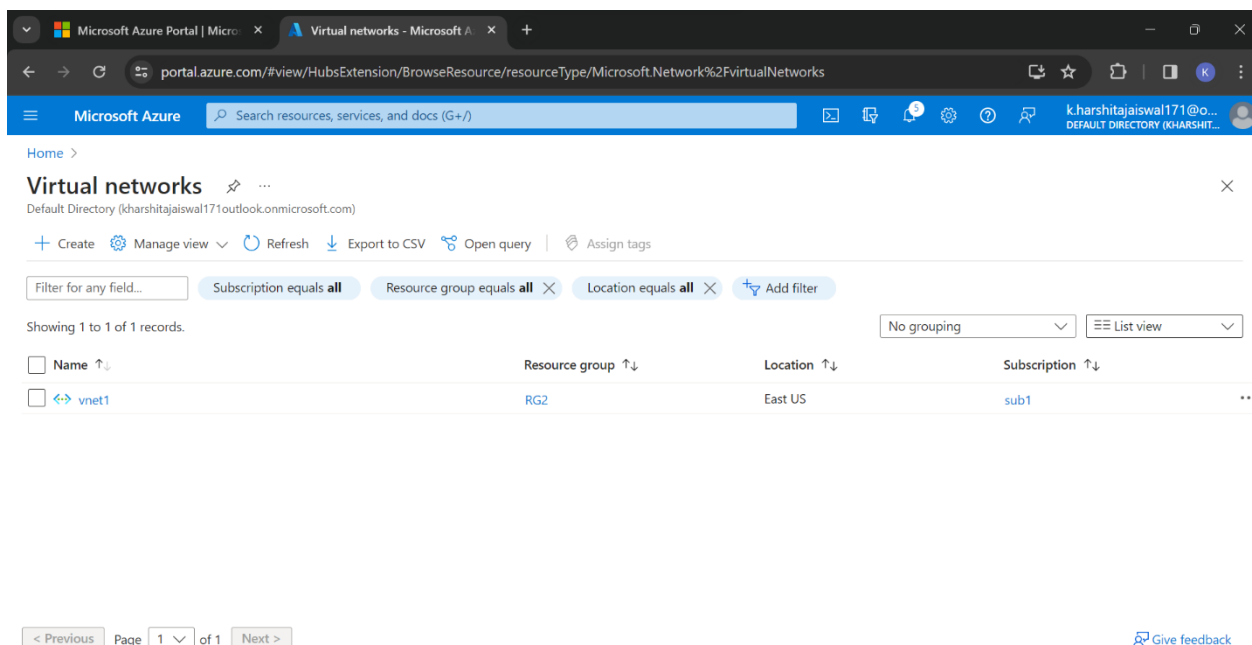


Steps to Create Azure Load Balancer using Application Gateway with Four Virtual Machines

1. Create a Virtual Network (VNet):

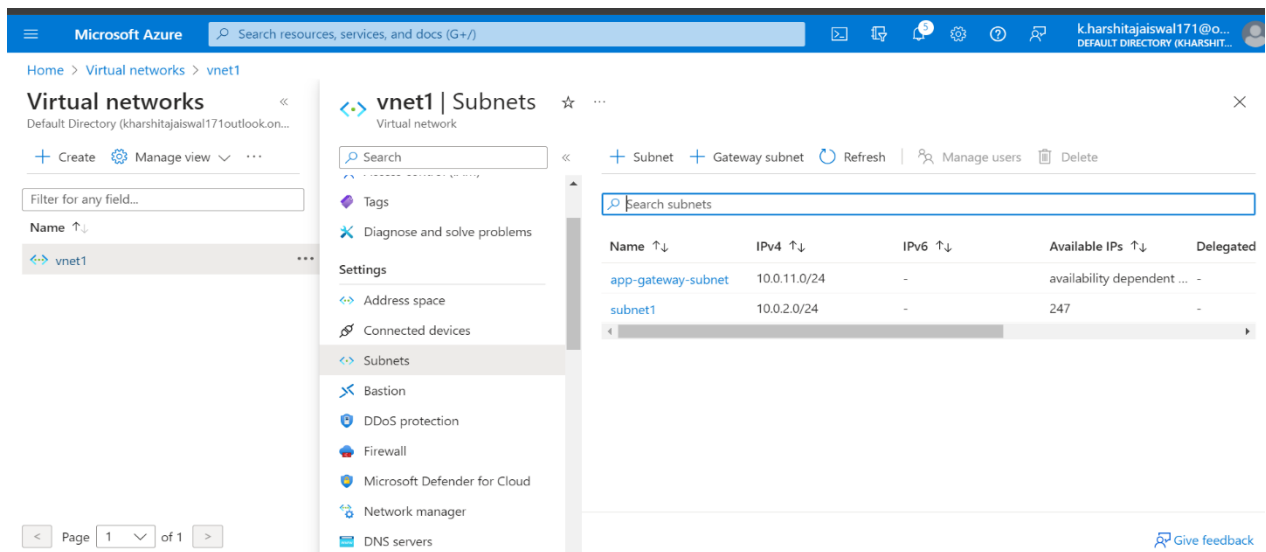
- In the Azure portal, create a Virtual Network named vnet1.
- This VNet will include necessary subnets for the application gateway and virtual machines.



2. Add Subnets:

- Inside vnet1, create two subnets:
 - **app-gateway-subnet** for the application gateway.
 - **subnet1** for the virtual machines.

?



Virtual networks

Default Directory (kharshitajaiswal171outlook.on...)

+ Create Manage view

Filter for any field...

Name

vnet1

Subnets

Subnet Gateway subnet Refresh Manage users Delete

Search subnets

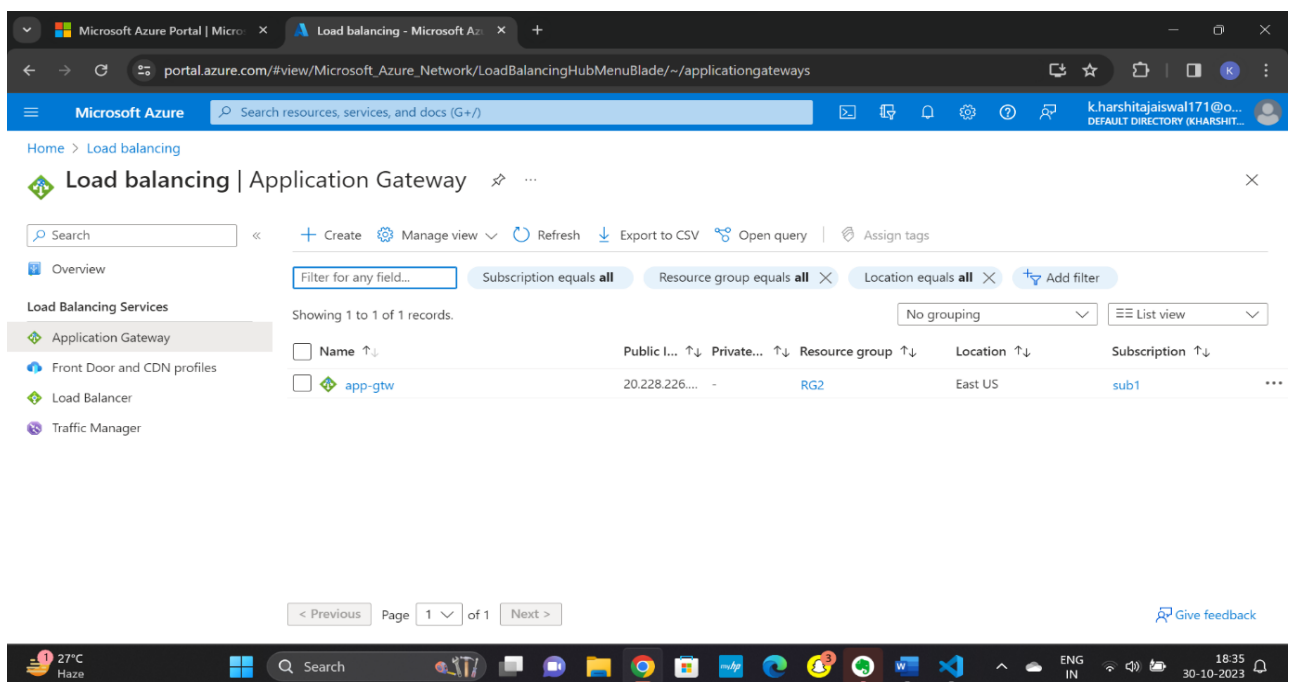
Name	IPv4	IPv6	Available IPs	Delegated
app-gateway-subnet	10.0.11.0/24	-	availability dependent ...	-
subnet1	10.0.2.0/24	-	247	-

Page 1 of 1

Give feedback

3. Create an Application Gateway:

- Set up an application gateway, which operates at layer 7 of the OSI model.
- Application gateways handle HTTP and HTTPS traffic, and route incoming traffic to backend targets (virtual machines).



Microsoft Azure Portal | Micro x Load balancing - Microsoft A x

portal.azure.com/#view/Microsoft_Azure_Network/LoadBalancingHubMenuBlade/~:/applicationgateways

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

Home > Load balancing

Load balancing | Application Gateway

Search Create Manage view Refresh Export to CSV Open query Assign tags

Overview

Load Balancing Services

Application Gateway

Front Door and CDN profiles

Load Balancer

Traffic Manager

Filter for any field... Subscription equals all Resource group equals all Location equals all Add filter

Showing 1 to 1 of 1 records.

Name	Public I...	Private...	Resource group	Location	Subscription
app-gtw	20.228.226...	-	RG2	East US	sub1

Previous Page 1 of 1 Next

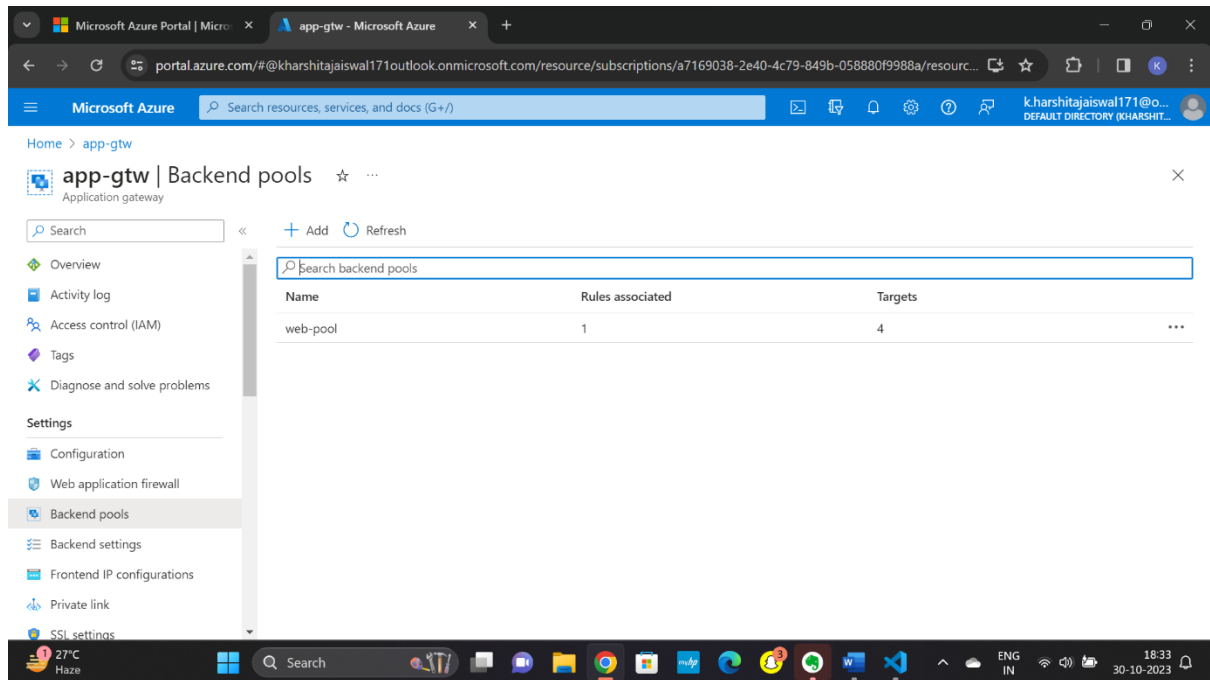
Give feedback

27°C Haze 18:35 30-10-2023

4. Configure the Backend Pool:

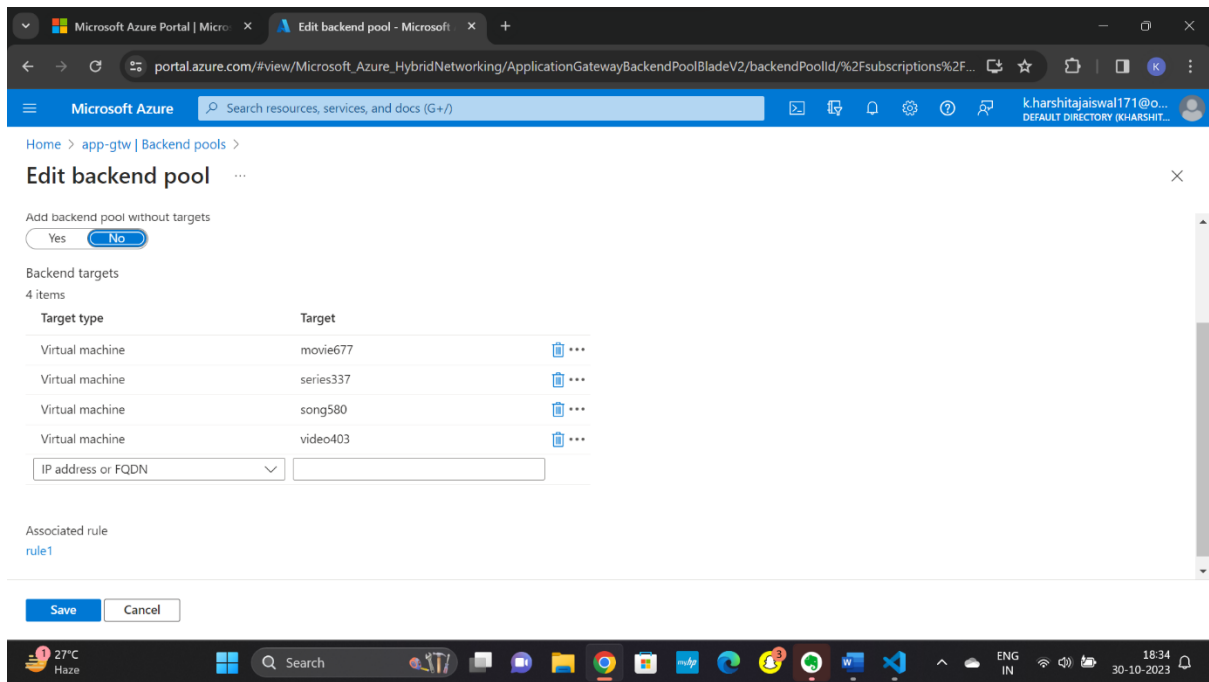
- A backend pool is where virtual machines are added to process traffic.
- Assign 4 virtual machines to the backend pool.

There are 4 targets which are 4 virtual machines in web-pool.



5. Assign Virtual Machines to Backend Pool:

- The 4 virtual machines assigned to the backend pool are named:
 1. movie
 2. series
 3. song
 4. video



6. Set Up Virtual Machines:

- Use **PuTTY** to connect to each virtual machine.
- Open the index.html file and add custom text for each VM to display, indicating which machine is handling the request.

```
root@movie: /var/www/html
Usage of /:  5.9% of 28.89GB   Users logged in:  0
Memory usage: 4%             IPv4 address for eth0: 10.0.2.5
Swap usage:  0%

* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

New release '22.04.3 LTS' available.
Run 'do-release-upgrade' to upgrade to it.

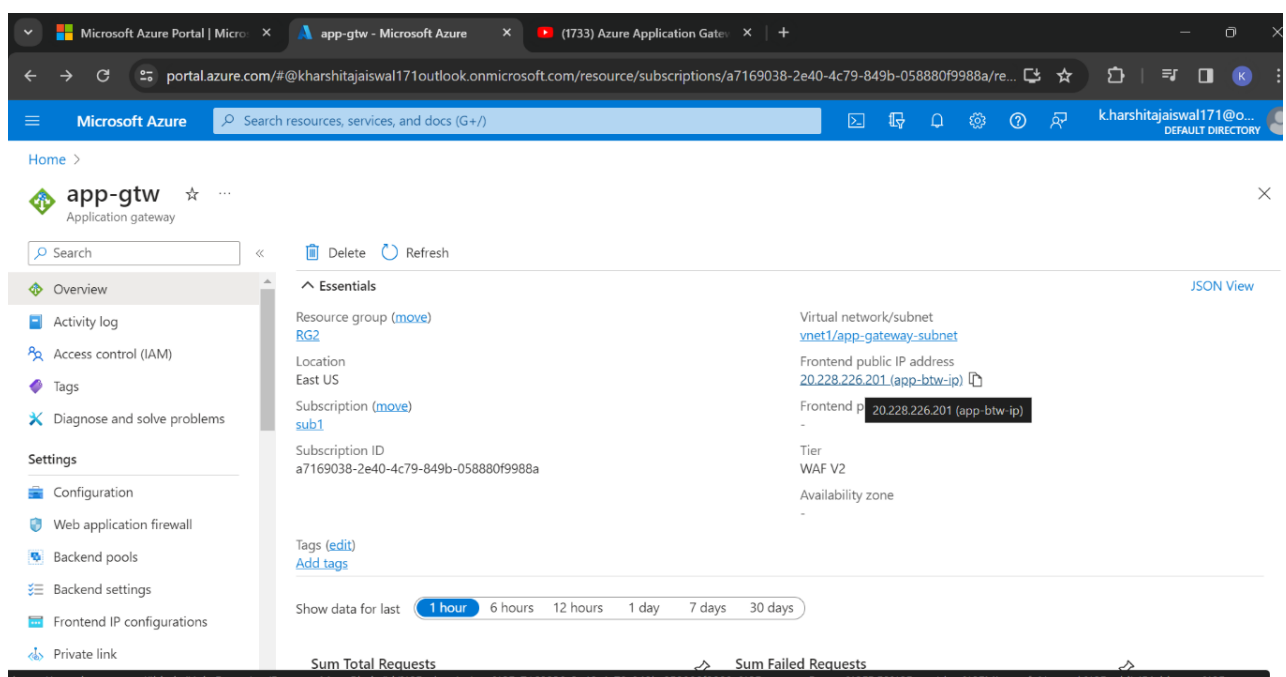
Last login: Sun Oct 29 18:09:03 2023 from 106.195.69.159
harshil171@movie:~$ sudo su
root@movie:/home/harshil171# cd /var/www/html
root@movie:/var/www/html# echo "Movie Website" > index.html
```

7. Configure HTML Pages for Each Virtual Machine:

- After connecting to each VM, use the following commands to edit the HTML file and display a custom message:
- Switch to the root user with: **sudo su**
- Navigate to the web directory: **cd /var/www/html**
- Replace the index.html content with a unique message for each VM:
 - **echo "Movie Website" > index.html**
 - **echo "Series Website" > index.html**
 - **echo "Song Website" > index.html**
 - **echo "Video Website" > index.html**
- This message will display when a specific virtual machine is serving traffic.

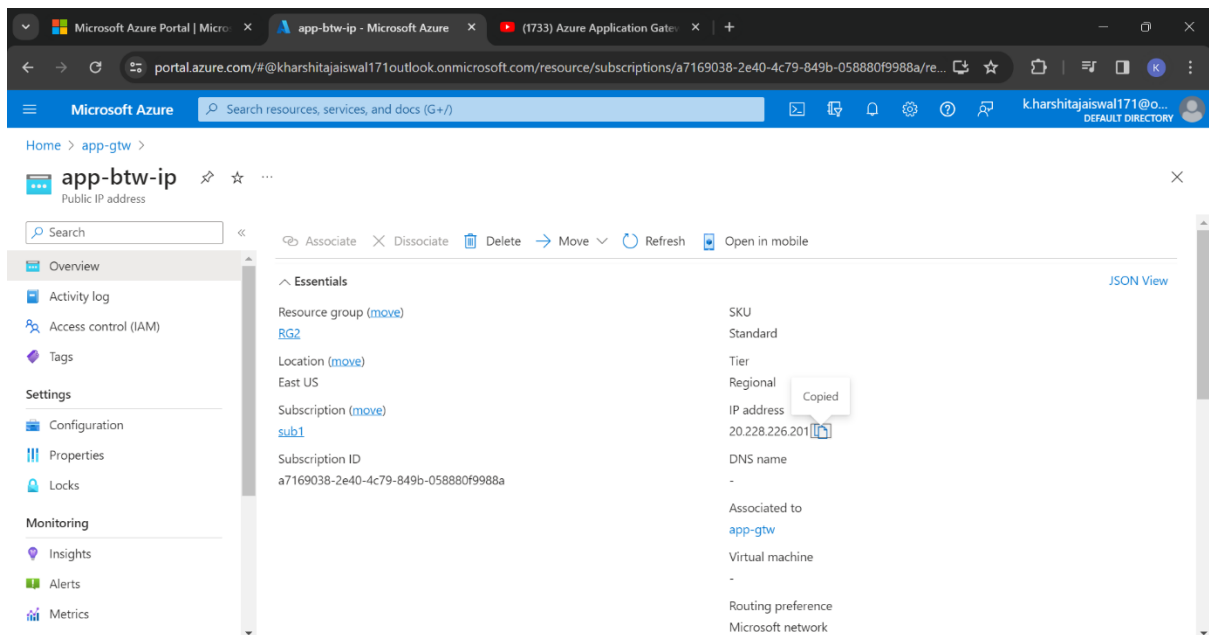
8. Application Gateway Frontend IP:

- The application gateway has a frontend IP address named **app-gtw**.
- This IP is the access point for your load-balanced web service.



9. Copy the Frontend IP:

- Find and copy the frontend IP address of the application gateway (app-gtw).



10. Test Load Balancing:

- Open the frontend IP address in a web browser.
- Refresh the page to see different virtual machines serve content, confirming that the load balancer is working.

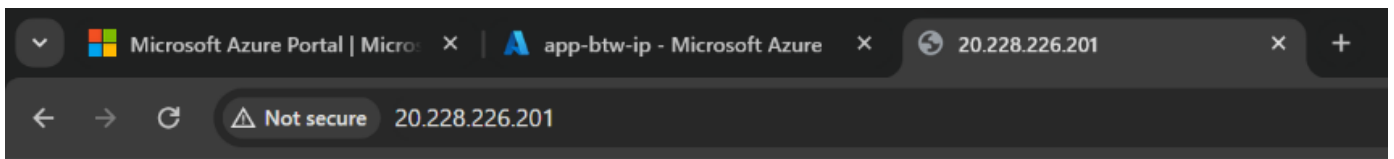
Output is as follows:

Whenever I refresh the page it gives different website, in this way application gateway acts as load balancer and diverts the traffic to different virtual machines.

Output1:

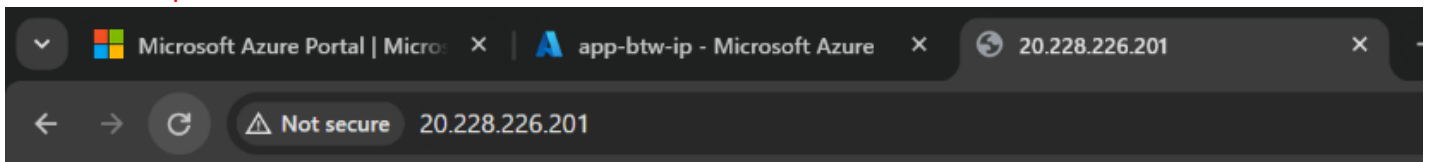


Output2:



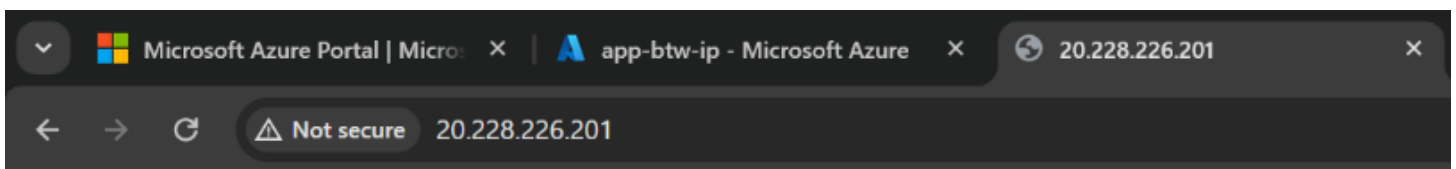
Video Website

Output3:



Movie Website

Output4:



Series Website

