

Loyalist College in Toronto

Lab 09a - Implement Web Apps

Lab 09b - Implement Azure Container
Instances

Lab 09c - Implement Azure Container Apps

Submitted By: Avneet Pandey 500235961

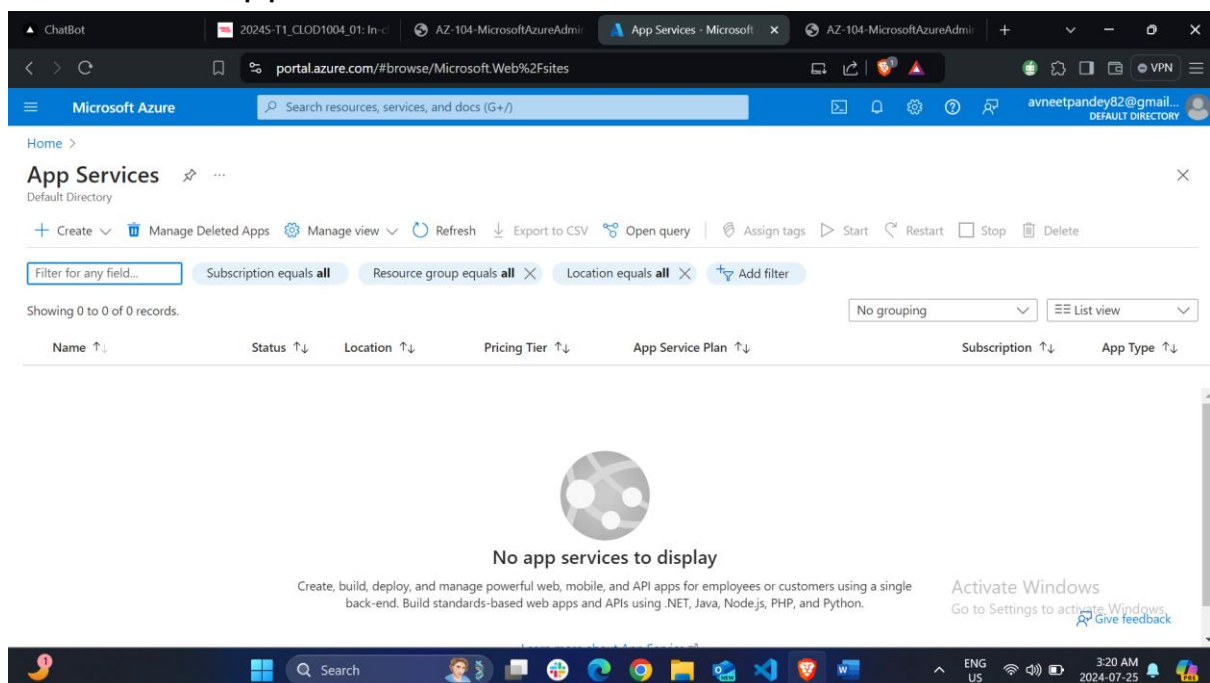
Lab 09a – Implement Web Apps

In this lab we will learn to configure web app to deploy in external github repositories.

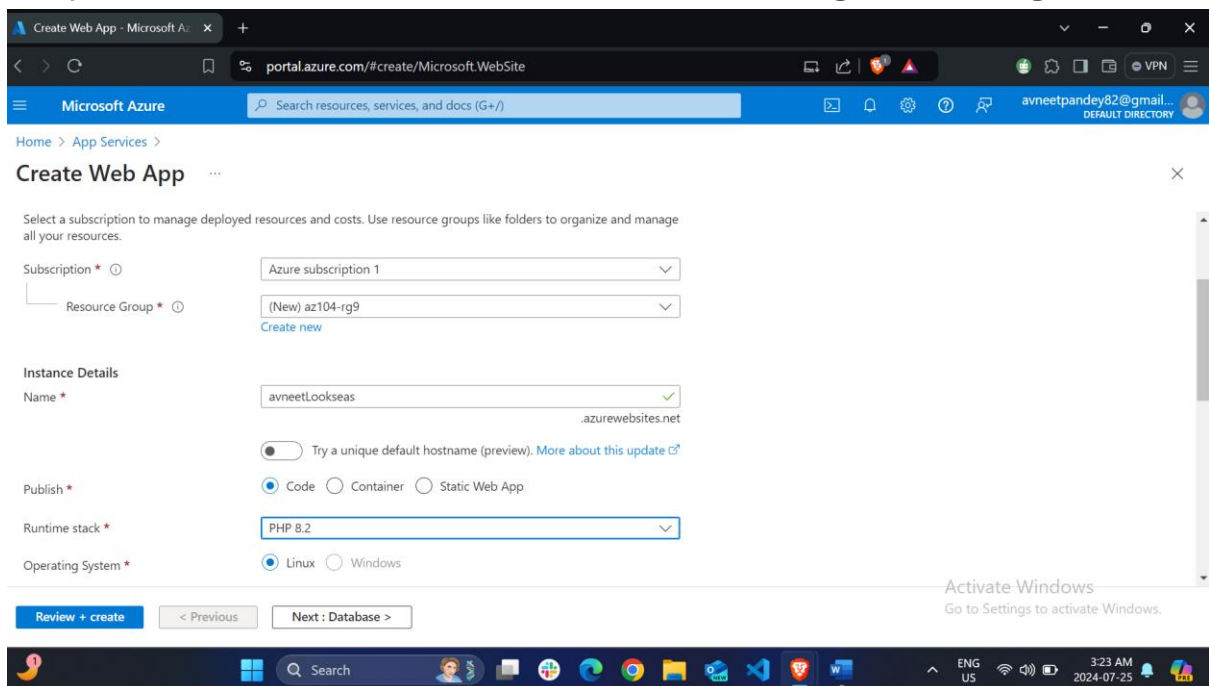
Task 1: Create and configure an Azure web app.

Here in this task we will use Azure PAAS service known as Azure App services which hosts most runtime environment.

Step 1: Go to the Azure Portal and search for new App Service to create new app service.



Step2: Create new Web APP Service with the given configuration



The screenshot shows the 'Create Web App' page in the Microsoft Azure portal. The page is titled 'Create Web App' and includes a navigation bar with 'Home > App Services >'. The main content area is a form for creating a new web app. The form includes the following fields and options:

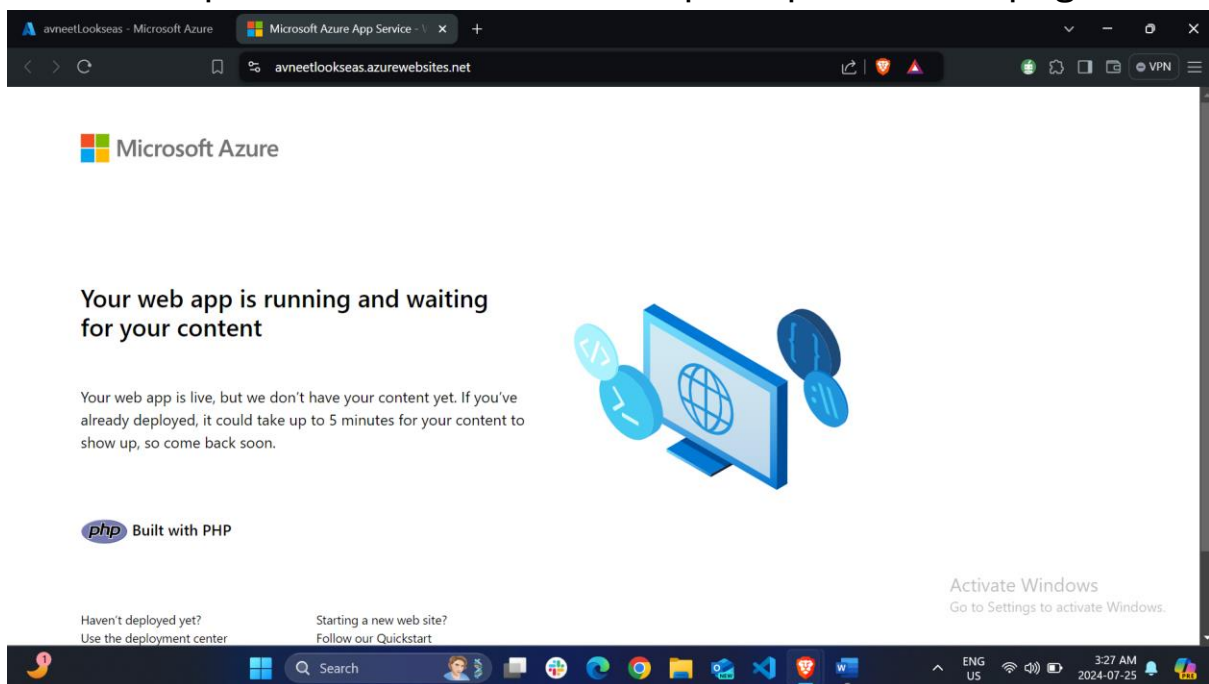
- Subscription:** Azure subscription 1
- Resource Group:** (New) az104-rg9
- Instance Details:**
 - Name:** avneetlookseas
 - Try a unique default hostname (preview):** ☐ (checked)
- Publish:** ☒ Code, ☐ Container, ☐ Static Web App
- Runtime stack:** PHP 8.2
- Operating System:** ☒ Linux, ☐ Windows

At the bottom of the form, there are three buttons: 'Review + create', '< Previous', and 'Next : Database >'. The 'Review + create' button is highlighted in blue. The page also features an 'Activate Windows' watermark in the bottom right corner.

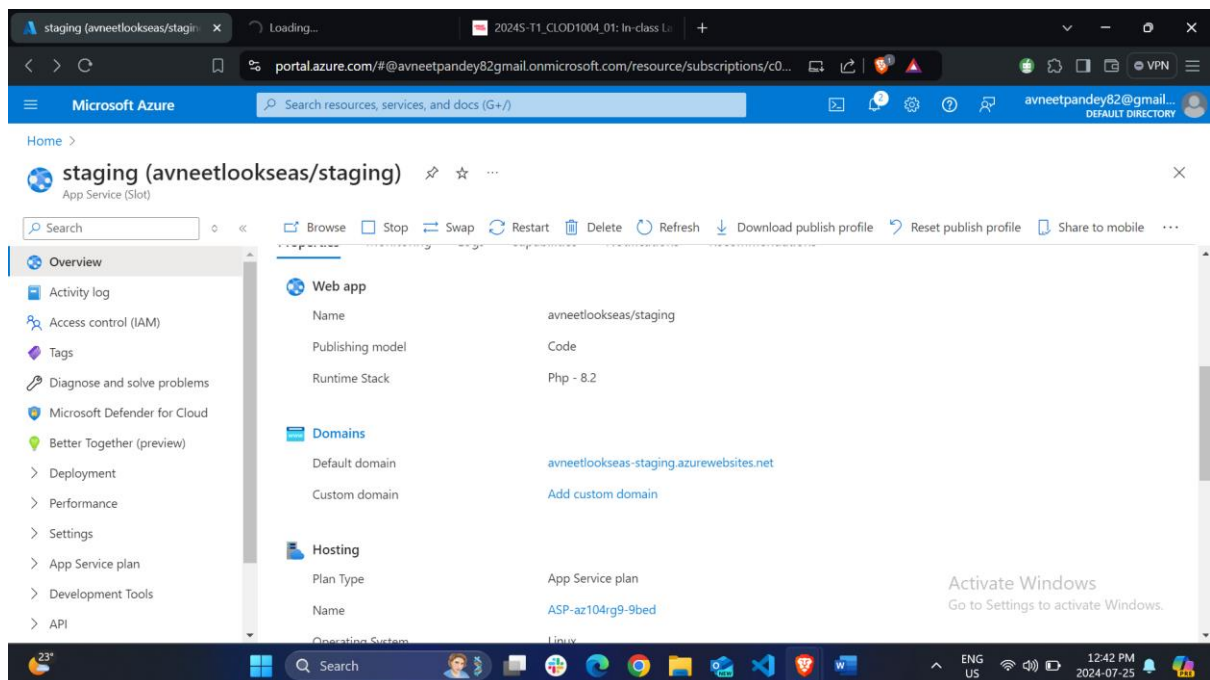
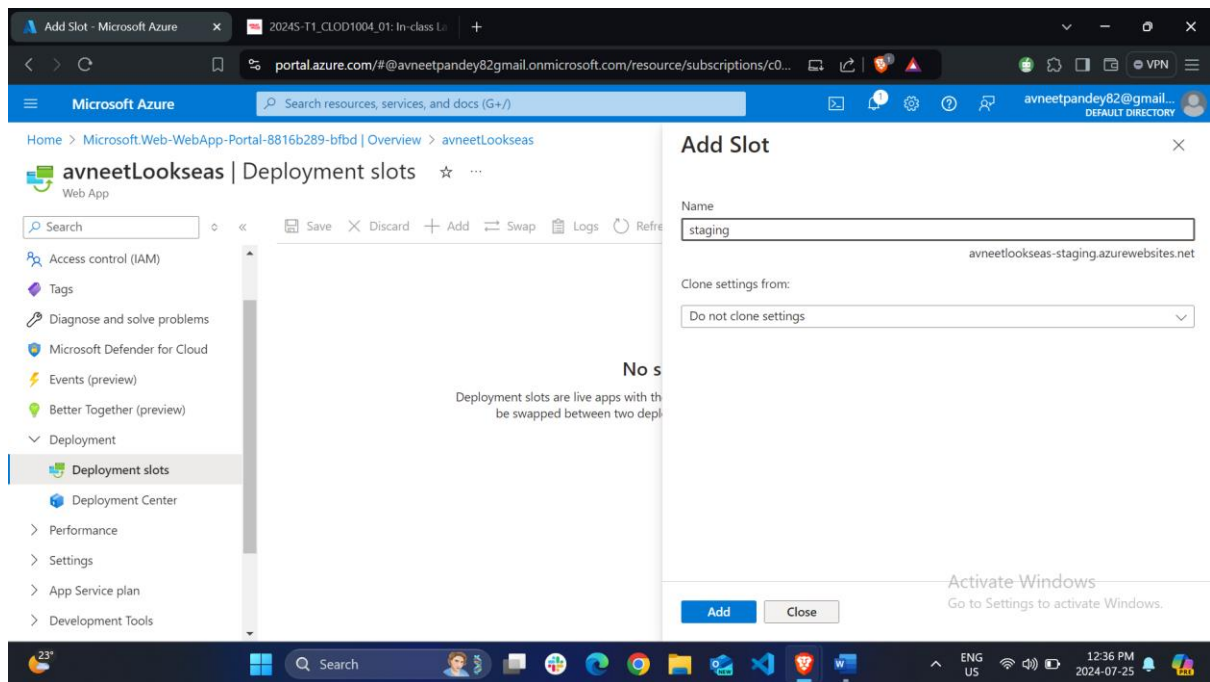
Task 2: Create and configure a deployment slot

Create a staging deployment slot which will gonna help a lot in the future to test the application before pushing to directly to the main branch

Step 1: GO to the domains section to add the get the url of your website. Open it new tab which will open up the below page.



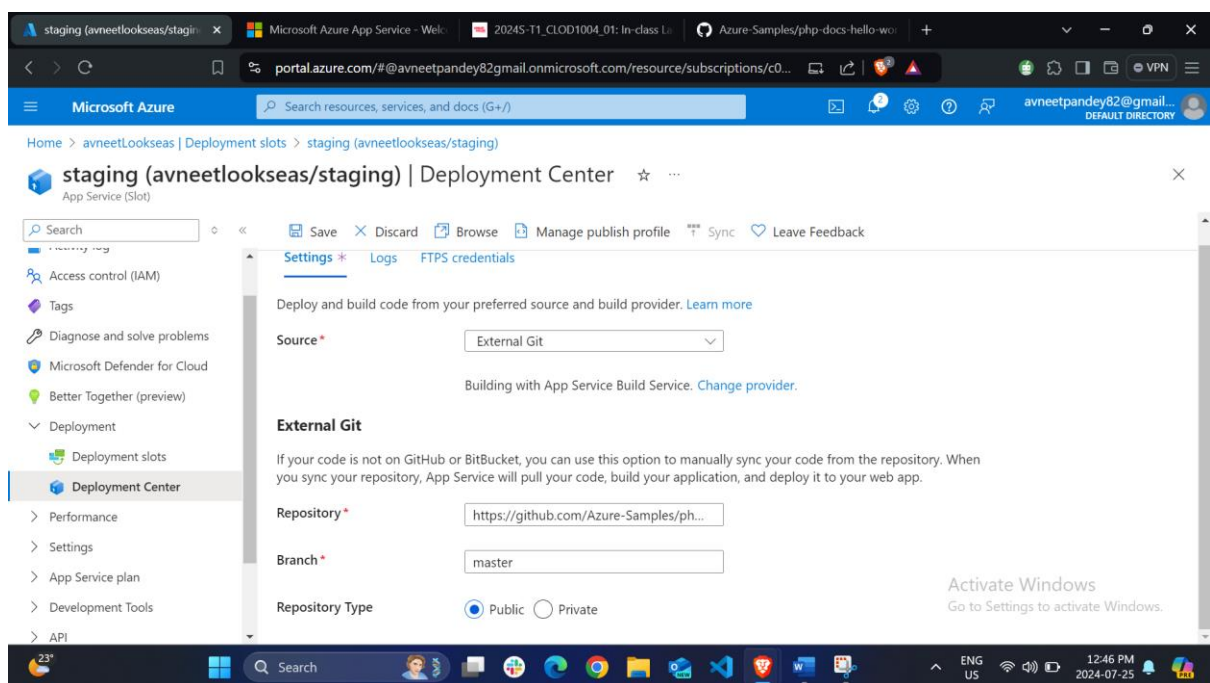
Step 2: Back to azure portal and add a slot from the deployment section. Explore the newly create slot and find the url generated for it is different from the one you tried before.



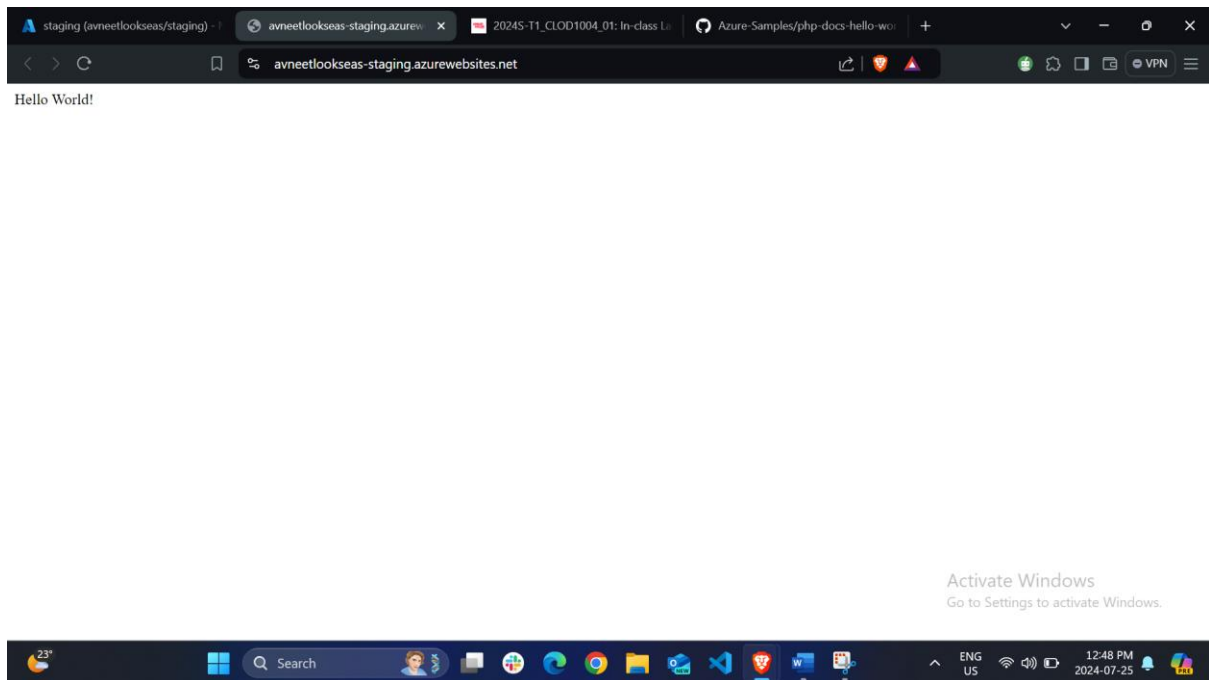
Task 3: Configure Web App deployment setting

In this step we will create configuration of the web app deployment so it can ensure app service should have latest version of the application.

Step 1: Go to the staging slot and navigate to the deployment center and select the setting where you'll find the source option, select the external git and add the git repository in the mentioned field. Make sure to save the changes.



Step 2: Make sure to visit the url to check the hello world in your application.



Task 4: Swap deployment slots

In this step we'll swap the staging slot with the production slot. So to test the application we can utilize the staging slot and once the testing is done swap the code to the in the production slot.

Step 1: Navigate to the deployment slot from the blade and click on the swap

Home > avneetlookseas | Deployment slots > staging (avneetlookseas/staging)

staging (avneetlookseas/staging) | Deployment slots

Deployment slots are live apps with their own hostnames. App content and configurations elements can be swapped between two deployment slots, including the production slot.

Name	Status	App service plan	Traffic %
avneetlookseas PRODUCTION	Running	ASP-az104rg9-9bed	100
avneetlookseas-staging	Running	ASP-az104rg9-9bed	0

Activate Windows
Go to Settings to activate Windows.

Swap

Source: avneetlookseas-staging

Target: **PRODUCTION** avneetlookseas

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.

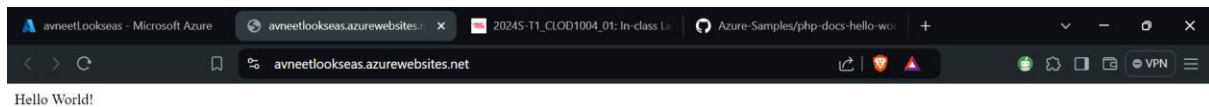
Source slot changes Target slot changes

Setting	Type	Old Value	New Value
No Changes			

Start Swap Close

Activate Windows
Go to Settings to activate Windows.

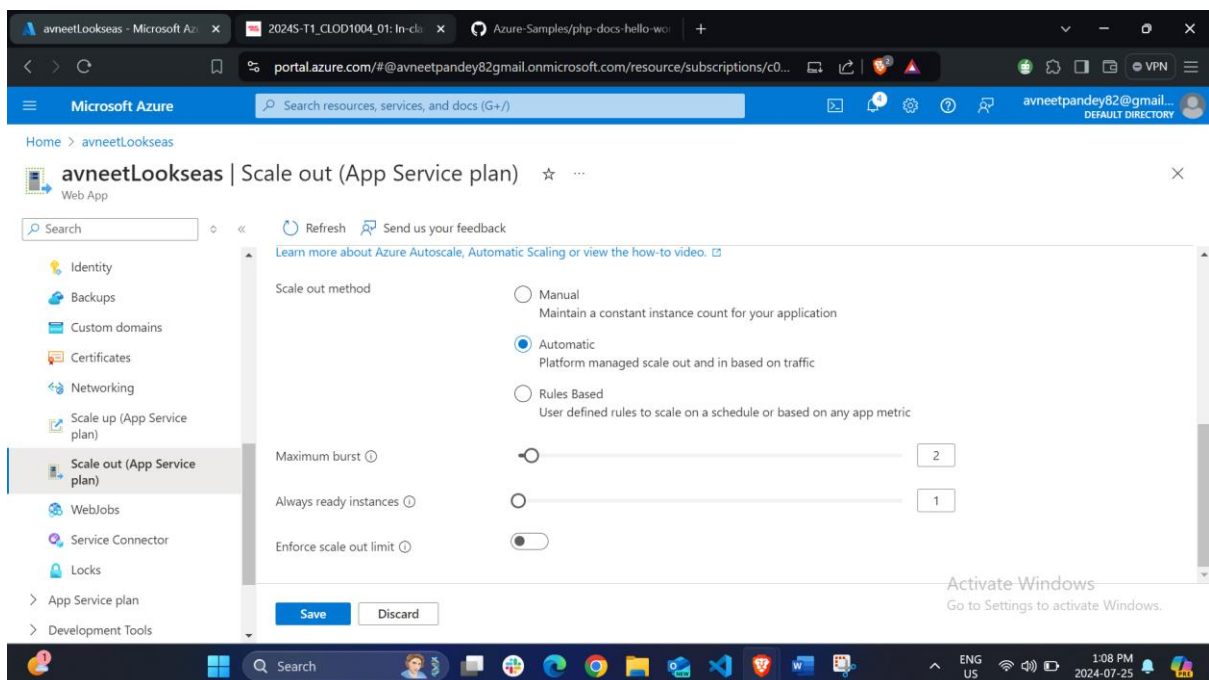
Step2: Check the production url too to verify the swapping is successfully done or not.



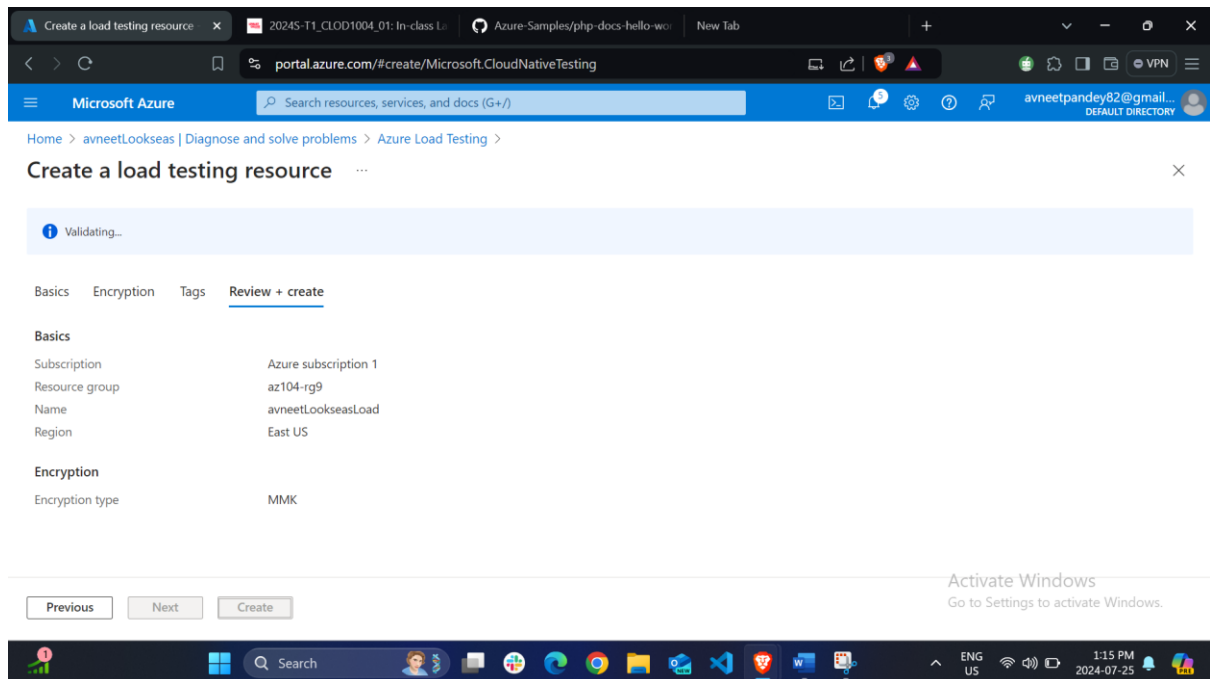
Task 5: Configure and test autoscaling of the Azure Web App

In this step we'll configure the autoscaling of the azure app. It helps to maintain the performance of the web application which increase the resources if the traffic increases on the website.

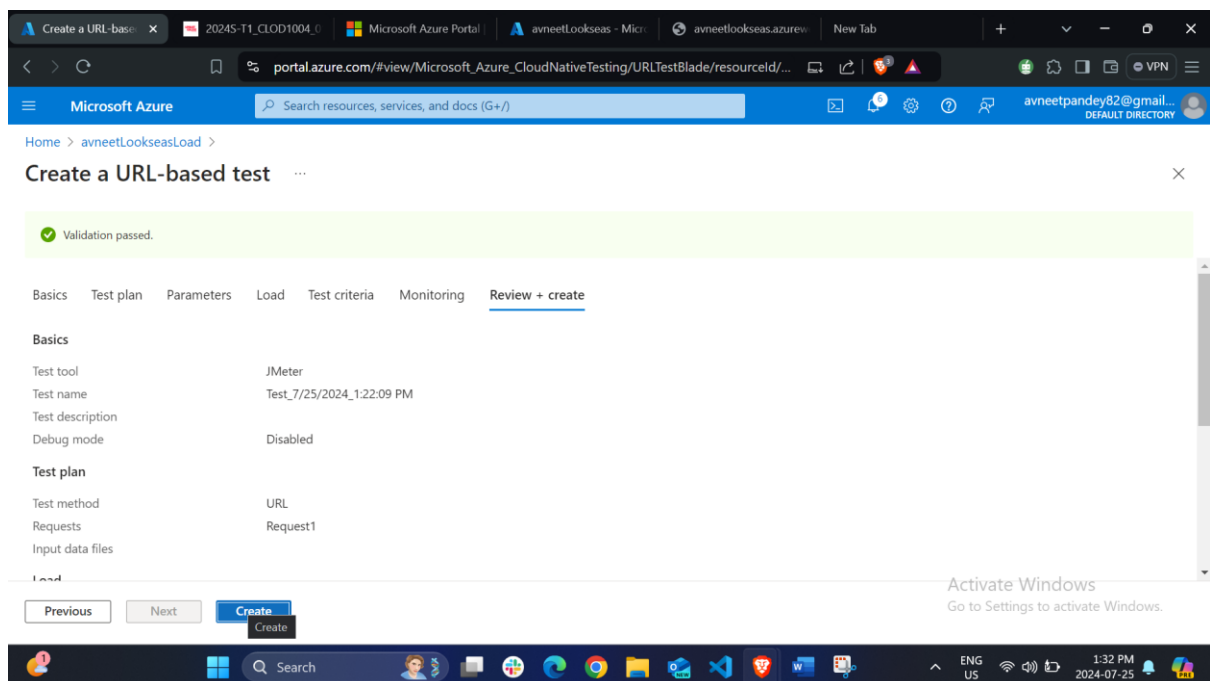
Step1: Make sure you're on the deployment stage and select the scale out option from the blade and implement the mentioned changes.



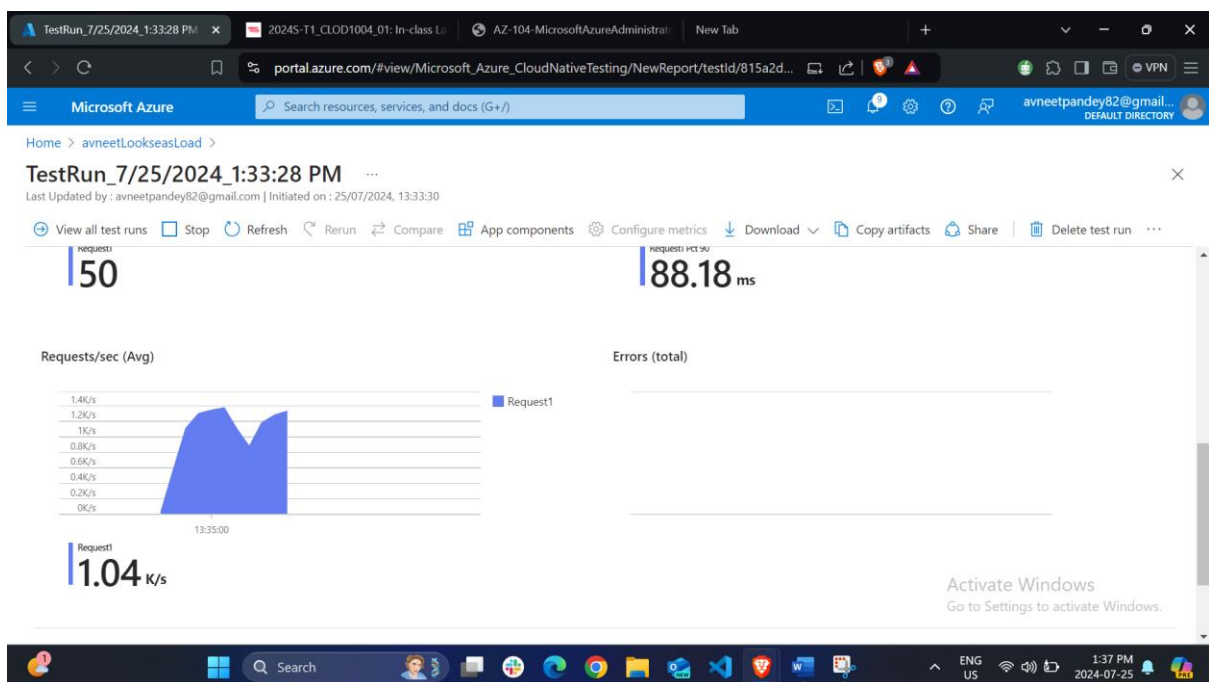
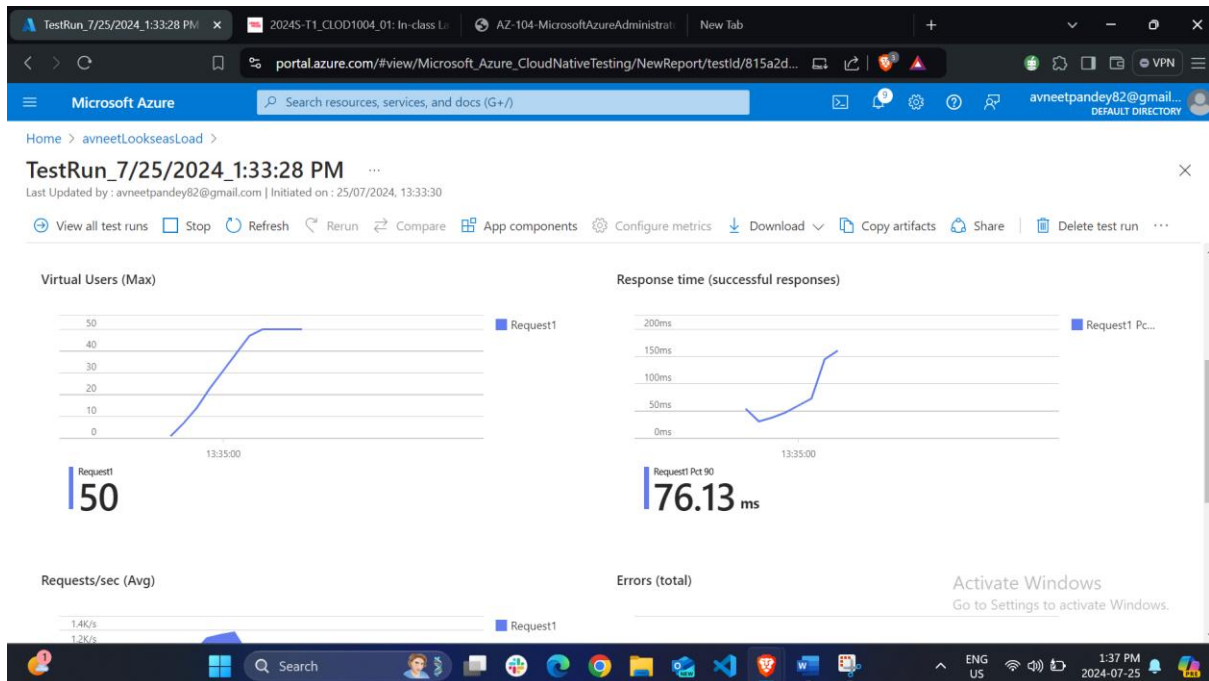
Step2: Go to the diagnose and solve problems and create load to increase the load on the web application.



Step 3: Go to the resources and create http requests. Make sure to enter the url.



Step4: Review the test Results including virtual user, response time and request/sec

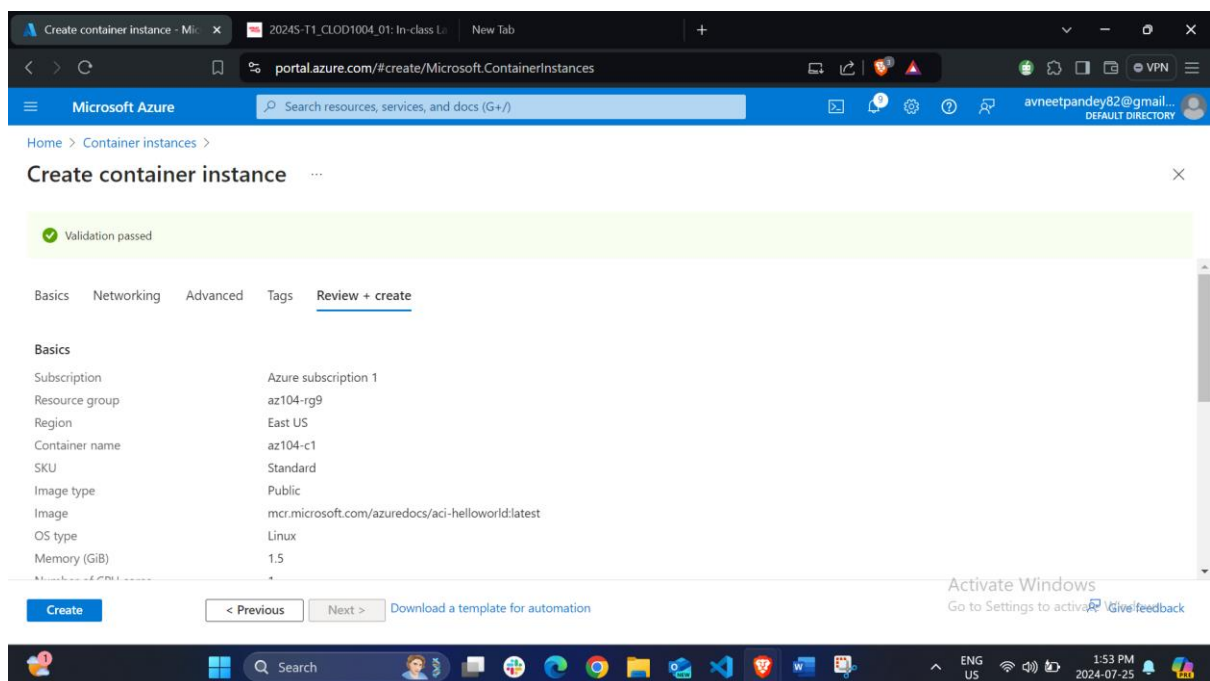


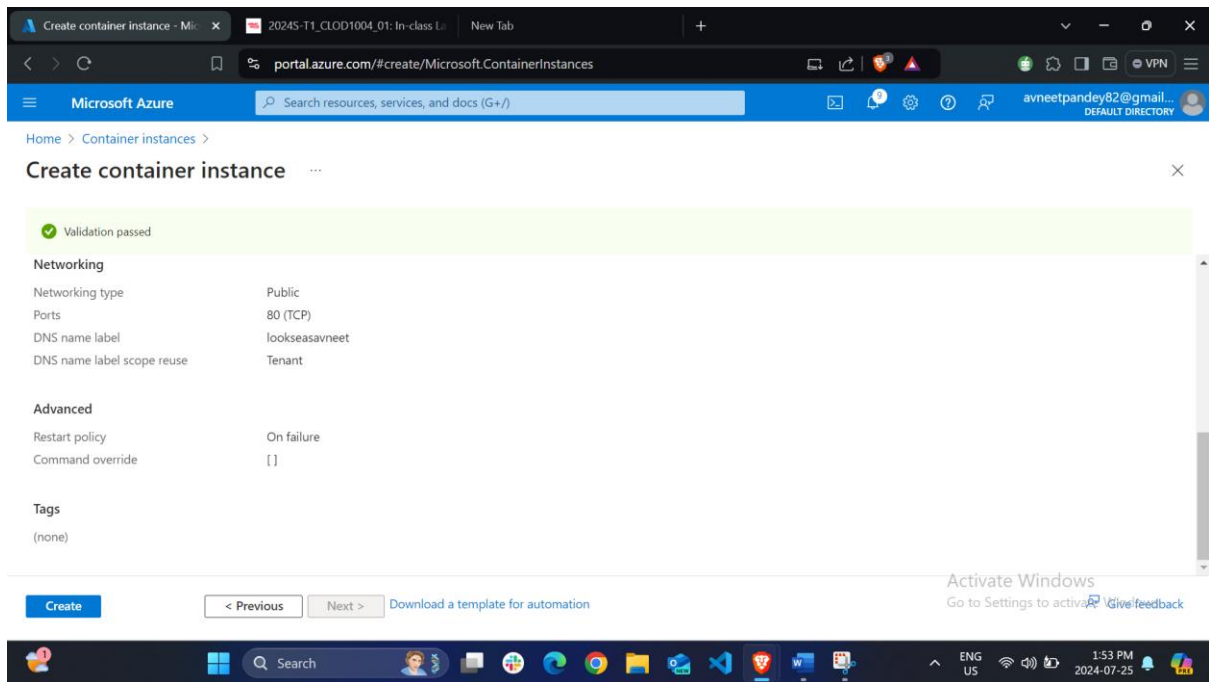
Lab 09b - Implement Azure Container Instances

Learn how to deploy azure container instance based on the situation where we want to move our the web application deployed in vm to the cloud without having large number of servers. So we decide to create new container instances and docker.

Task 1: Deploy an Azure Container Instance using a Docker image

Step 1: Go to the container instances and create new instance with the given configuration.

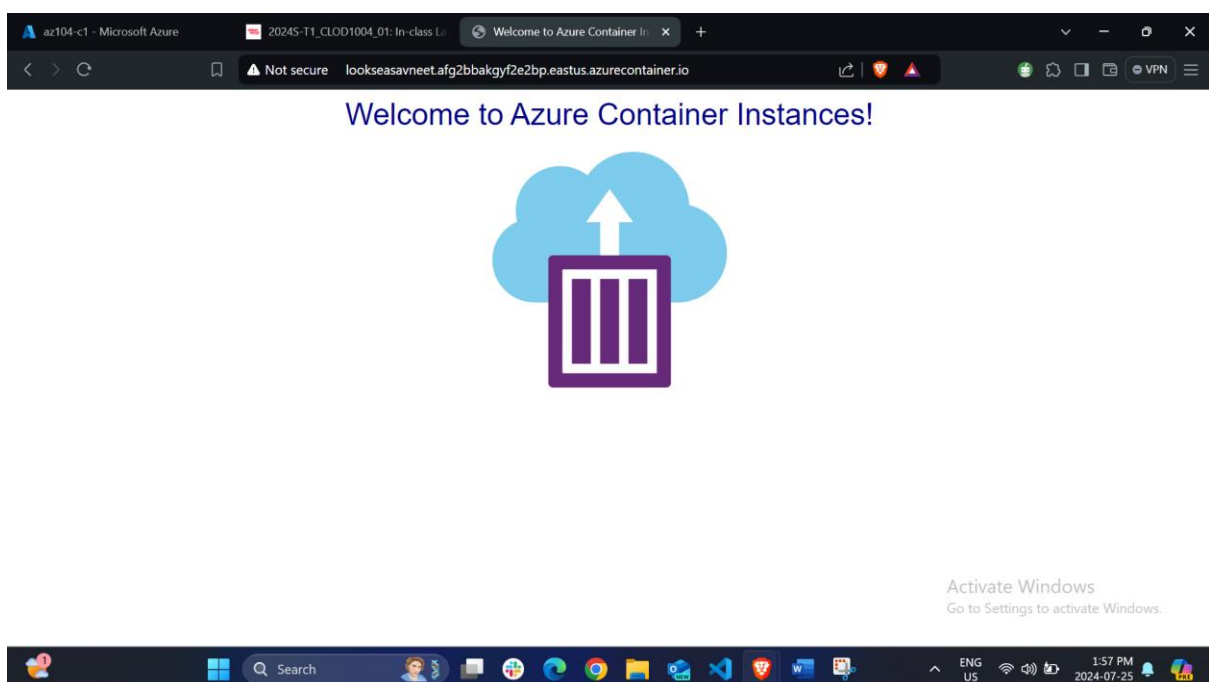




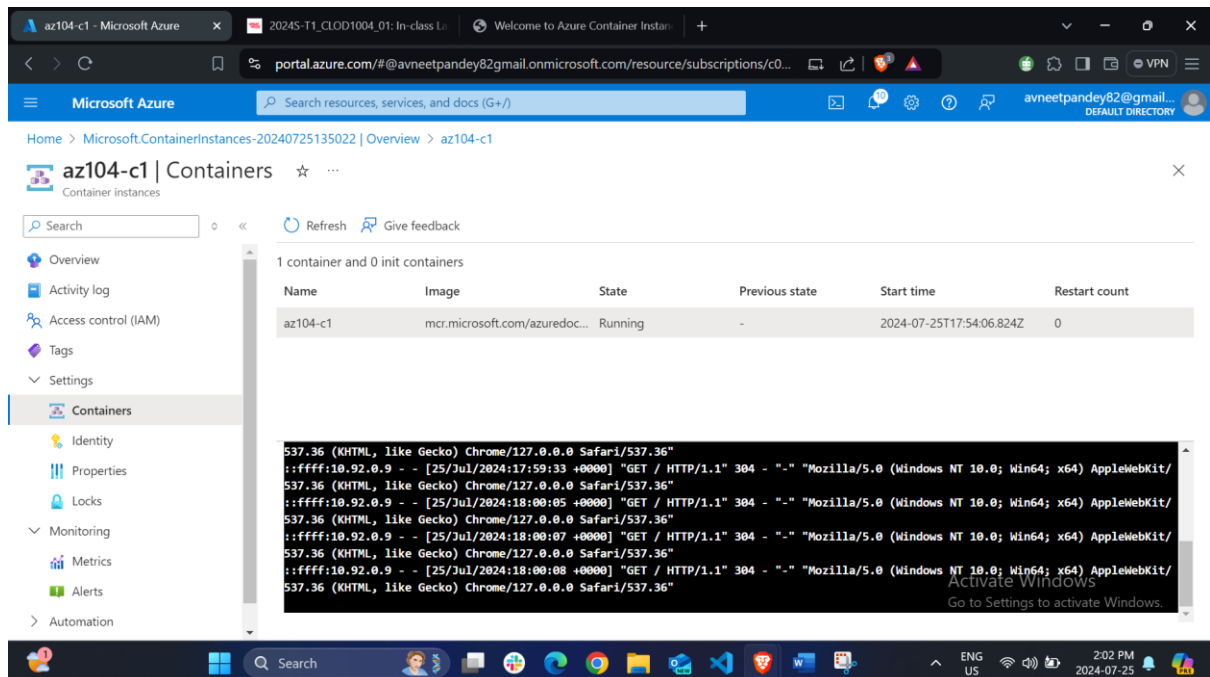
Task 2: Test and verify deployment of an Azure Container Instance

Here we will test the deployment of an azure container. This instance be default exist in the port 80.

Step 1: Firstly go to the resources and verify that status is running. Then copy the url mentioned in the FQDN



Step2: Refresh the page to add entry logs. GO to the settings section of the container instances then click logs.



Lab 09c - Implement Azure Container Apps

Here we'll learn about the implementation for azure container apps. We have same scenario as above one but now we'll use the container apps.

Task 1: Create and configure an Azure Container App and environment

Step 1: Go to the container apps in azure portal and create new container app. Create new app using the given configuration.

Create Container App - Micros... 20245-T1_CLOD1004_01: In-class L... +

portal.azure.com/#create/Microsoft.ContainerApp

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

Home > Container Apps >

Create Container App

Running...

Basics Container Bindings Tags **Review + create**

Project details

Subscription	Azure subscription 1
Resource group	az104-rg9
Name	my-app

Container Apps Environment (New)

Region	australiaeast
Container Apps Environment	managedEnvironment-az104rg9-944d
Log Analytics workspace (New)	workspaceaz104rg9b4c3
Virtual network	Default
Zone redundancy	Disabled

Create < Previous Next Download a template for automation

Activate Windows
Go to Settings to activate Windows.

ENG US 2:08 PM 2024-07-25

Create Container App - Micros... 20245-T1_CLOD1004_01: In-class L... +

portal.azure.com/#create/Microsoft.ContainerApp

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

Home > Container Apps >

Create Container App

Region	australiaeast
Container Apps Environment	managedEnvironment-az104rg9-944d
Log Analytics workspace (New)	workspaceaz104rg9b4c3
Virtual network	Default
Zone redundancy	Disabled

Container

Image source	Quickstart
Image	mcr.microsoft.com/k8se/quickstart:latest
Workload profile type	Consumption
Number of CPU cores	0.25
Memory size (Gi)	0.5
Ingress settings	Accepting traffic from anywhere
Port	80

Create < Previous Next Download a template for automation

Activate Windows
Go to Settings to activate Windows.

ENG US 2:08 PM 2024-07-25

Task 2: Test and verify deployment of the Azure Container App

In this task we will learn the deployment of the azure container app.

