

# **CELEBAL SUMMER INTERNSHIP 2025**

**Topic:** Create an Internal & External Load balancer

## **Assignment week 7**

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COURSE/TRAINING : Cloud Infra and Security 001

## Step 1: Create a Virtual Network (VNet) :

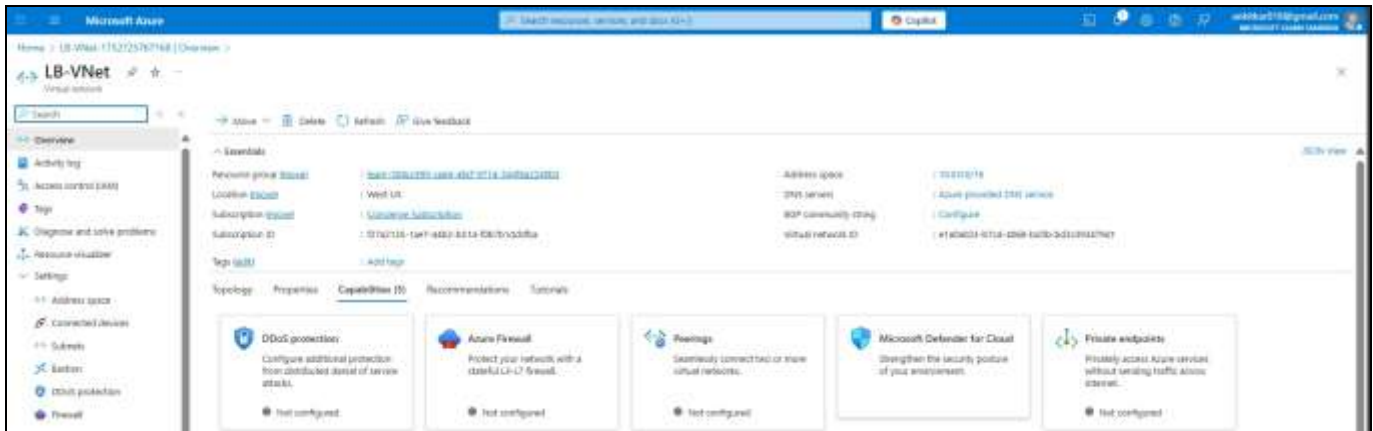
Name: CSI-VNet

Address Space: 10.0.0.0/16

Subnets:

- Frontend-Subnet (10.0.1.0/24)

- Backend-Subnet (10.0.2.0/24)



## Step 2: Create VM-Linux-1 (For External LB) :

Name: VM-Linux-1

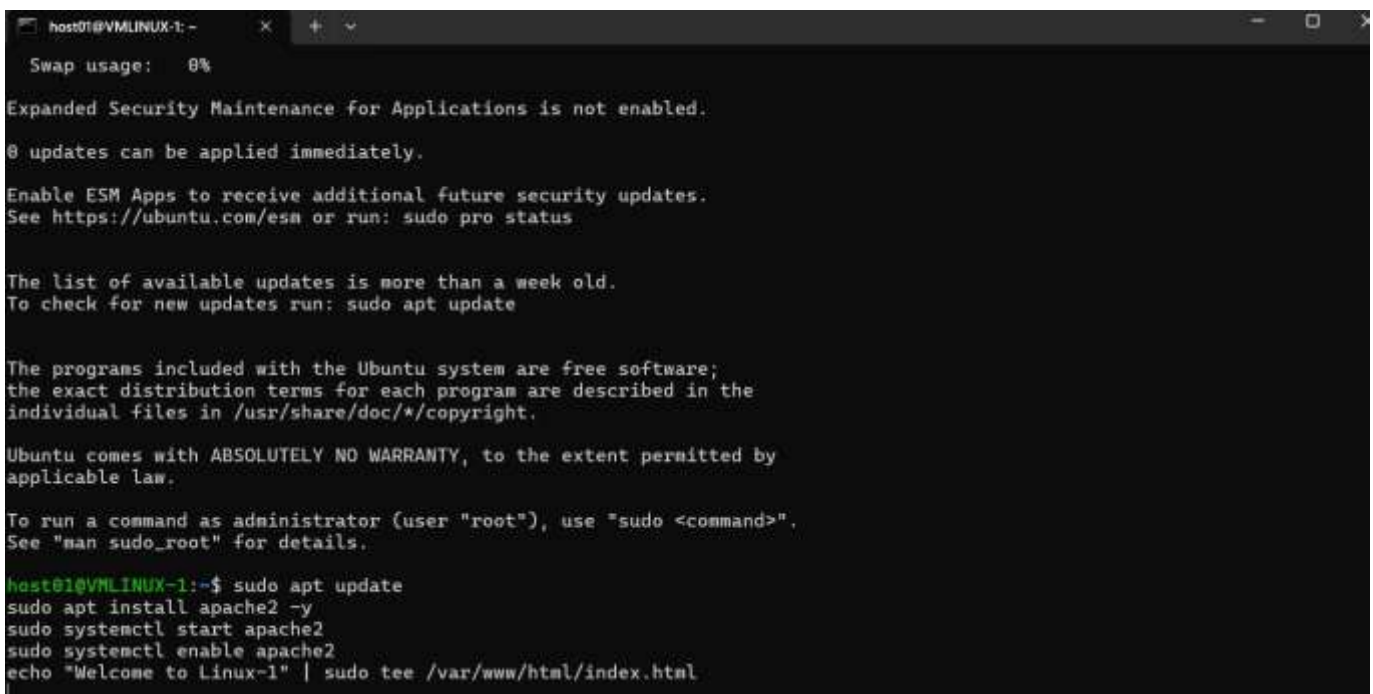
Image: Ubuntu

Subnet: Frontend-Subnet

Public IP: Yes (Static)

### Post-deployment:

```
sudo apt update
sudo apt install apache2 -y
echo "<h1>Welcome to Linux-1</h1>" | sudo tee /var/www/html/index.html
```



### Step 3: Create VM-Windows-1 (For External LB) :

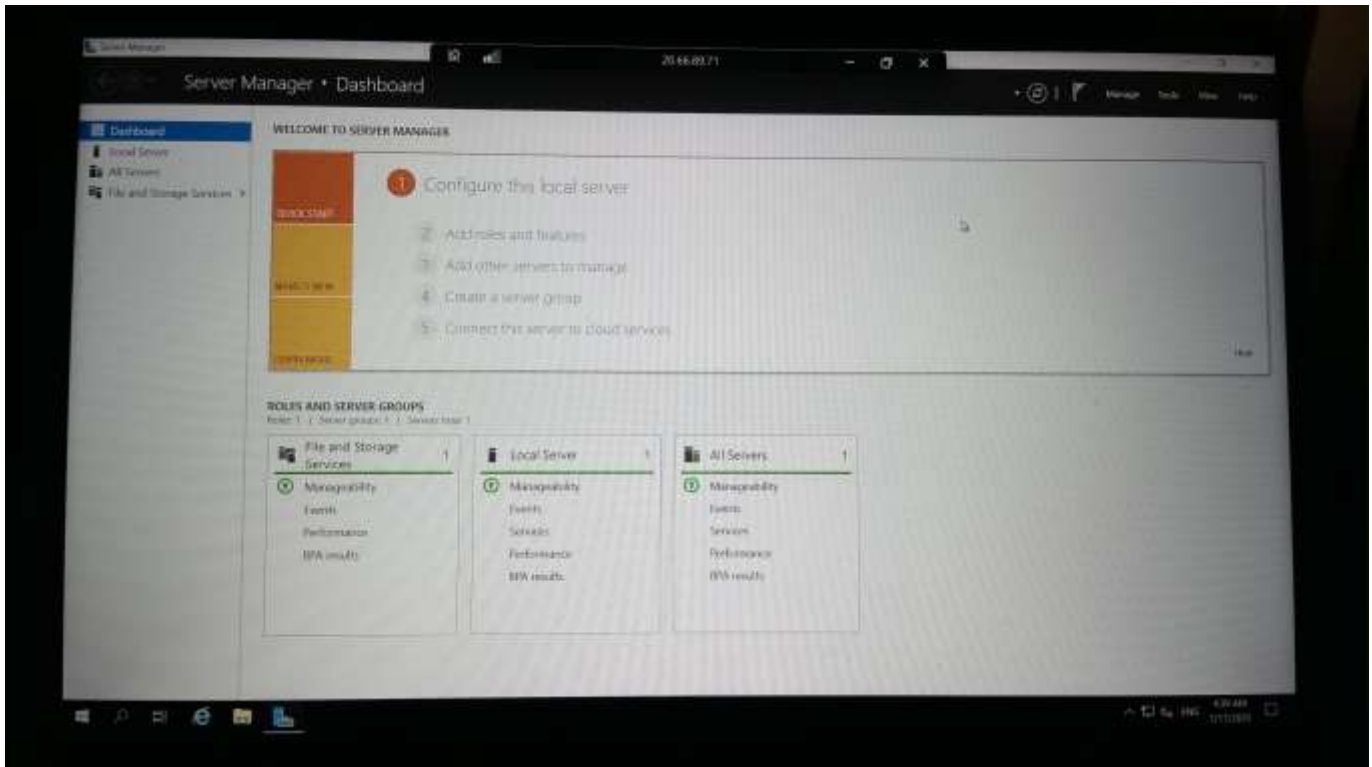
Name: VM-Windows-1  
Image: Windows Server  
Subnet: Frontend-Subnet  
Public IP: Yes (Static)

#### Post-deployment (IIS Setup):

*Install IIS via Server Manager > Add Roles*

*Edit C:\inetpub\wwwroot\iisstart.htm with:*

*<h1>Welcome to Windows-1</h1>*



### Step 4: Create VM-Linux-2 (For Internal LB) :

Name: VM-Linux-2  
Image: Ubuntu  
Subnet: Backend-Subnet  
Public IP: None

#### Post-deployment:

```
sudo apt update
sudo apt install apache2 -y
echo "<h1>Welcome to Linux-2 (Internal)</h1>" | sudo tee /var/www/html/index.html
```

```
host01@VM-Linux-2:~$ sudo apt update
sudo apt install apache2 -y
```

## Step 5: Create VM-Windows-2 (For Internal LB) :

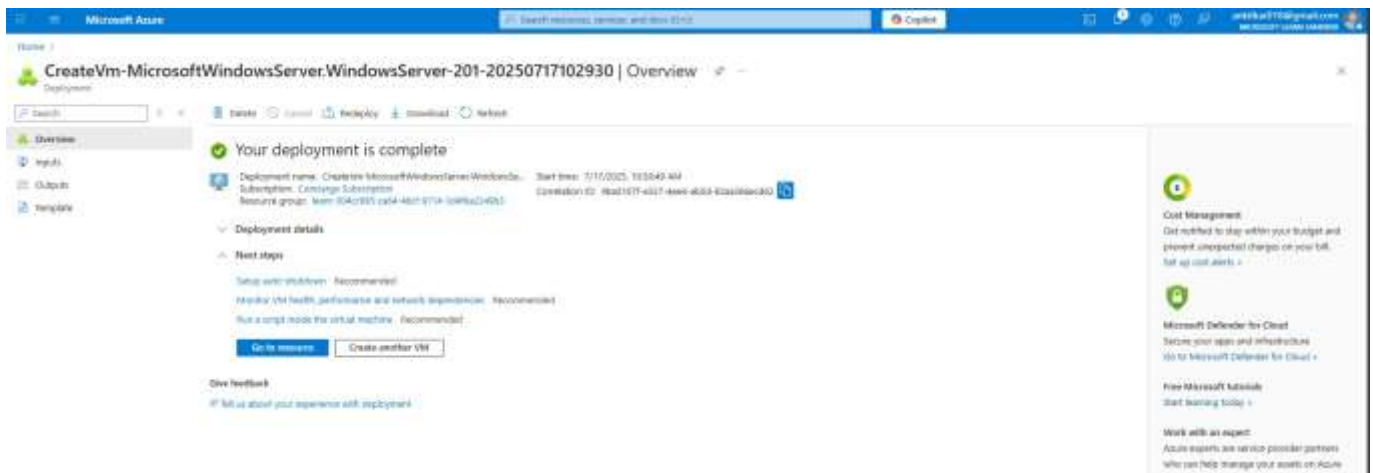
Name: VM-Windows-2  
Image: Windows Server  
Subnet: Backend-Subnet  
Public IP: None

### Post-deployment (IIS Setup):

*Install IIS*

*Edit C:\inetpub\wwwroot\iisstart.htm:*

*<h1>Welcome to Windows-2 (Internal)</h1>*



## Step 6: Create External Load Balancer :

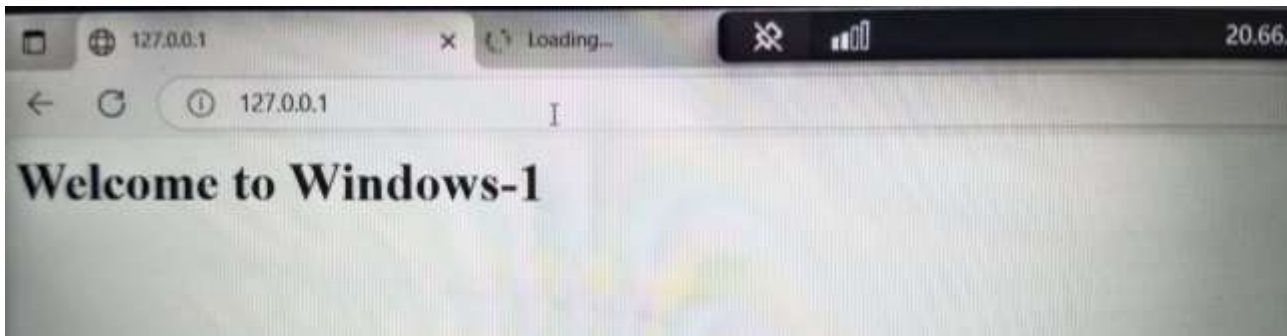
Name: CSI-External-LB  
Type: Public  
Frontend IP Configuration: Public IP  
Backend Pool: Add VM-Linux-1, VM-Windows-1  
Health Probe: Port 80

### Load Balancing Rule:

Name: HTTPRule  
Frontend Port: 80  
Backend Port: 80

**Test: Visit the Load Balancer's Public IP in browser.**





## Step 7: Create Internal Load Balancer :

Name: CSI-Internal-LB

Type: Internal

Frontend IP: Assigned from Backend-Subnet

Backend Pool: VM-Linux-2, VM-Windows-2

Health Probe: Port 80

### Load Balancing Rule:

Frontend Port: 80

Backend Port: 80

**Test: SSH into VM-Linux-1 and curl the internal LB IP.**

*curl http://<internal-lb-ip>*

*Screenshot: connecting linuxVM-2.jpg*

*Screenshot: modify\_Apachehomepagevmlin-2.jpg*

## Step 8: Validation

Successfully accessed External LB IP: Confirmed rotating responses between Linux-1 and Windows-1.

Internal LB verified by curl from VM-Linux-1.