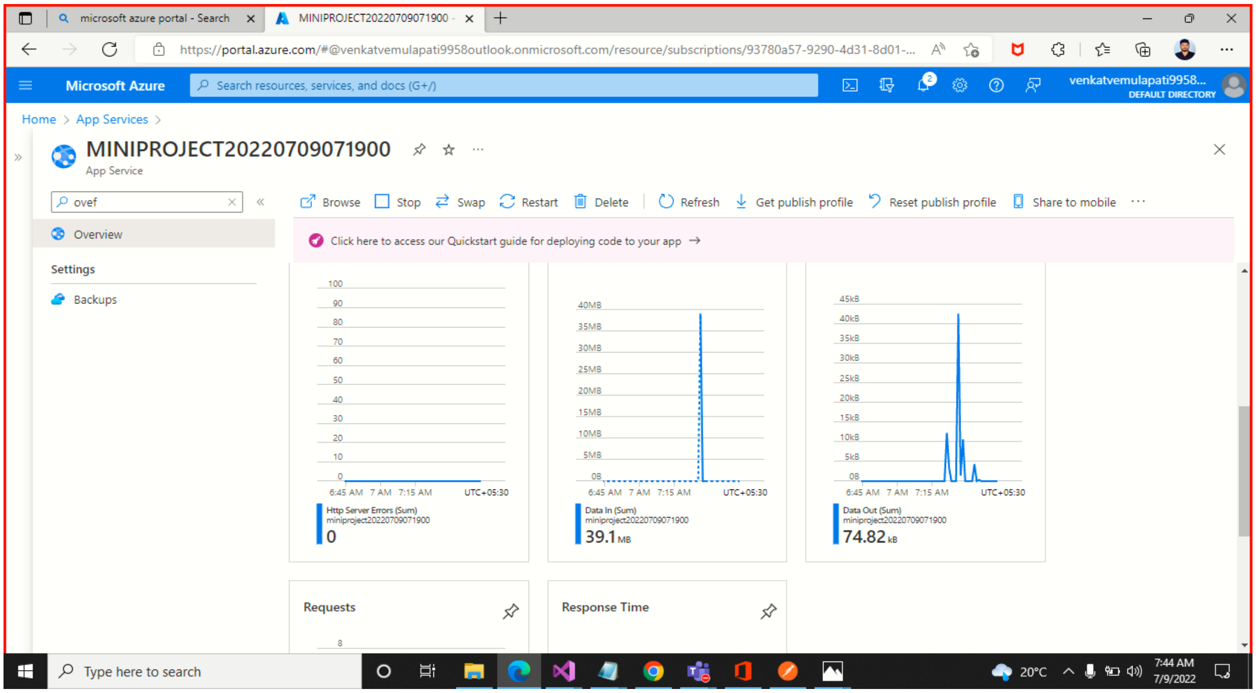
Link to an Application Insights resource

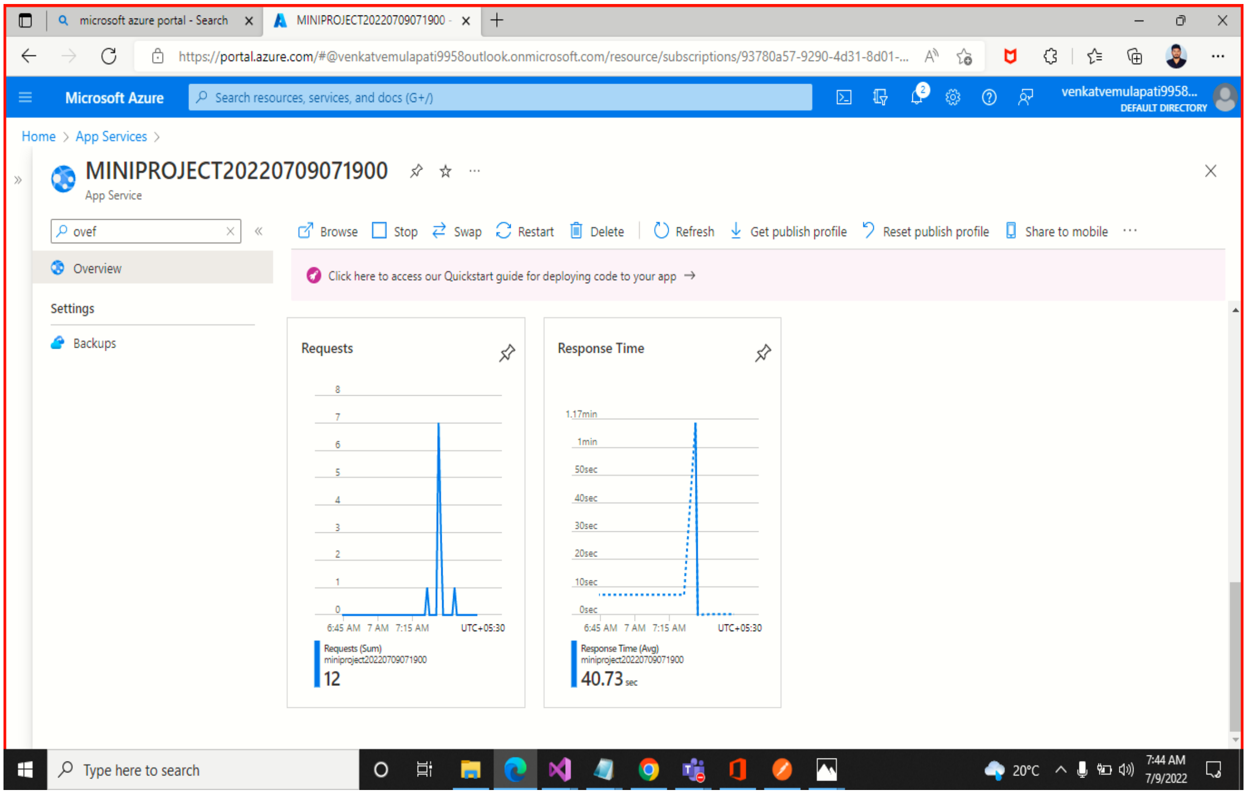
Instrumentation key will be added to App Settings. This will overwrite any instrumentation key value in web app configuration files.
Your app will be connected to an auto-created Application Insights resource: **MINIPROJECT20220709071900**

As part of using Application Insights instrumentation, we collect and send diagnostic data to Microsoft. This data helps us run and improve Application Insights. You have the option to disable non-essential data collection. Learn more

Change your resource

● Create new resource


microsoft azure portal - Search
MINIPROJECT20220709071900 -
https://portal.azure.com/#@venkatvemulapati9958outlook.onmicrosoft.com/resource/subscriptions/93780a57-9290-4d31-8d01-...
Microsoft Azure
Search resources, services, and docs (G+/)
venkatvemulapati9958...
DEFAULT DIRECTORY
Home > App Services >
MINIPROJECT20220709071900
App Service
ovef
Overview
Settings
Backups
Browse
Stop
Swap
Restart
Delete
Refresh
Get publish profile
Reset publish profile
Share to mobile
Click here to access our Quickstart guide for deploying code to your app →
100
90
80
70
60
50
40
30
20
10
0
6:45 AM 7 AM 7:15 AM UTC+05:30
Http Server Errors (Sum)
miniproject20220709071900
0
40MB
35MB
30MB
25MB
20MB
15MB
10MB
5MB
0B
6:45 AM 7 AM 7:15 AM UTC+05:30
Data In (Sum)
miniproject20220709071900
39.1 MB
45kB
40kB
35kB
30kB
25kB
20kB
15kB
10kB
5kB
0B
6:45 AM 7 AM 7:15 AM UTC+05:30
Data Out (Sum)
miniproject20220709071900
74.82 kB
Requests
8
Response Time
Type here to search
20°C
7:44 AM
7/9/2022


microsoft azure portal - Search
MINIPROJECT20220709071900 -
https://portal.azure.com/#@venkatvemulapati9958outlook.onmicrosoft.com/resource/subscriptions/93780a57-9290-4d31-8d01-...
Microsoft Azure
Search resources, services, and docs (G+/)
venkatvemulapati9958...
DEFAULT DIRECTORY
Home > App Services >
MINIPROJECT20220709071900
App Service
ovef
Overview
Settings
Backups
Browse
Stop
Swap
Restart
Delete
Refresh
Get publish profile
Reset publish profile
Share to mobile
Click here to access our Quickstart guide for deploying code to your app →
Requests
8
7
6
5
4
3
2
1
0
6:45 AM 7 AM 7:15 AM UTC+05:30
Requests (Sum)
miniproject20220709071900
12
Response Time
1.17min
1min
50sec
40sec
30sec
20sec
10sec
0sec
6:45 AM 7 AM 7:15 AM UTC+05:30
Response Time (Avg)
miniproject20220709071900
40.73 sec
Type here to search
20°C
7:44 AM
7/9/2022

5.Configure Swagger for the Api :-

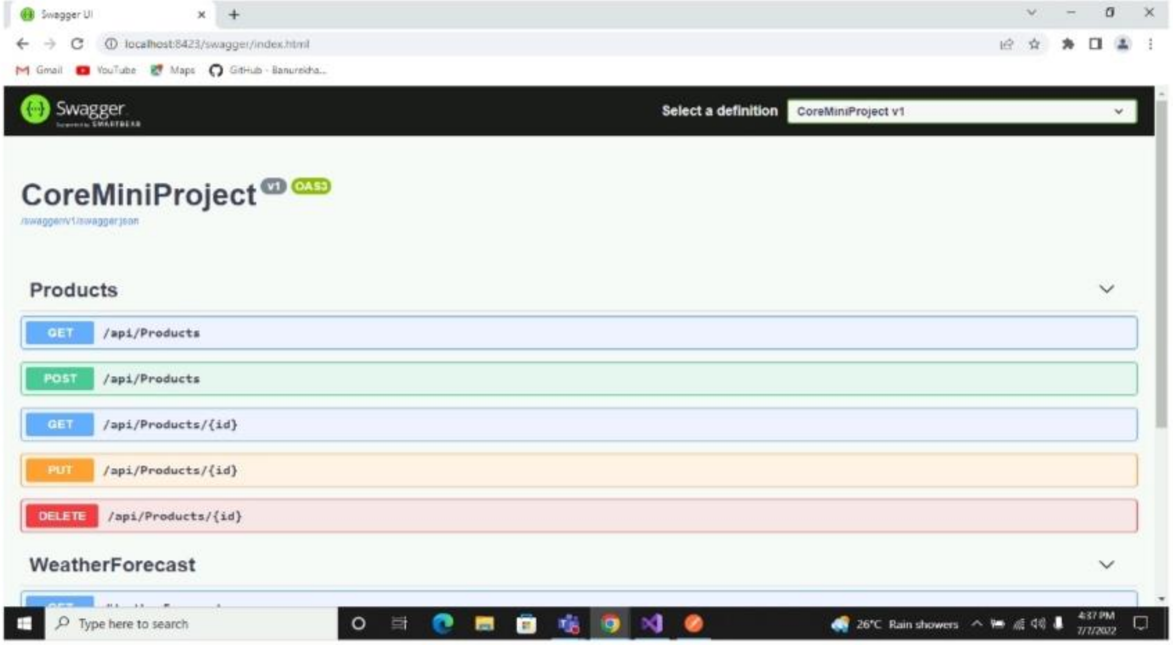
Swagger UI allows anyone — be it your development team or your end consumers — to visualize and interact with the API's resources without having any of the implementation logic in place. It's automatically generated from your OpenAPI (formerly known as Swagger) Specification, with the visual documentation making it easy for back end implementation and client side consumption.

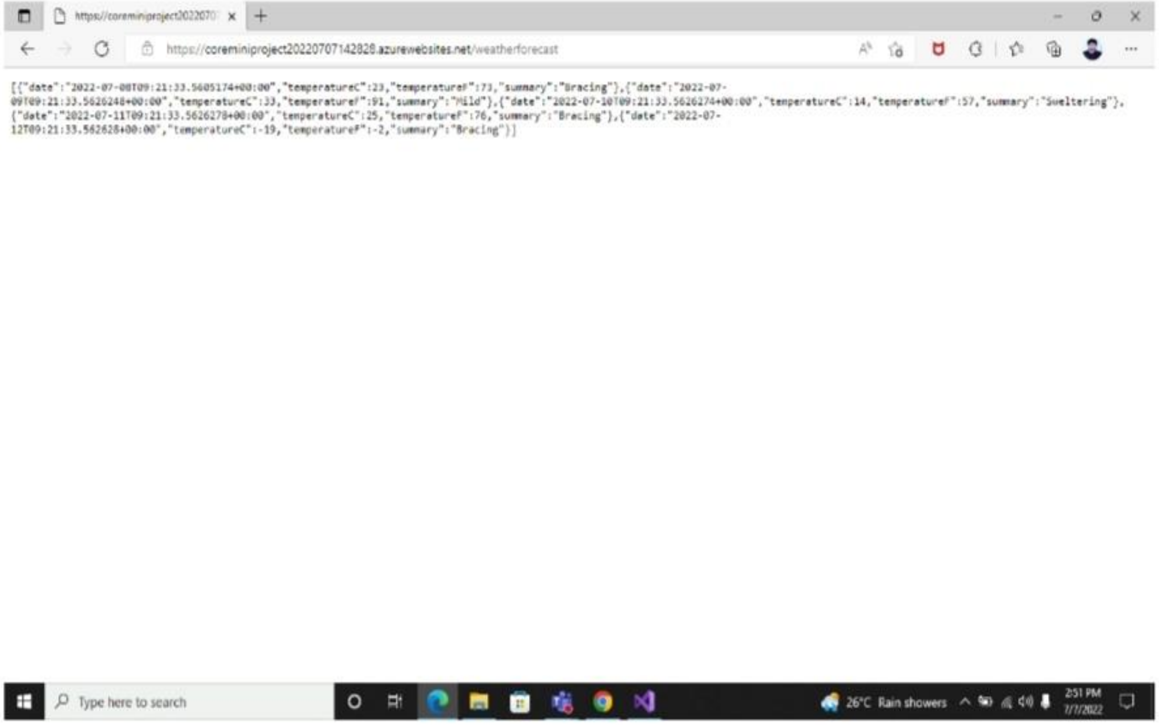
Advantages of Swagger Api :-

1. Testing is always crucial; on both the development and QA levels. Swagger provides a UI integrated page where all the API methods are listed and enables the user to test any method that is required from the UI.

2. Swagger does the documentation in a conventional way (OpenAPI) which means it is in a machine-readable language. If a user starts the documentation first, Swagger will write the structure of the API automatically based on the written documentation. The API logic relies on the developer and business requirements but the structure will be written by Swagger itself.

3.The user does not need a separate applications to test APIs. Just configure Swagger once in the project and access it through a URL to test the APIs.These are the major benefits users will see once they start using Swagger. Swagger provides immense support for a wide range of platforms, languages, and domains.




https://coreminiproject2022070
https://coreminiproject20220707142828.azurewebsites.net/weatherforecast
Type here to search
26°C Rain showers
2:51 PM
7/7/2022

```
[{"date":"2022-07-08T09:21:33.5605174+00:00","temperatureC":23,"temperatureF":73,"summary":"Bracing"},{"date":"2022-07-
09T09:21:33.5626248+00:00","temperatureC":33,"temperatureF":91,"summary":"Mild"},{"date":"2022-07-10T09:21:33.5626274+00:00","temperatureC":14,"temperatureF":57,"summary":"Sweltering"},
{"date":"2022-07-11T09:21:33.5626278+00:00","temperatureC":25,"temperatureF":76,"summary":"Bracing"},{"date":"2022-07-
12T09:21:33.562628+00:00","temperatureC":-19,"temperatureF":-2,"summary":"Bracing"}]
```

6.Work with Log Analytics with the sample logs available :-

Log Analytics is a tool in the Azure portal to edit and run log queries from data collected by Azure Monitor logs and interactively analyze their results.
You can use Log Analytics queries to retrieve records that match particular criteria, identify trend s, analyze patterns, and provide various insights into your data.
1. You might write a simple query that returns a set of records and then use features of Log Analytics to sort, filter, and analyze them. Or you might write a more advanced query to perform statistical analysis and visualize the results in a chart to identify a particular trend.

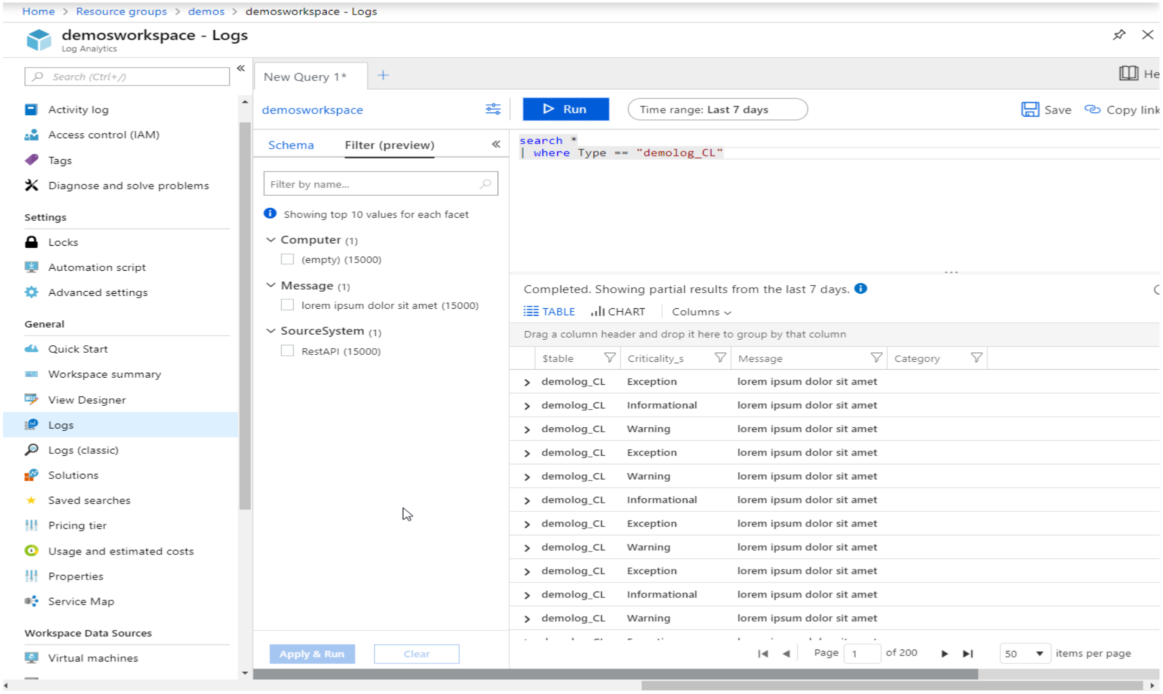
⍰2. If you start Log Analytics from the Azure Monitor menu or the Log Analytics workspaces menu, you'll have access to all the records in a workspace. If you select Logs from another type of resource, your data will be limited to log data for that resource. For more information, see Log query scope and time range in Azure Monitor Log Analytics.

How Logs work by using Query language as shown in bellow images.

1. Open Azure portal and click on Logs.

2. Select the Tables what you check.

3. Write a query logic and click on Run.



Time range: Last 7 days

Showing top 10 values for each facet

Computer (1)
- □ (empty) (15000)

Message (1)
- □ lorem ipsum dolor sit amet (15000)

SourceSystem (1)
- □ RestAPI (15000)

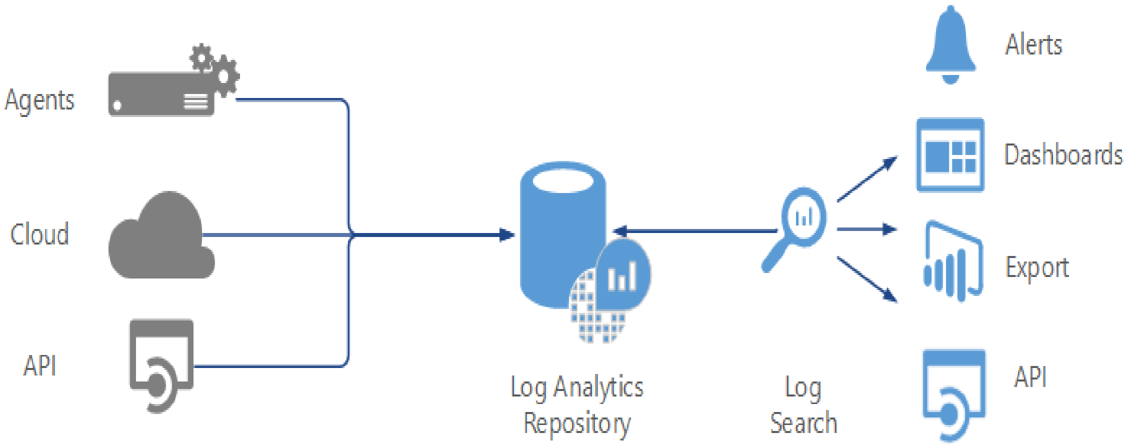
```
search *
| where Type == "demolog_CL"
```

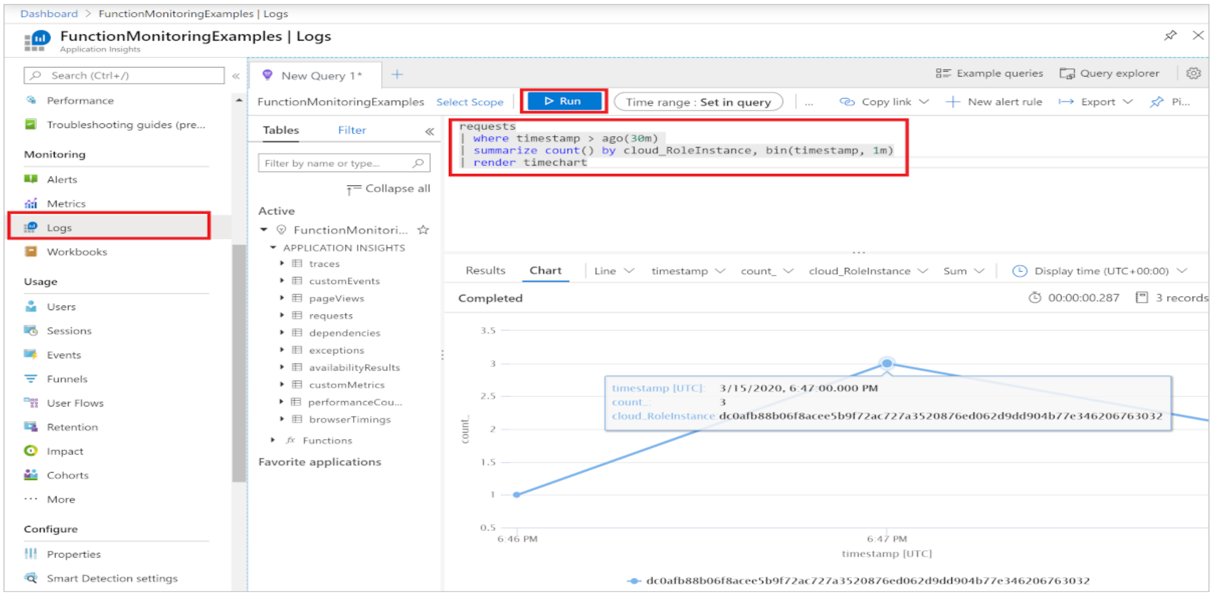
Completed. Showing partial results from the last 7 days.

Drag a column header and drop it here to group by that column

	$table	Criticality_s	Message	Category
>	demolog_CL	Exception	lorem ipsum dolor sit amet	
>	demolog_CL	Informational	lorem ipsum dolor sit amet	
>	demolog_CL	Warning	lorem ipsum dolor sit amet	
>	demolog_CL	Exception	lorem ipsum dolor sit amet	
>	demolog_CL	Warning	lorem ipsum dolor sit amet	
>	demolog_CL	Informational	lorem ipsum dolor sit amet	
>	demolog_CL	Exception	lorem ipsum dolor sit amet	
>	demolog_CL	Warning	lorem ipsum dolor sit amet	
>	demolog_CL	Exception	lorem ipsum dolor sit amet	
>	demolog_CL	Informational	lorem ipsum dolor sit amet	
>	demolog_CL	Warning	lorem ipsum dolor sit amet	

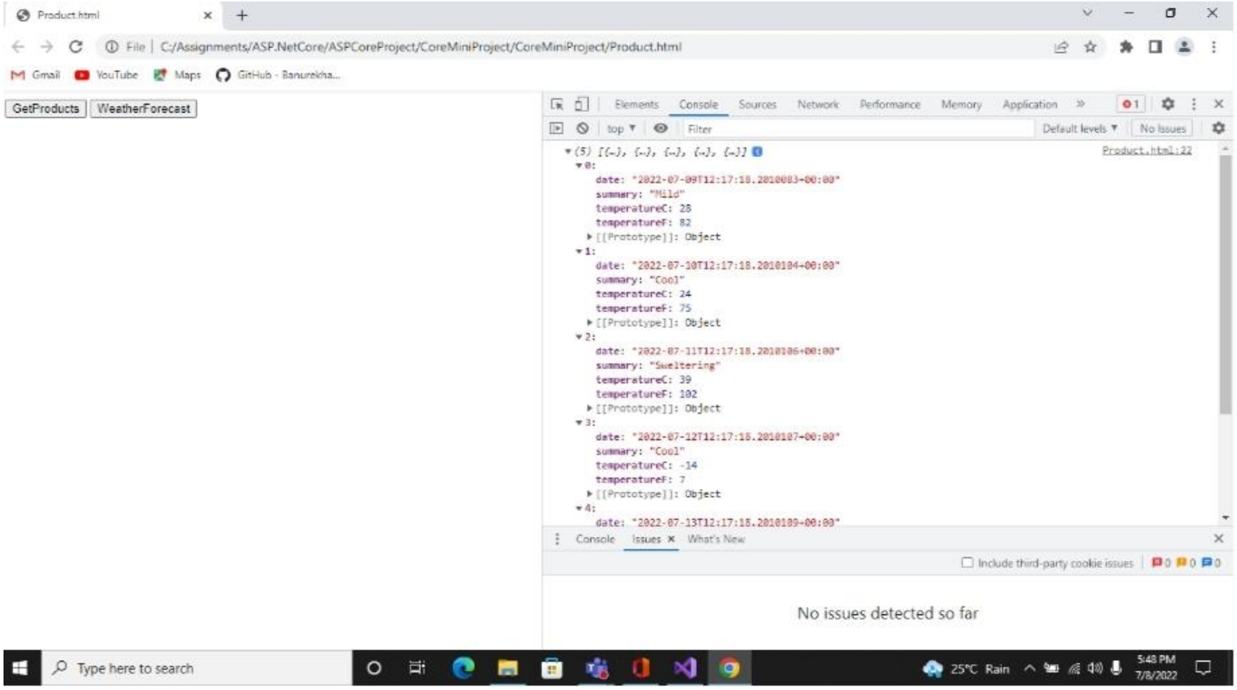
Page 1 of 200 · 50 items per page





```
requests
| where timestamp > ago(30m)
| summarize count() by cloud_RoleInstance, bin(timestamp, 1m)
| render timechart
```

```
timestamp [UTC]      3/15/2020, 6:47:00.000 PM
count_               3
cloud_RoleInstance   dc0afb88b06f8acee5b9f72ac727a3520876ed062d9dd904b77e346206763032
```



```
▼(5) [{…}, {…}, {…}, {…}, {…}]
  ▼0:
     date: "2022-07-09T12:17:18.2010083+00:00"
     summary: "Mild"
     temperatureC: 28
     temperatureF: 82
   ▶[[Prototype]]: Object
  ▼1:
     date: "2022-07-10T12:17:18.2010104+00:00"
     summary: "Cool"
     temperatureC: 24
     temperatureF: 75
   ▶[[Prototype]]: Object
  ▼2:
     date: "2022-07-11T12:17:18.2010106+00:00"
     summary: "Sweltering"
     temperatureC: 39
     temperatureF: 102
   ▶[[Prototype]]: Object
  ▼3:
     date: "2022-07-12T12:17:18.2010107+00:00"
     summary: "Cool"
     temperatureC: -14
     temperatureF: 7
   ▶[[Prototype]]: Object
  ▼4:
     date: "2022-07-13T12:17:18.2010109+00:00"
```

No issues detected so far