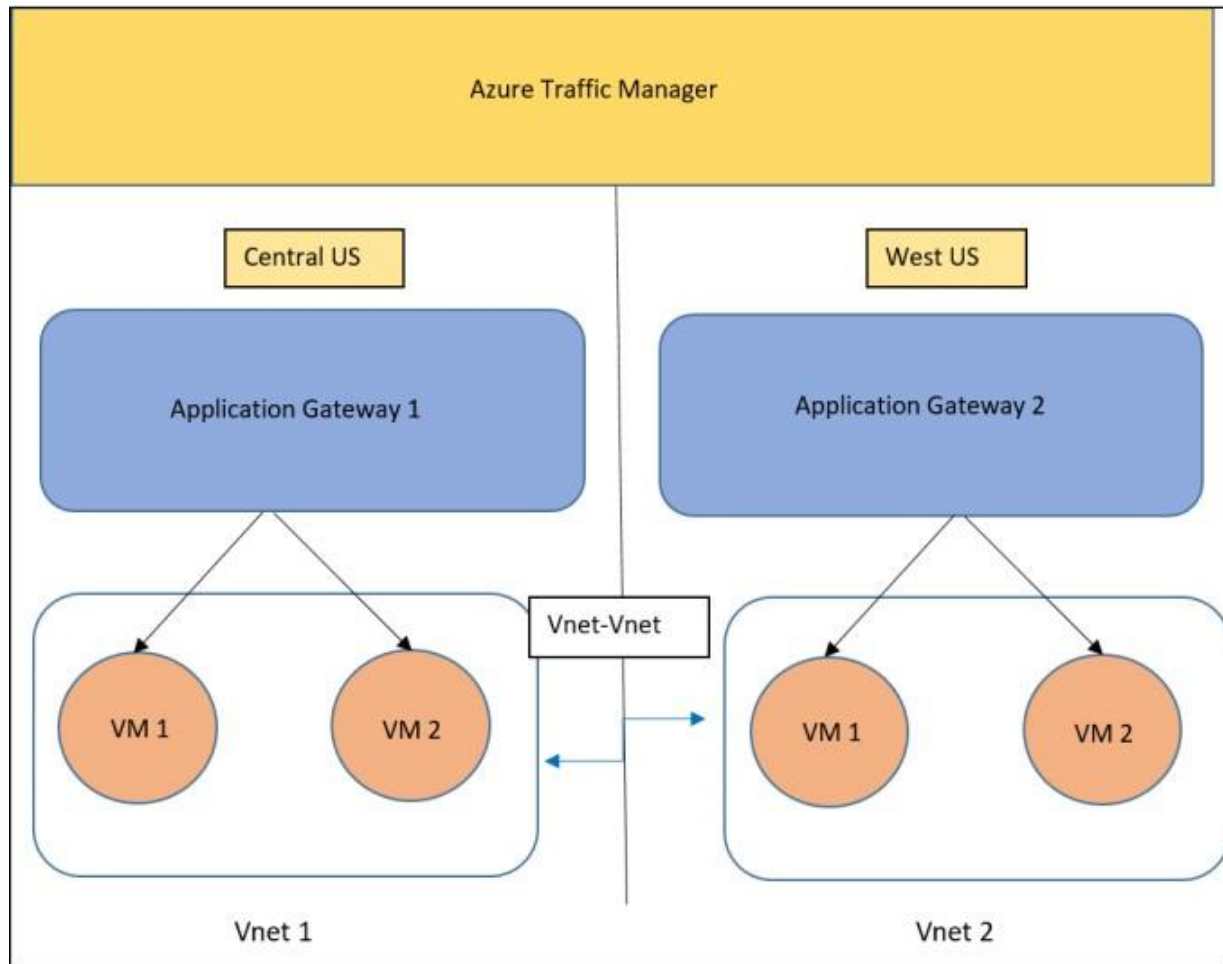# Azure Administrator
Capstone Project
Az-104

You work as an Azure professional for a Corporation. You are assigned the task of implementing the below architecture for the company's website.

There are three web pages to be deployed:
1. The home page is the default page (VM2)
2. The upload page is where you can upload the files to your Azure Blob Storage (VM1)
3. The error page for 403 and 502 errors

Application Gateway has to be configured in the following manner:
1. Example.com should be pointed to the home page
2. Example.com/upload should be pointed to the upload page

3. Application Gateway's error pages should be pointed to error.html which should be hosted as a static website in Azure Containers. The error.html file is present in the GitHub repository

The term 'Example' here refers to the Traffic Manager's domain name.

The client wants you to deploy them in the Central US and the West US regions such that the traffic is distributed optimally between both regions.

Storage Account has to be configured in the following manner:
1. You need to host your error.html as a static website here, and then point the application gateway's 403 and 502 errors to it.
2. Create a container named upload, this will be used by your code to upload the files.
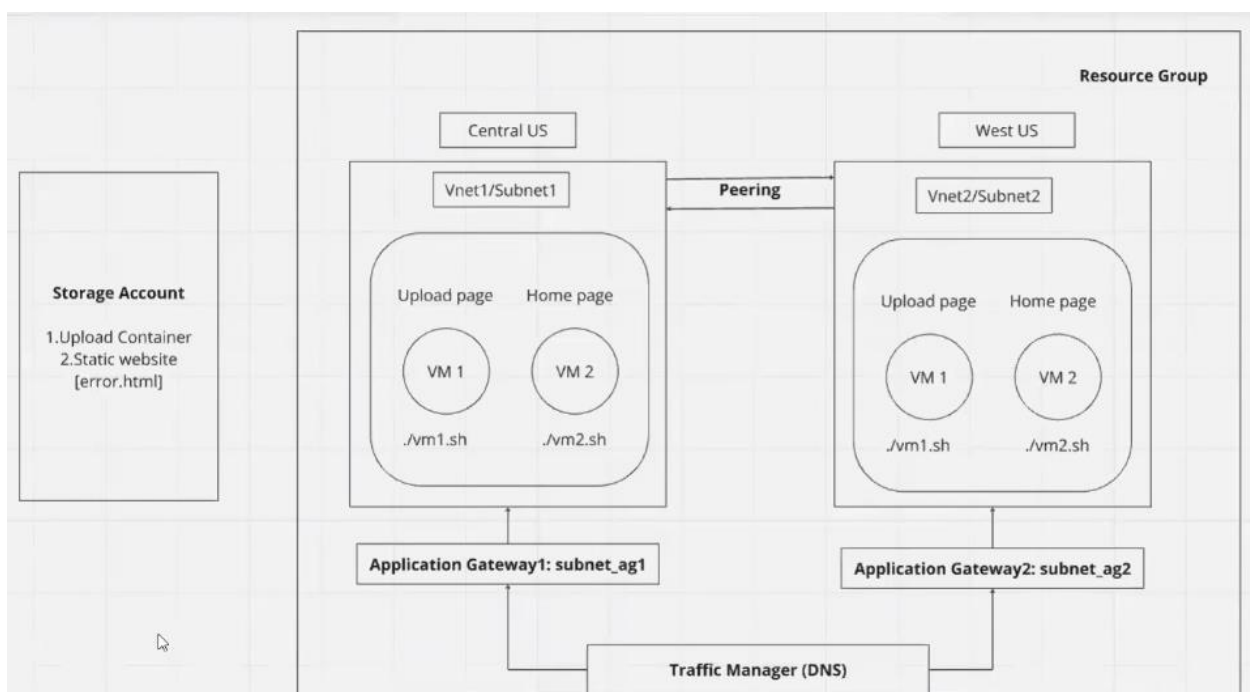
Technical specifications for the deployments are as follows:
1. Deployments in both regions should have VMs inside VNets.
2. Clone the GitHub repo https://github.com/azcloudberg/azproject to all the VMs.
3. On VM1, please run vm1.sh this will deploy the upload page, on VM2 please run VM2.sh, this will install the home page.
4. For running the scripts, please run the following command inside the GitHub directory from the terminal.

VM1: ./vm1.sh

VM2: ./vm2.sh

5. After running the scripts, please edit the config.py file on VM1, and enter the details related to your storage account where the files will be uploaded.
6. Once done, please run the following command: **sudo python3 app.py** 7. Both regions should be connected to each other using VNet-VNet Peering.

8. Finally, your Traffic Manager should be pointing to the application gateway of both the regions.

Storage Account

Error Page

Home Page

Upload Page

Resource Group

Central US

West US

Vnet1/Subnet1

Peering

Vnet2/Subnet2

Storage Account

1.Upload Container
2.Static website
[error.html]

Upload page

Home page

VM 1

VM 2

./vm1.sh

./vm2.sh

Upload page

Home page

VM 1

VM 2

./vm1.sh

./vm2.sh

Application Gateway1: subnet_ag1

Application Gateway2: subnet_ag2

Traffic Manager (DNS)

VM - 4
Vnets - 2
Subnets-2
AGW-2
Traffic Manager-1
Storage Acc -1
Peering -1

==Creating 4 VM's,== 2 in centralus and 2 in west us

Home > Virtual machines >

Create a virtual machine   ...

ⓘ Try out the Microsoft Copilot for Azure for additional recommendations when creating a virtual machine.

[🤖 Help me create a low cost VM]   [🤖 Help me create a VM optimized for high availability]   [🤖 Help me choose the right VM size for my workload]

Basics   Disks   Networking   Management   Monitoring   Advanced   Tags   Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. Learn more ⬦

> ⓘ This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

Project details

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

Subscription * ⓘ | Free Trial   ⌄ |

└── Resource group * ⓘ | (New) Capstone   ⌄ |
                                    Create new

Instance details

Virtual machine name * ⓘ | VM1-CentralUs   ✓ |

[< Previous] [Next : Disks >] [Review + create]

Instance details

Virtual machine name * ⓘ | VM1-CentralUs   ✓ |

Region * ⓘ | (US) Central US   ⌄ |

Availability options ⓘ | No infrastructure redundancy required   ⌄ |

Security type ⓘ | Standard   ⌄ |

Image * ⓘ | 🔴 Ubuntu Server 20.04 LTS - x64 Gen2 (free services eligible) ⌄ |
                                   See all images | Configure VM generation

                                   🚀 This image is compatible with additional security features. Click here to swap to the
                                      Trusted launch security type.

VM architecture ⓘ   ◯ Arm64
                                 ◉ x64

Run with Azure Spot discount ⓘ   ☐

[< Previous] [Next : Disks >] [Review + create]

Username * ⓘ	Salman	✓
Password *	•••••••••••	✓
Confirm password *	•••••••••••	✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ⓘ
- ○ None
- ● Allow selected ports

Select inbound ports * HTTP (80), SSH (22) ⌄

ⓘ All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

< Previous   Next : Disks >   Review + create

And also Creating subnet_ag1 for application gateway for further process

Network Interface

When creating a virtual machine, a network interface will be created for you.

Virtual network * ⓘ	(new) Vnet1 ⌄
	Create new
Subnet * ⓘ	(new) Subnet1 (10.0.0.0/24) ⌄
Public IP ⓘ	(new) VM1-CentralUs-ip ⌄
	Create new
NIC network security group ⓘ	○ None
	⦿ Basic
	○ Advanced
Public inbound ports * ⓘ	○ None
	⦿ Allow selected ports
Select inbound ports *	HTTP (80), SSH (22) ⌄

[< Previous] [Next : Management >] [Review + create]

Home >

CreateVm-canonical.0001-com-ubuntu-server-focal-2-20240820211544 | Overview
Deployment

🔍 Search   X «

- ♣ Overview
- 🖥 Inputs
- 🗒 Outputs
- 📄 Template

🗑 Delete   ⊘ Cancel   ⬆ Redeploy   ⬇ Download   ↻ Refresh

✅ **Your deployment is complete**

Deployment name: CreateVm-canonical.0001-com-ubuntu-server-f...   Start time: 8/20/2024, 9:21:28 PM
Subscription: Free Trial   Correlation ID: 1a80e0a5-2080-4d49-8f3a-bce3b6337deb
Resource group: Capstone

⌄ Deployment details

⌃ Next steps

Setup auto-shutdown   Recommended

Monitor VM health, performance and network dependencies   Recommended

Run a script inside the virtual machine   Recommended

[Go to resource]   [Create another VM]

Home >

Virtual machines
Default Directory (shaiksalmanfarsi80gmail.onmicrosoft.com)

+ Create ⌄   ⇄ Switch to classic   🕐 Reservations ⌄   ⚙ Manage view ⌄   ↻ Refresh   ⬇ Export to CSV   ⌕ Open query | ⓘ Assign tags   ▷ Start   ↺ Restart   ☐ Stop   🗑 Delete   ☰ Services ⌄   🔧 Maintenance ⌄

Filter for any field...   Subscription equals all   Type equals all   Resource group equals all ⊗   Location equals all ⊗   +▽ Add filter

Showing 1 to 1 of 1 records.   No grouping ⌄

☐ Name ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓	Public IP address ↑↓	Disks
☐ 🖥 VM1-CentralUs	Free Trial	Capstone	Central US	Running	Linux	Standard_B1s	40.86.114.46	1

For 2nd Central US Basic data I am skipping here, and configuring only networking part selecting same vnet1 which we created for 1st VM

Now Creating 2 VM's in West Us Region

Try out the Microsoft Copilot for Azure for additional recommendations when creating a virtual machine.

[Help me create a low cost VM] [Help me create a VM optimized for high availability] [Help me choose the right VM size for my workload]

Basics Disks Networking Management Monitoring Advanced Tags Review + create

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. Learn more

ⓘ This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

Project details

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

Subscription * ⓘ   [Free Trial   ⌄]

        Resource group * ⓘ   [Capstone   ⌄]
                               Create new

Instance details

Virtual machine name * ⓘ   [VM1-WestUs   ✓]

[< Previous] [Next : Disks >] [Review + create]

Instance details

Virtual machine name * ⓘ   [VM1-WestUs   ✓]

Region * ⓘ   [(US) West US   ⌄]

Availability options ⓘ   [No infrastructure redundancy required   ⌄]

Security type ⓘ   [Standard   ⌄]

Image * ⓘ   [🟠 Ubuntu Server 20.04 LTS - x64 Gen2 (free services eligible)   ⌄]
                             See all images | Configure VM generation

                             ✦ This image is compatible with additional security features. Click here to swap to the
                                Trusted launch security type.

VM architecture ⓘ   ○ Arm64
                             ● x64

Run with Azure Spot discount ⓘ   ☐

[< Previous] [Next : Disks >] [Review + create]

Authentication type ⓘ
- ⦿ SSH public key
- ● Password

Username * ⓘ   Salman ✓

Password *   ●●●●●●●●●●● ✓

Confirm password *   ●●●●●●●●●●● ✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ⓘ
- ○ None
- ● Allow selected ports

Select inbound ports *   HTTP (80), SSH (22)

ⓘ All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

[< Previous] [Next : Disks >] [Review + create]

Change 10 to any another subnet series I selected 20.0.0.0/16 because same subnet we can't peering it, it will failed, And also Creating Subnet2_ag2 for application gateway for further process

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network * ⓘ	(new) Vnet2 ▾
	Create new
Subnet * ⓘ	(new) Subnet2 (20.0.0.0/24) ▾
Public IP ⓘ	(new) VM1-WestUs-ip ▾
	Create new
NIC network security group ⓘ	○ None ◉ Basic ○ Advanced
Public inbound ports * ⓘ	○ None ◉ Allow selected ports

`< Previous` `Next : Management >` `Review + create`

Home >

CreateVm-canonical.0001-com-ubuntu-server-focal-2-20240820214150 | Overview ⚲ ⋯
Deployment

🔍 Search ✕ «   🗑 Delete ⊘ Cancel ⬆ Redeploy ⬇ Download ↻ Refresh

- 🏠 **Overview**
- 🖥 Inputs
- ☰ Outputs
- 📄 Template

✅ **Your deployment is complete**

🖥 Deployment name: CreateVm-canonical.0001-com-ubuntu-server-f... Start time: 8/20/2024, 9:46:15 PM
Subscription: Free Trial   Correlation ID: be494b97-f3db-4555-ab63-8889196002bd 📋
Resource group: Capstone

∨ Deployment details

∧ Next steps

Setup auto-shutdown   Recommended
Monitor VM health, performance and network dependencies   Recommended
Run a script inside the virtual machine   Recommended

`Go to resource` `Create another VM`

Home >

Virtual machines ⚲ ⋯
Default Directory (shaiksalmanfarsi80gmail.onmicrosoft.com)

+ Create ∨ ⇄ Switch to classic 🕐 Reservations ∨ 🎛 Manage view ∨ ↻ Refresh ⬇ Export to CSV 🔍 Open query | 🏷 Assign tags ▷ Start ↻ Restart ☐ Stop 🗑 Delete ☰ Services ∨ 🔧 Maintenance ∨

Filter for any field...   Subscription equals **all**   Type equals **all**   Resource group equals **all** ✕   Location equals **all** ✕   +▽ Add filter

Showing 1 to 3 of 3 records.   No grouping ▾   ☰ List

☐ Name ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓	Public IP address ↑↓	Disks ↑↓
☐ VM1-CentralUs	Free Trial	Capstone	Central US	Running	Linux	Standard_B1s	40.86.114.46	1
☐ VM1-WestUs	Free Trial	Capstone	West US	Running	Linux	Standard_B1s	20.43.240.84	1
☐ VM2-CentralUs	Free Trial	Capstone	Central US	Running	Linux	Standard_B1s	13.89.242.124	1

For 2nd West US Basic data I am skipping here, and configuring only networking part selecting same vnet2 which we created for 1st VM

Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution.
Learn more

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network * ⓘ	Vnet2	⌄
	Create new	
Subnet * ⓘ	Subnet2 (20.0.0.0/24)	⌄
	Manage subnet configuration	
Public IP ⓘ	(new) VM2-WestUs-ip	⌄
	Create new	

NIC network security group ⓘ
○ None
● Basic
○ Advanced

Public inbound ports * ⓘ
○ None

[< Previous] [Next : Management >] [Review + create]

Home >

CreateVm-canonical.0001-com-ubuntu-server-focal-2-20240820221958 | Overview
Deployment

🔍 Search   ✕   «   🗑 Delete   ⊘ Cancel   ⬆ Redeploy   ⬇ Download   ↻ Refresh

- ⊕ Overview
- 📋 Inputs
- ☰ Outputs
- 📄 Template

✅ Your deployment is complete

Deployment name: CreateVm-canonical.0001-com-ubuntu-server-f...   Start time: 8/20/2024, 10:23:05 PM
Subscription: Free Trial   Correlation ID: 84b5c96d-0f19-49d8-9e2a-d03ea7d39f15
Resource group: Capstone

⌄ Deployment details

⌃ Next steps

Setup auto-shutdown   Recommended

Monitor VM health, performance and network dependencies   Recommended

Run a script inside the virtual machine   Recommended

[Go to resource]   [Create another VM]

Now Successfully deployed all 4 VM's

Home >
Virtual machines
Default Directory (shaiksalmanfarsi80gmail.onmicrosoft.com)

+ Create ⇄ Switch to classic 🕐 Reservations ⌄ 👁 Manage view ⌄ ↻ Refresh ⬇ Export to CSV 🔍 Open query | 🏷 Assign tags ▷ Start ↻ Restart ☐ Stop 🗑 Delete ☰ Services ⌄ 🔧 Maintenance ⌄

Filter for any field...   Subscription equals all   Type equals all   Resource group equals all ✕   Location equals all ✕   ⁺▽ Add filter

Showing 1 to 4 of 4 records.   No grouping ⌄   ☰ List vi

☐ Name ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓	Public IP address ↑↓	Disks ↑↓
☐ 🖥 VM1-CentralUs	Free Trial	Capstone	Central US	Running	Linux	Standard_B1s	40.86.114.46	1
☐ 🖥 VM1-WestUs	Free Trial	Capstone	West US	Running	Linux	Standard_B1s	20.43.240.84	1
☐ 🖥 VM2-CentralUs	Free Trial	Capstone	Central US	Running	Linux	Standard_B1s	13.89.242.124	1
☐ 🖥 VM2-WestUs	Free Trial	Capstone	West US	Running	Linux	Standard_B1s	104.210.42.127	1

Now Creating an Storage Account

Home > Storage accounts >

Create a storage account ...

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, 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 in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *   Free Trial

Resource group *   Capstone
                                Create new

Instance details

Storage account name * ⓘ   laststorageac

Region * ⓘ   (US) Central US
                                Deploy to an Azure Extended Zone

Performance * ⓘ   ● Standard: Recommended for most scenarios (general-purpose v2 account)
                                ○ Premium: Recommended for scenarios that require low latency.

Redundancy * ⓘ   Locally-redundant storage (LRS)

Previous   Next   Review + create

And Enable Anonymous Access on here

Home > Storage accounts >

Create a storage account ...

Basics   **Advanced**   Networking   Data protection   Encryption   Tags   Review + create

Security

Configure security settings that impact your storage account.

Require secure transfer for REST API operations ⓘ   ☑

Allow enabling anonymous access on individual containers ⓘ   ☑

Enable storage account key access ⓘ   ☑

Default to Microsoft Entra authorization in the Azure portal ⓘ   ☐

Minimum TLS version ⓘ   Version 1.2

Permitted scope for copy operations (preview) ⓘ   From any storage account
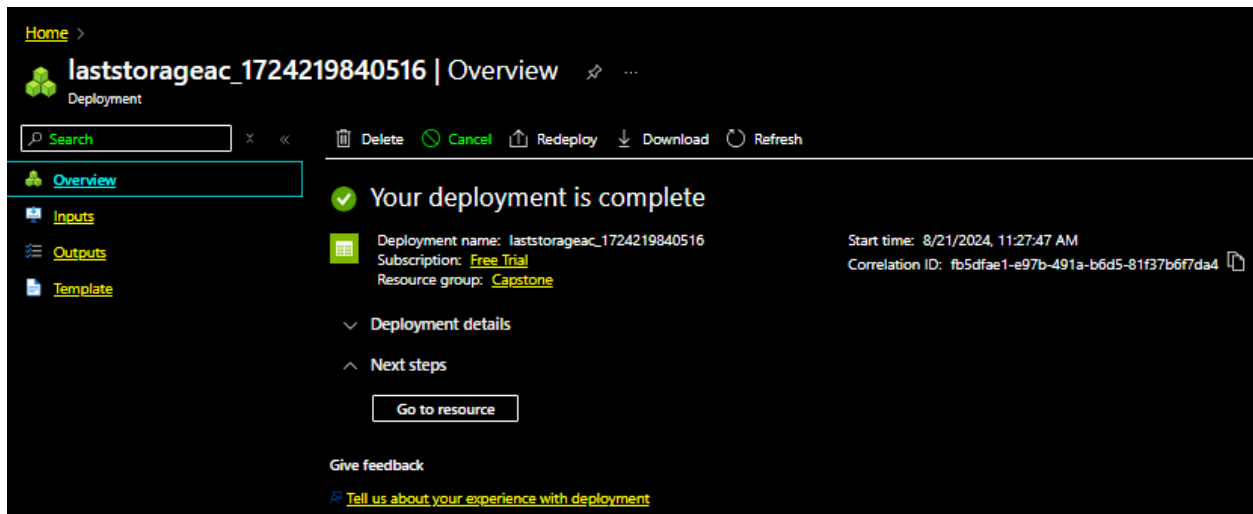
Now in the Storage Account creating a Static Website and enable it and name it document path and add it, it will provide a primary endpoint link
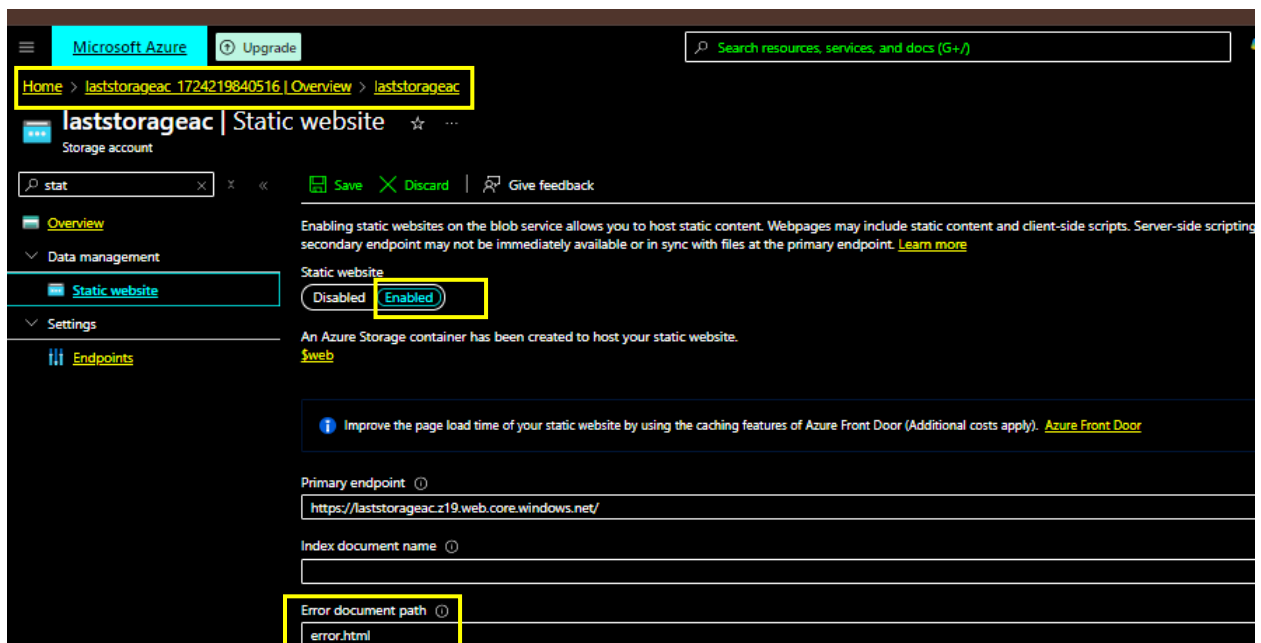
Currently there is nothing, ==we need to upload a file into the container==
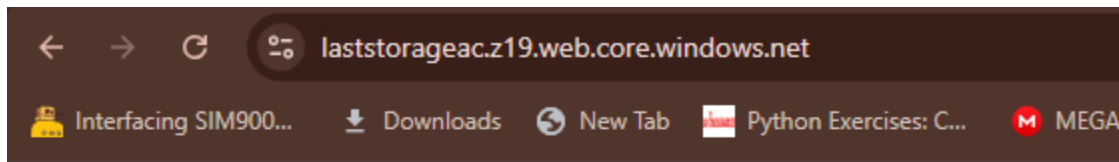
The requested content does not exist.

- HttpStatusCode: 404
- ErrorCode: WebContentNotFound
- RequestId : 7de269af-301e-0062-2d8f-f37bba000000
- TimeStamp : 2024-08-21T05:59:25.0286693Z

==Go to the Container > WeB > upload a error file==
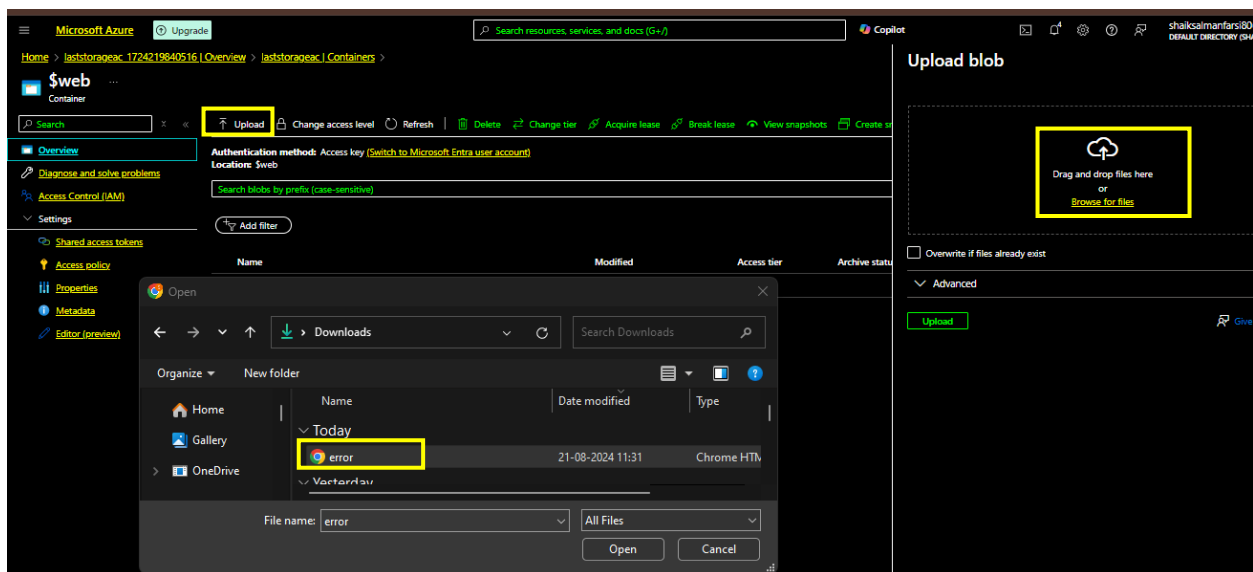
==Now in the container its uploaded successfully==
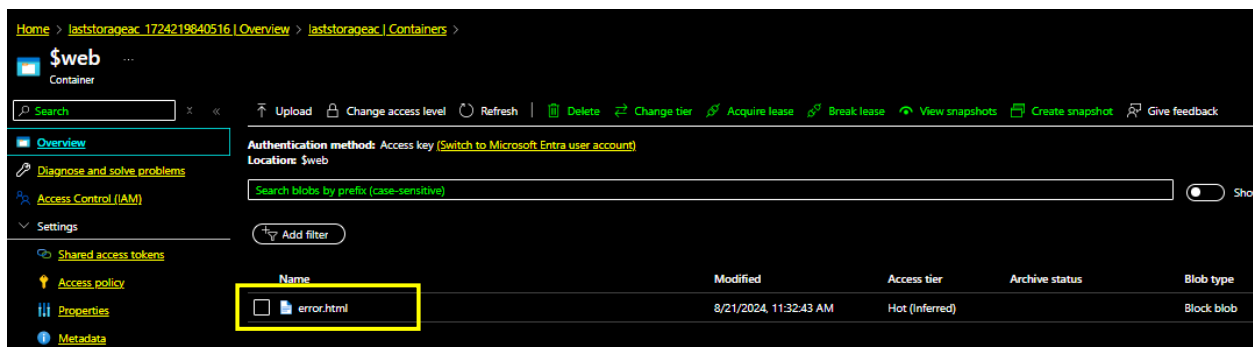
Now refresh it, ==it will show the error page==
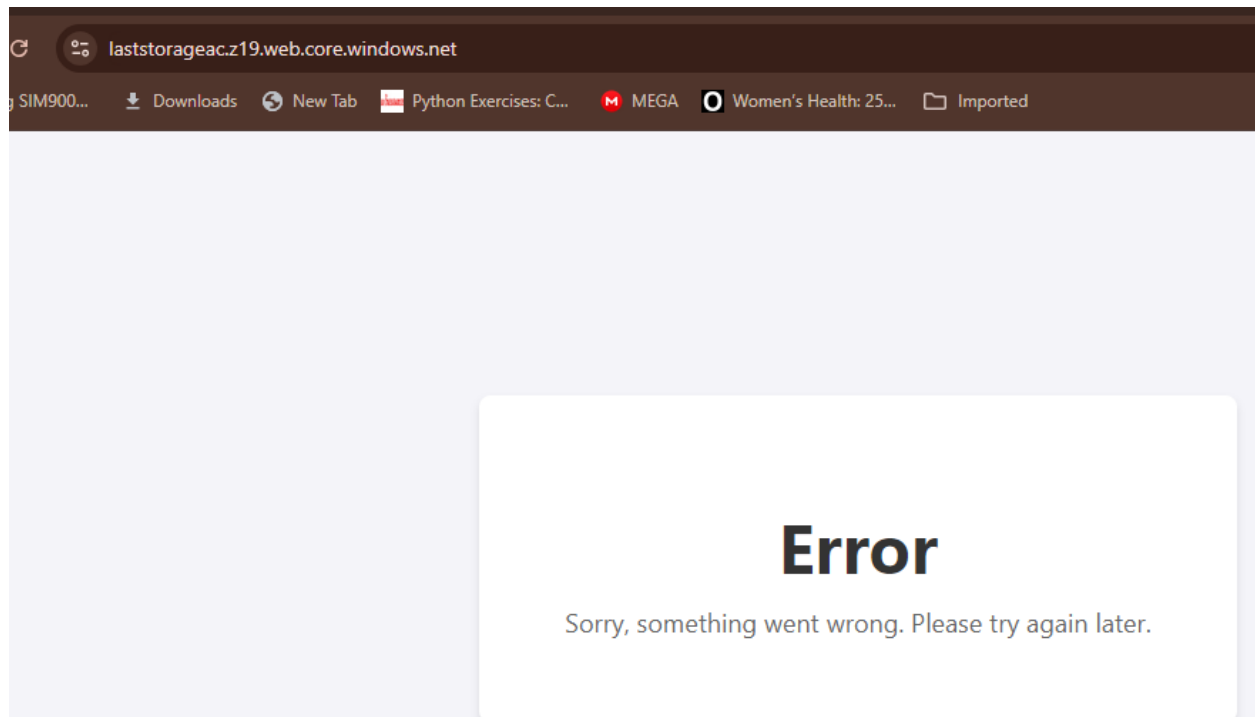
Now Creating a ==Container== Name it as ==upload==
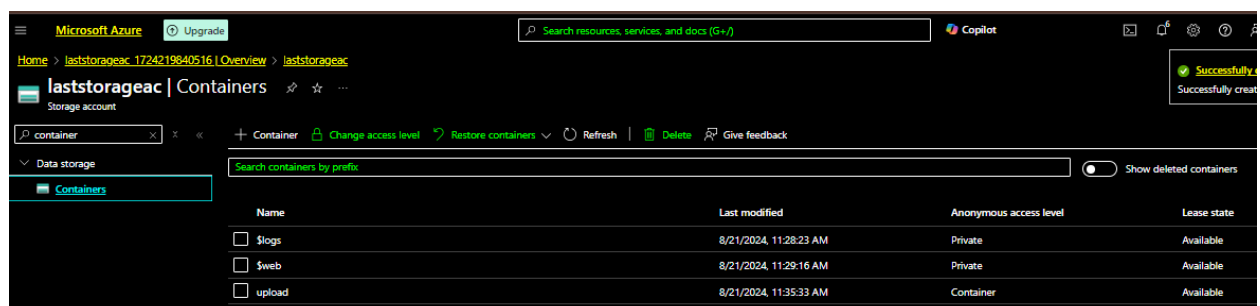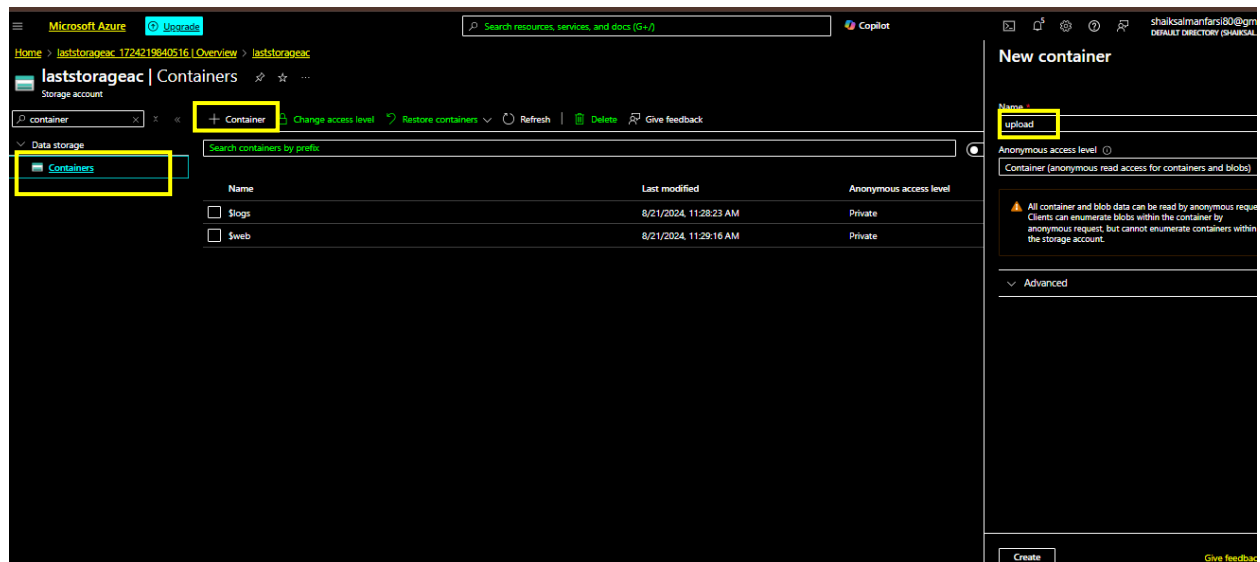
==Now Going to vnet section and searching peerings to connect both the vnets==
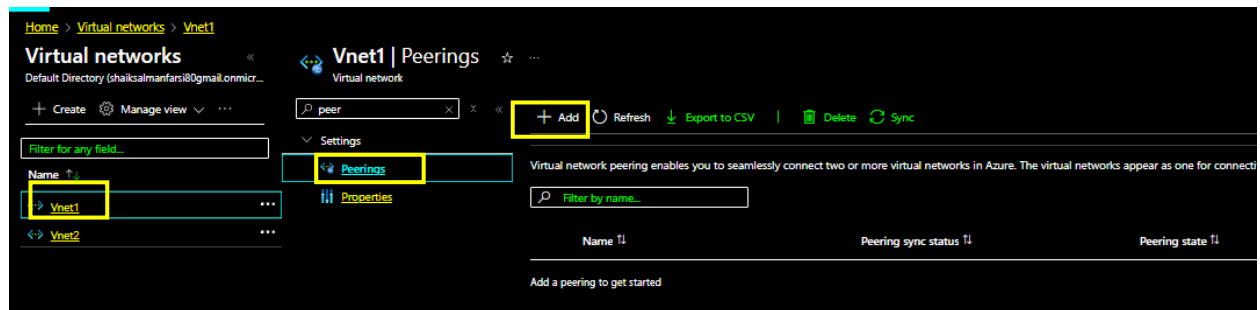
Setup to peering connection

Successfully peered the connections

Now go to Apllication Gateway and create

Now I am here creating vnet of central us

Add New

Add Pool1 as VM1

Add Pool2 as VM2

2 VM's Added Successfully

Click to Create Routing Rules

Rule1 and configure on listener first, add the error links on below

And go to backend targets Selecting pool2 not pool1 and click Add New

Add New name it as default and Add

Click on Add Multiple Targets

/upload Is path and upload target name and here **pool1** is the target

And Add

Now Review + Create

Home > Load balancing | Application Gateway >

Create application gateway ...

An application gateway is a web traffic load balancer that enables you to manage traffic to your web application. Learn about creating application gateway

Project details

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

Subscription * ⓘ	Free Trial	∨
Resource group * ⓘ	Capstone	∨

Create new

Instance details

Application gateway name *	ag2	✓
Region *	West US	∨
Tier ⓘ	Standard V2	∨

Enable autoscaling   ◉ Yes ○ No

Minimum instance count * ⓘ	1	✓
Maximum instance count	5	✓
Availability zone ⓘ	None	∨

HTTP2 ⓘ   ○ Disabled ◉ Enabled

Previous   Next : Frontends >

Availability zone ⓘ	None	∨

HTTP2 ⓘ   ○ Disabled ◉ Enabled

IP address type ⓘ   ◉ IPv4 only ○ Dual stack (IPv4 & IPv6)

Configure virtual network

Virtual network * ⓘ	Vnet2	∨

Create new

Subnet * ⓘ	Subnet2_ag2 (20.0.1.0/24)	∨

Manage subnet configuration

Previous   Next : Frontends >

Home > Load balancing | Application Gateway >

Create application gateway ···

✓ Basics   ② Frontends   ③ Backends   ④ Configuration   ⑤ Tags   ⑥ Review + create

Traffic enters the application gateway via its frontend IP address(es). An application gateway can use a public IP address, private IP address, or one of each type.

Frontend IP address type ⓘ   ◉ Public   ○ Private   ○ Both

Public IPv4 address *   (New) ag2ip ▾

Add new

Home > Load balancing | Application Gateway >

Create application gateway ···

✓ Basics   ✓ Frontends   ③ Backends   ④ Configuration   ⑤ Tags   ⑥ Review + create

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Add a backend pool

Backend pool	Targets
No results	

Add a backend pool.

A backend pool is a collection of resources to which your application gatew... A backend pool can contain virtual machines, virtual machines scale sets, IP names, or an App Service.

Name *   pool1

Add backend pool without targets   Yes **No**

Backend targets

1 item

Target type	Target
Virtual machine ▾	vm1-westus600 (20.0.0.4)
IP address or FQDN ▾	

Home > Load balancing | Application Gateway >

Create application gateway ···

✓ Basics   ✓ Frontends   ③ Backends   ④ Configuration   ⑤ Tags   ⑥ Review + create

A backend pool is a collection of resources to which your application gateway can send traffic. A backend pool can contain virtual machines, virtual machine scale sets, app services, IP addresses, or fully qualified domain names (FQDN).

Add a backend pool

Backend pool	Targets	
pool1	⌄ 1 target	···
	vm1-westus600	···
pool2	⌄ 1 target	···
	vm2-westus937	···

Home > Load balancing | Application Gateway >

Create application gateway ···

✓ Basics   ✓ Frontends   ✓ Backends   ④ Configuration   ⑤ Tags   ⑥ Review + create

Create routing rules that link your frontend(s) and backend(s). You can also add more backend pools, add a second frontend IP configuration if you haven't already, or edit previous configurations.

Frontends
+ Add a frontend IP

Public (new) ag2ip   🗑 ···

Routing rules
+
Add a routing rule

Backend pools
+ Add a backend pool

pool1   🗑 ···
pool2   🗑 ···

Home > Load balancing | Application Gateway >

Create application gateway ...

✓ Basics   ✓ Frontends   ✓ Backends   ◆ Configuration   ⑤ Tags   ⑥ Review + create

Create routing rules that link your frontend(s) and backend(s). You can also add more backend pools, add a second frontend IP configuration if you haven't already.

Frontends
+ Add a frontend IP

Public: (new) ag2ip   🗑 ⋯

Routing rules

Add a routing rule

Previous   Next : Tags >

Add a routing rule

Configure a routing rule to send traffic from a given frontend IP address to one or more backend targets. A listener and at least one backend target.

Rule name *   rule1

Priority * ⓘ   1

Listener   Backend targets

A listener "listens" on a specified port and IP address for traffic that uses a specified protocol. If the listener application gateway will apply this routing rule.

Listener name * ⓘ   name

Frontend IP * ⓘ   Public IPv4

Protocol ⓘ   ◉ HTTP ○ HTTPS

Port * ⓘ   80

Listener type ⓘ   ◉ Basic ○ Multi site

Custom error pages

Show customized error pages for different response codes generated by Application Gateway. This sectio specific error pages. Learn more

Please verify that the url(s) being added here is reachable from your application gateway using the conne prevent any deployment error.

Bad Gateway - 502   https://laststorageac.z19.web.core.windows.net/error.html

Forbidden - 403   https://laststorageac.z19.web.core.windows.net/error.html
Show more status codes

Add   Cancel

≡ Microsoft Azure 🔼 Upgrade   🔍 Search resources, services, and docs (G+/)   🟦 Copilot   ...   shaiksalmanfa
DEFAULT DIRECTOR

Home > Load balancing | Application Gateway >

Create application gateway ...

✓ Basics   ✓ Frontends   ✓ Backends   ◆ Configuration   ⑤ Tags   ⑥ Review + create

Create routing rules that link your frontend(s) and backend(s). You can also add more backend pools, add a second frontend IP configuration if you haven't already.

Frontends
+ Add a frontend IP

Public: (new) ag2ip   🗑 ⋯

Routing rules

Add a routing rule

Add a routing rule

Configure a routing rule to send traffic from a given frontend IP address to one or more backend targets. A routing rule must listener and at least one backend target.

Rule name *   rule1

Priority * ⓘ   1

Listener   **Backend targets**

Choose a backend pool to which this routing rule will send traffic. You will also need to specify a set of Backend settings that behavior of the routing rule.

Target type   ◉ Backend pool ○ Redirection

                     pool2
Backend target * ⓘ
                     Add new

                     default
Backend settings * ⓘ
                     Add new

Path-based routing

You can route traffic from this rule's listener to different backend targets based on the URL path of the request. You can also different set of Backend settings based on the URL path.

Path based rules

Path	Target name	Backend setting name	Backend pool
/upload	upload	default	pool1

Add multiple targets to create a path-based rule

Home > Load balancing | Application Gateway >

Create application gateway ...

✓ Basics   ✓ Frontends   ✓ Backends   ◆ Configuration   ⑤ Tags   ⑥ Review + create

Create routing rules that link your frontend(s) and backend(s). You can also add more backend pools, add a second frontend IP configuration if you haven't already, or edit previous configurations.

Frontends
+ Add a frontend IP

Public: (new) ag2ip   🗑 ⋯

Routing rules
+ Add a routing rule
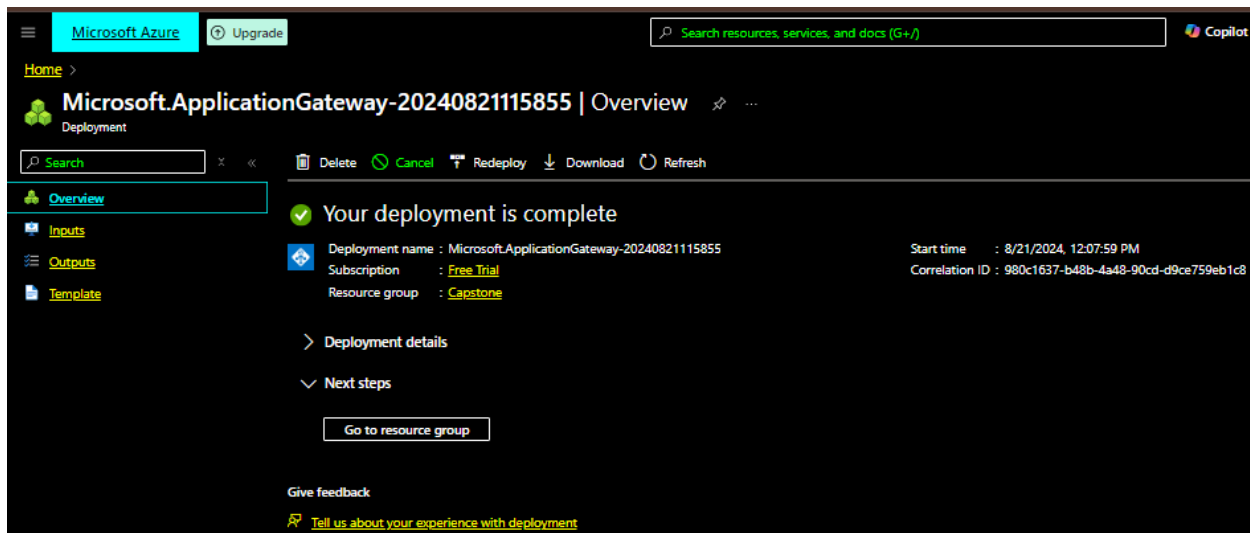
rule1   🗑 ⋯
Manage Backend settings

Backend pools
+ Add a backend pool

pool1   🗑 ⋯
pool2   🗑 ⋯

Now go to cmd and Launch all 4 machines

```
C:\Users\shaik>ssh Salman@40.86.114.46
Salman@40.86.114.46's password:
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.15.0-1070-azure x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro
```
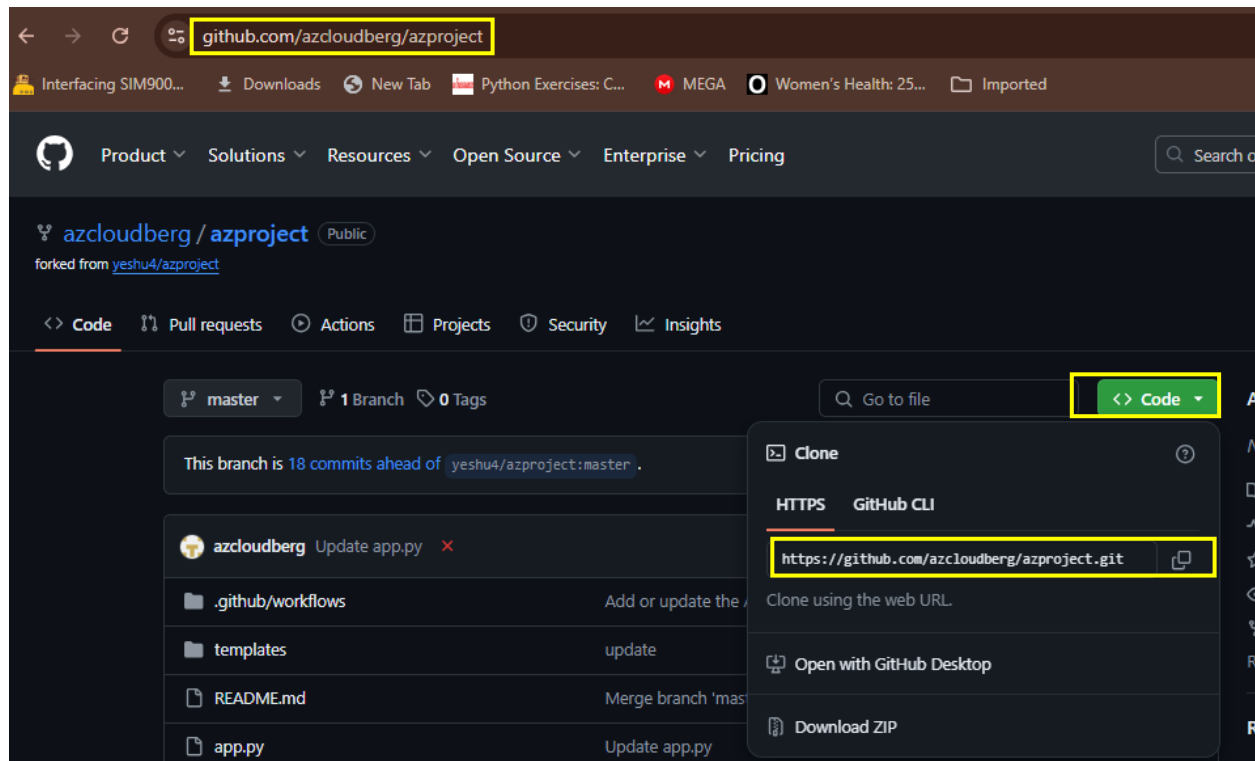
Update all


```
Salman@VM1-CentralUs:~$ sudo apt-get update
```



```
Salman@VM2-CentralUs:~$ sudo apt-get update
```



```
Salman@VM1-WestUs:~$ sudo apt-get update
```



```
Salman@VM2-WestUs:~$ sudo apt-get update
```

==Copy the link and go to browser paste it and go code copy the link to clone==

==Clone it in all 4 VM's==

```
Salman@VM1-WestUs:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (26/26), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 229 (delta 21), reused 14 (delta 14), pack-reused 203 (from 1)
Receiving objects: 100% (229/229), 52.16 KiB | 2.01 MiB/s, done.
Resolving deltas: 100% (108/108), done.
Salman@VM1-WestUs:~$
```

```
Salman@VM2-WestUs:~$ git clone https://github.com/azcloudberg/azproject.git
Cloning into 'azproject'...
remote: Enumerating objects: 229, done.
remote: Counting objects: 100% (26/26), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 229 (delta 21), reused 14 (delta 14), pack-reused 203 (from 1)
Receiving objects: 100% (229/229), 52.16 KiB | 1.80 MiB/s, done.
Resolving deltas: 100% (108/108), done.
Salman@VM2-WestUs:~$
```

Now go to azproject cd azproject

```
Salman@VM1-CentralUs:~/azproject$
```

And run sh vm2.sh on vm2 machines on central and west

```
Salman@VM2-CentralUs:~/azproject$ ls
README.md  app.py  config.py  error.html  index.html  templates  vm1.sh  vm2.sh
Salman@VM2-CentralUs:~/azproject$ ./vm2.sh
```

```
Salman@VM1-WestUs:~$ cd azproject
Salman@VM1-WestUs:~/azproject$
```

```
Salman@VM2-WestUs:~$ cd azproject
Salman@VM2-WestUs:~/azproject$ ls
README.md  app.py  config.py  error.html  index.html  templates  vm1.sh  vm2.sh
Salman@VM2-WestUs:~/azproject$ sh vm2.sh
```
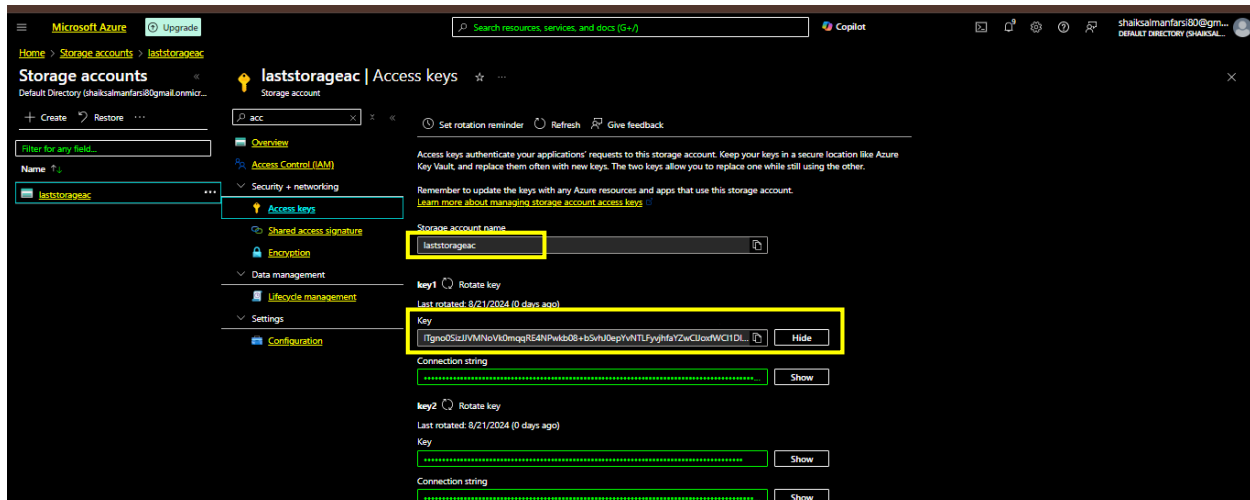
And run sh vm2.sh on vm2 machines on CentralUs

And run sh vm2.sh on vm2 machines on WestUS

Now Come to Storage Account > Access Keys name of storage account and key

==And Here on VM2 WestUs machine type sudo nano config.py and replace your storage account name and your key, and container name leave it as it is.==

```
GNU nano 4.8                                                config.py
[DEFAULT]
# Account name
account =laststorageac
# Azure Storage account access key
key =ITgno0SizJJVMNoVk0mqqRE4NPwkb08+bSvhJ0epYvNTLFyvjhfaYZwClJoxfWCl1DlmkqSbuxcI+ASt6/KU4A==
# Container name
container =upload
```

==Cat to view==

```
Salman@VM1-WestUs:~/azproject$ ls
README.md  app.py  config.py  error.html  index.html  templates  vm1.sh  vm2.sh
Salman@VM1-WestUs:~/azproject$ sudo nano config.py
Salman@VM1-WestUs:~/azproject$ cat config.py
[DEFAULT]
# Account name
account =laststorageac
# Azure Storage account access key
key =ITgno0SizJJVMNoVk0mqqRE4NPwkb08+bSvhJ0epYvNTLFyvjhfaYZwClJoxfWCl1DlmkqSbuxcI+ASt6/KU4A==
# Container name
container =upload
Salman@VM1-WestUs:~/azproject$
```

==And Here on VM2 CentralUs machine type sudo nano config.py and replace your storage account name and your key, and container name leave it as it is.==

```
GNU nano 4.8                                                config.py
[DEFAULT]
# Account name
account =laststorageac
# Azure Storage account access key
key =ITgno0SizJJVMNoVk0mqqRE4NPwkb08+bSvhJ0epYvNTLFyvjhfaYZwClJoxfWCl1DlmkqSbuxcI+ASt6/KU4A==
# Container name
container =upload
```

Cat to view


```
Salman@VM1-CentralUs:~/azproject$ ls
README.md  app.py  config.py  error.html  index.html  templates  vm1.sh  vm2.sh
Salman@VM1-CentralUs:~/azproject$ sudo nano config.py
Salman@VM1-CentralUs:~/azproject$ cat config.py
[DEFAULT]
# Account name
account =laststorageac
# Azure Storage account access key
key =ITgno0SizJJVMNoVk0mqqRE4NPwkb08+bSvhJ0epYvNTLFyvjhfaYZwClJoxfWCl1DlmkqSbuxcI+ASt6/KU4A==
# Container name
container =upload
Salman@VM1-CentralUs:~/azproject$
```

Now Run on vm1.sh on centralus and westus machine


```
Salman@VM1-CentralUs:~/azproject$ sh vm1.sh
Rules updated
Rules updated (v6)
Hit:1 http://azure.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu focal-security InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree
```



```
Salman@VM1-WestUs:~/azproject$ sh vm1.sh
Rules updated
Rules updated (v6)
Hit:1 http://azure.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://azure.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://azure.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://azure.archive.ubuntu.com/ubuntu focal-security InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree
Reading state information... Done
python3 is already the newest version (3.8.2-0ubuntu2).
python3 set to manually installed.
```

Now Create a Traffic Manager

Created and Before creating endpoint go to Application gateway

And go to inside the ag1 and ag2

Give it dns name and save it

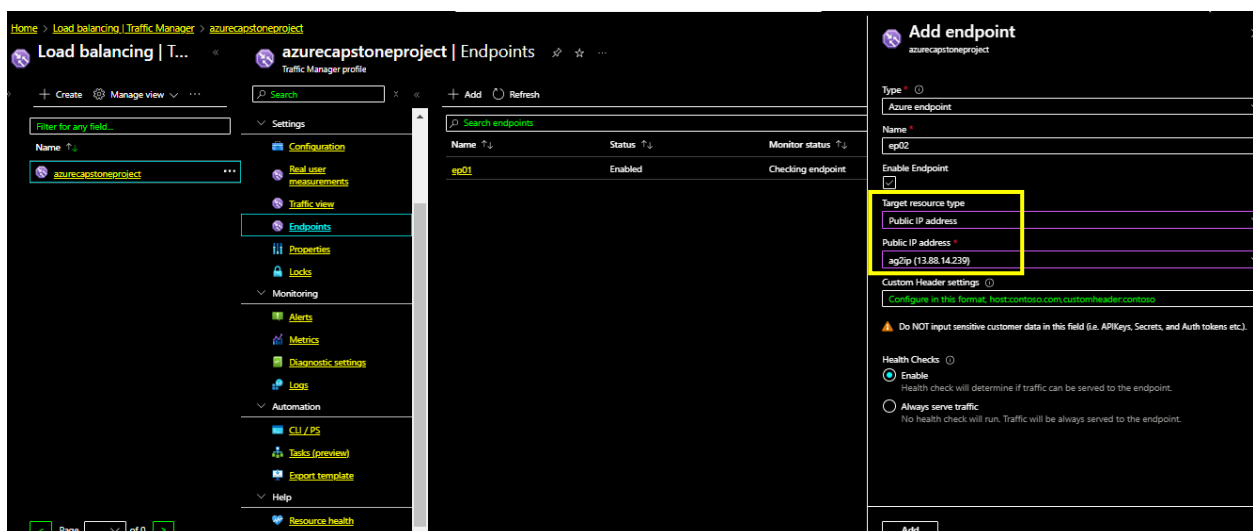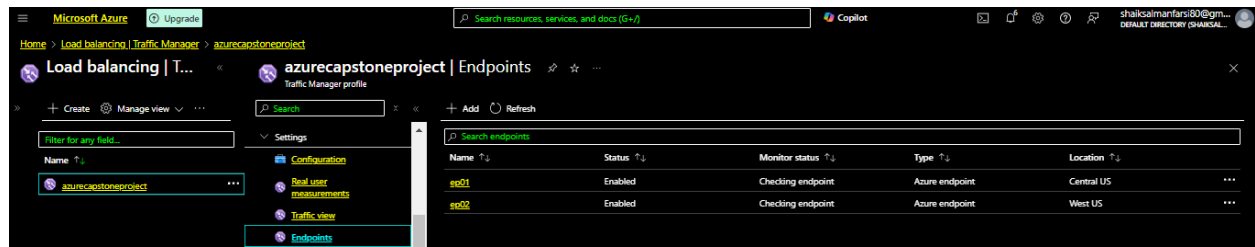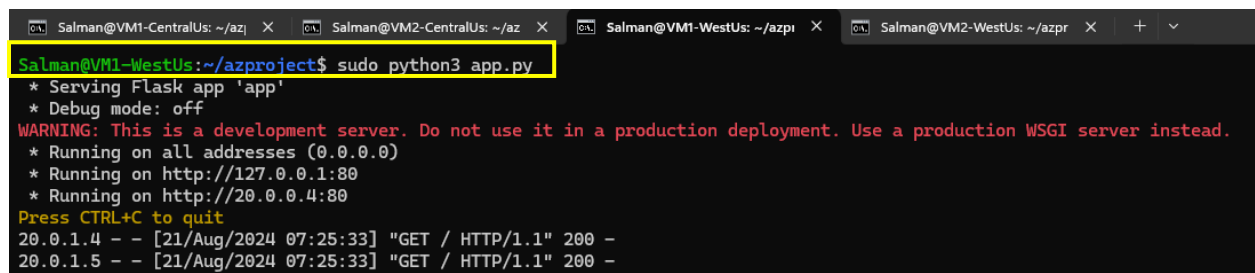Now Again Come here On Traffic Manager create a endpoint-01 and select public Ip and ag1
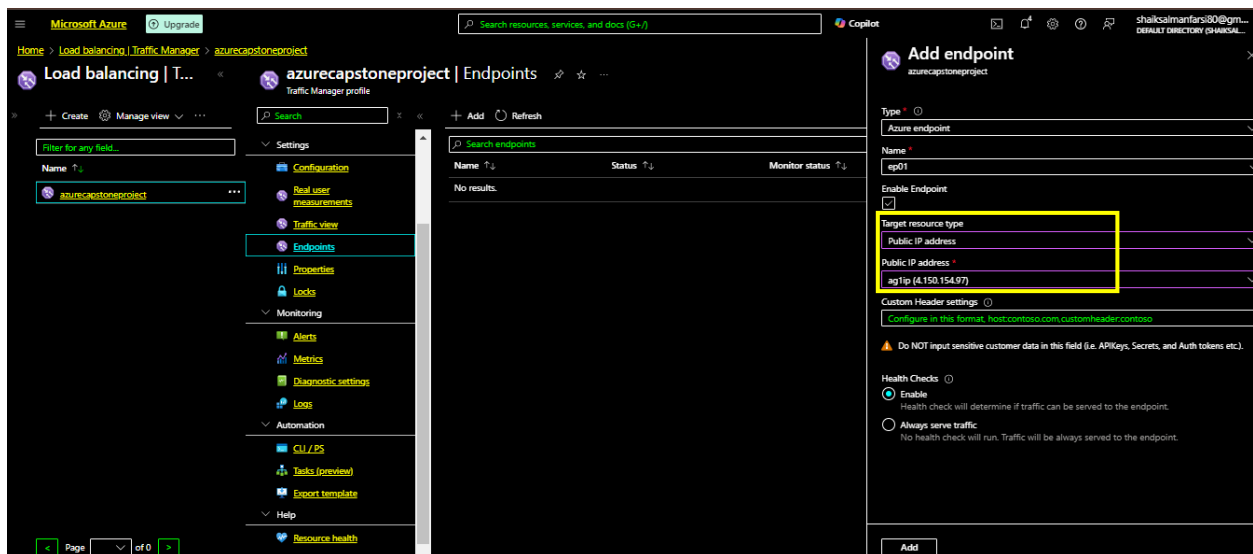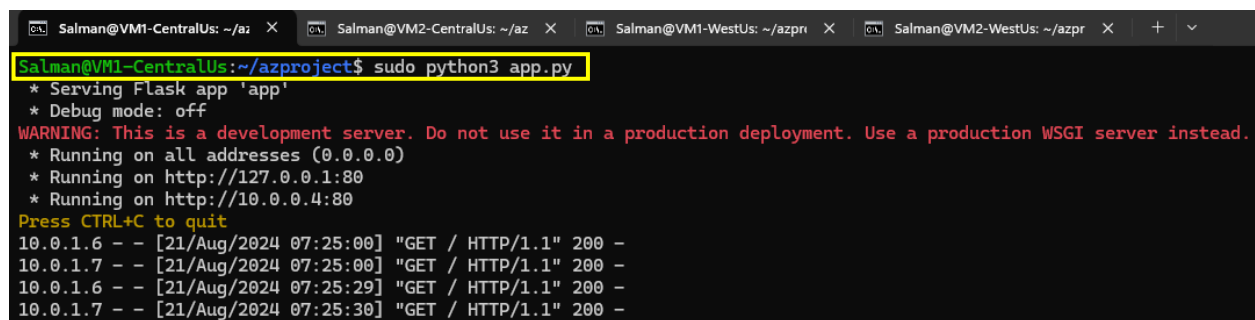

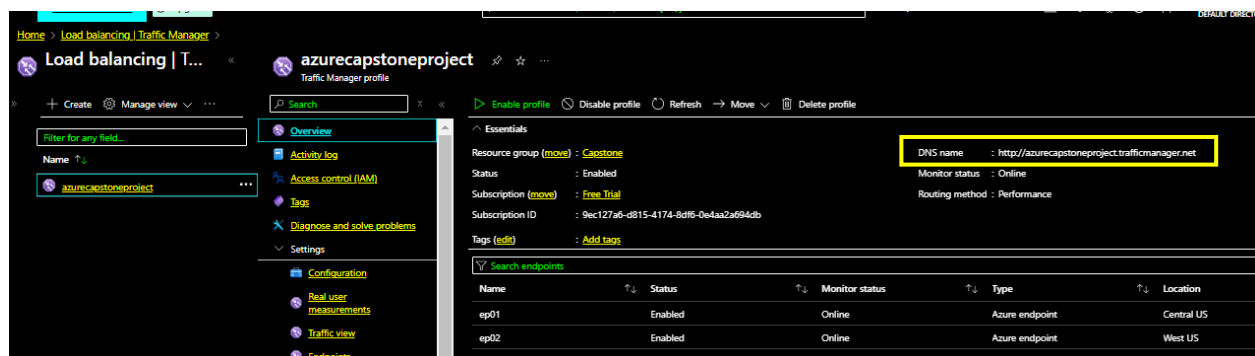Again Traffic Manager create a endpoint-02 and select public Ip and ag2

Successfully created the endpoints

Now go to centralus and westus vm1 machines, run the command sudo python3 app.py


```
Salman@VM1-CentralUs:~/azproject$ sudo python3 app.py
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:80
* Running on http://10.0.0.4:80
Press CTRL+C to quit
10.0.1.6 - - [21/Aug/2024 07:25:00] "GET / HTTP/1.1" 200 -
10.0.1.7 - - [21/Aug/2024 07:25:00] "GET / HTTP/1.1" 200 -
10.0.1.6 - - [21/Aug/2024 07:25:29] "GET / HTTP/1.1" 200 -
10.0.1.7 - - [21/Aug/2024 07:25:30] "GET / HTTP/1.1" 200 -
```

```
Salman@VM1-WestUs:~/azproject$ sudo python3 app.py
* Serving Flask app 'app'
* Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:80
* Running on http://20.0.0.4:80
Press CTRL+C to quit
20.0.1.4 - - [21/Aug/2024 07:25:33] "GET / HTTP/1.1" 200 -
20.0.1.5 - - [21/Aug/2024 07:25:33] "GET / HTTP/1.1" 200 -
```
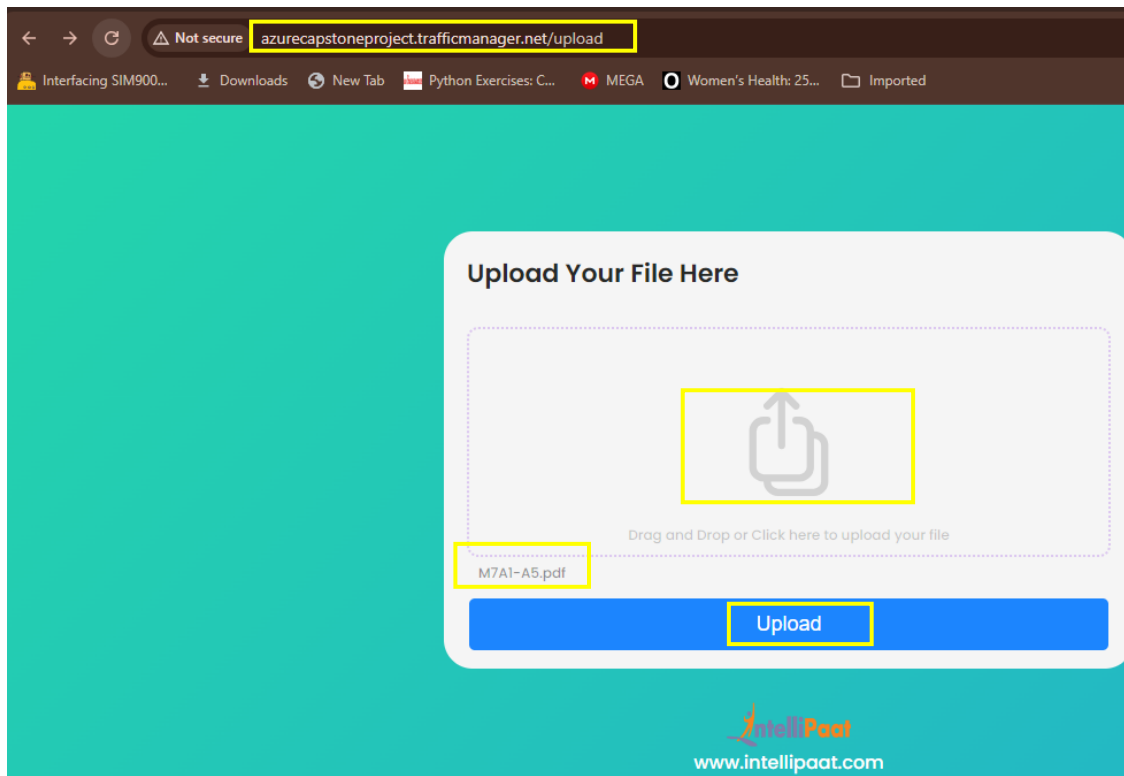
Now copy the Traffic-Manager DNS

==Paste it on Browser, we can see the home page==
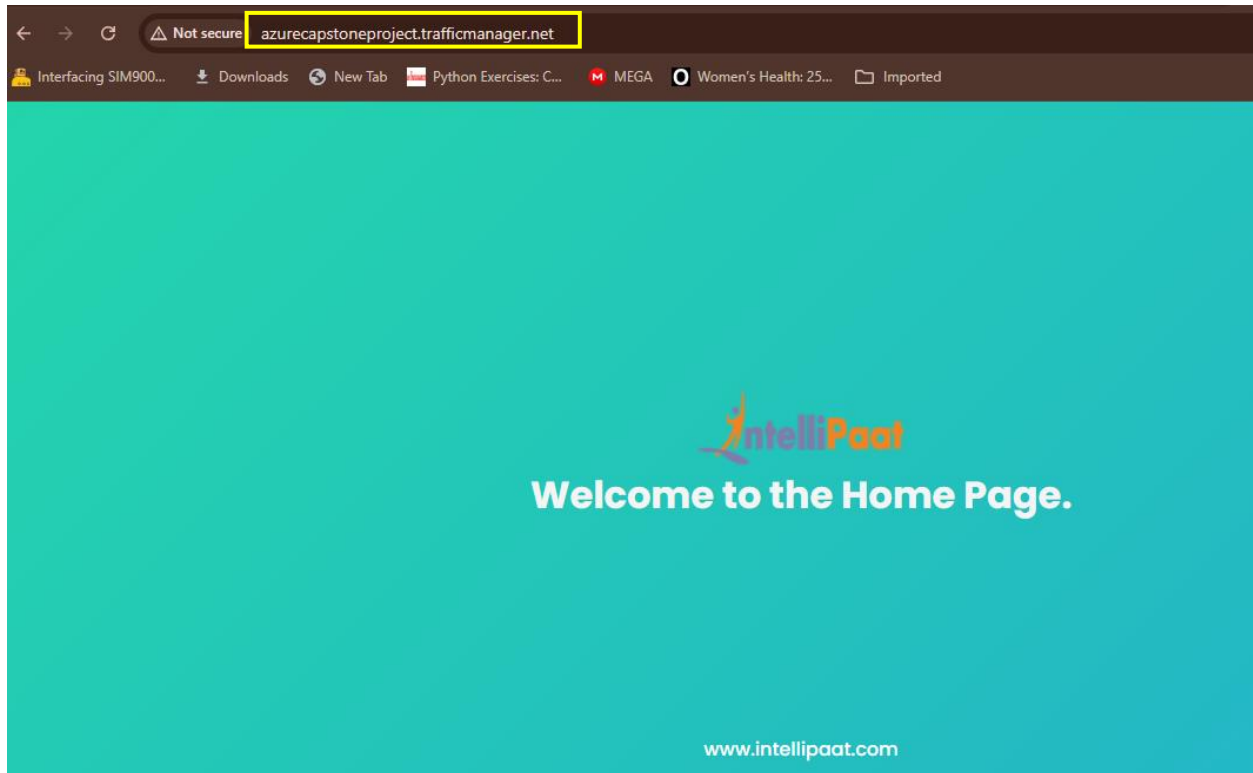
Now give the /upload and it will trigger to upload page and upload a file

Go to Storage account > container > Upload > we can see the uploaded file