

MICROSOFT AZURE

2024-07-30

PROJECT TITLE

Microsoft Azure Final Capstone Project

Assay Desta

Student Number: n01708857

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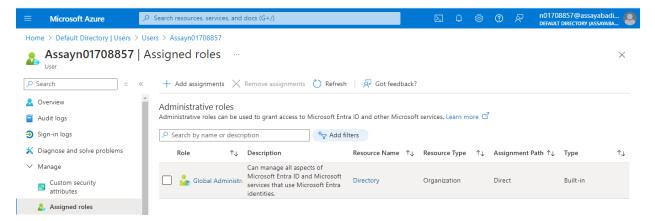
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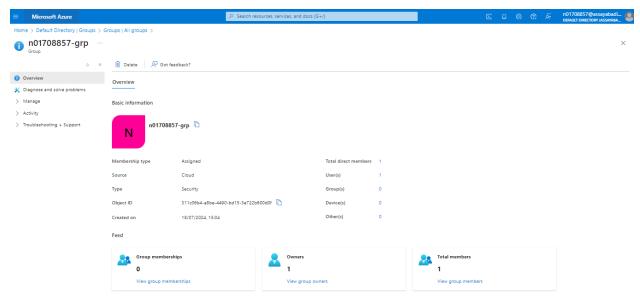
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1. Establish AAD Access

1 SCREENSHOT showing the new user and the assigned role



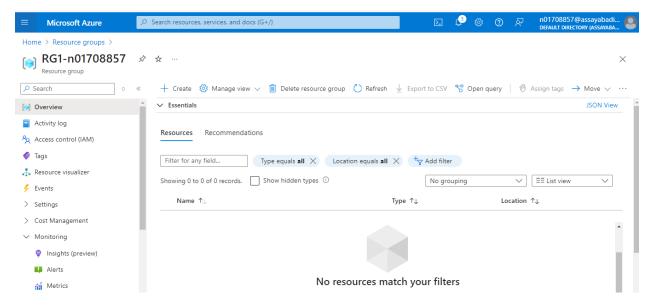
1 SCREENSHOT showing the new group and its membership



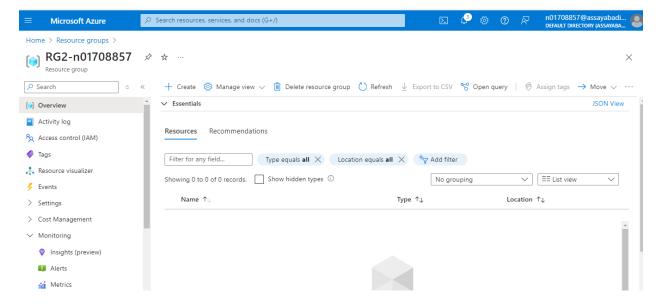
2. Add Subscriptions and Create Resource Groups

2 SCREENSHOTS (one per resource group) showing the Overview blade

Overview Blade: RG1-n01708857



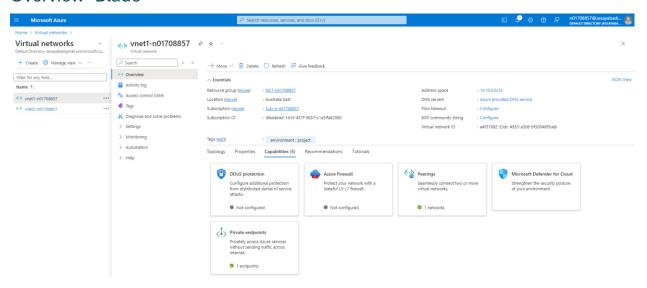
Overview Blade: RG1-n01708857



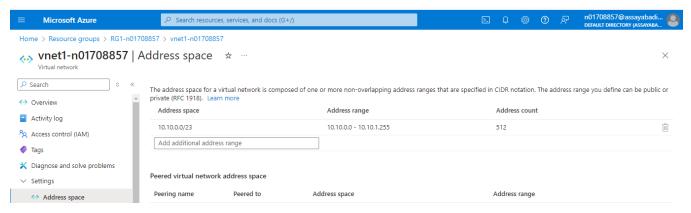
3. Configure Networking - vnet1

3 SCREENSHOTS showing the Overview, Address space, and subnet blades of the virtual network

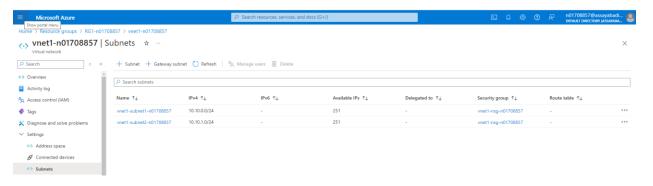
Overview-Blade



Address Space - Blade



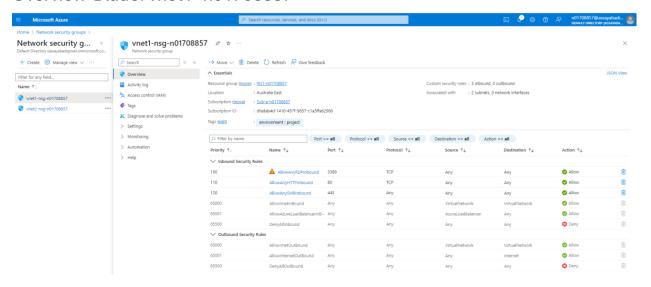
Subnet - Blade



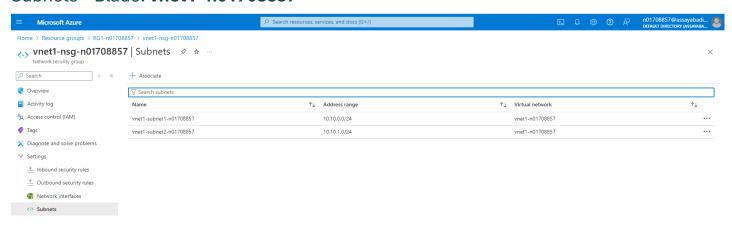
4. Configuring Vnet1-NSG

2 SCREENSHOTS showing the Overview and subnet blades of the network security group

Overview-Blade: vnet1- n01708857



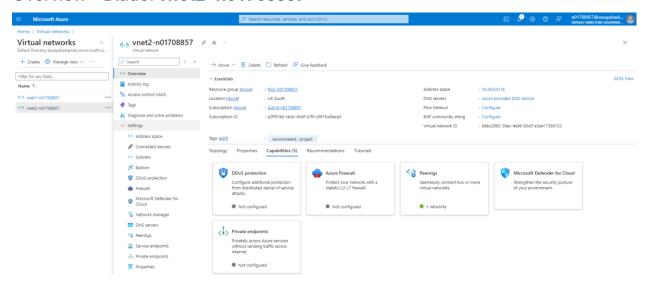
Subnets - Blade: vnet1- n01708857



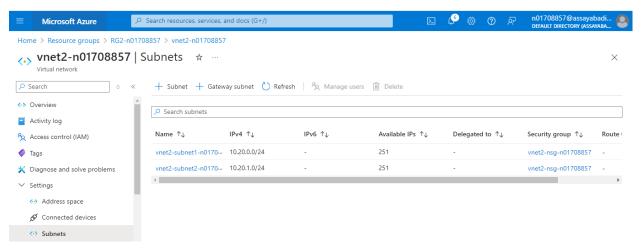
5. Configure Networking – vnet2 and peering

2 SCREENSHOTS showing the Overview and Subnets blades of the virtual network

Overview - Blade: vnet2- n01708857



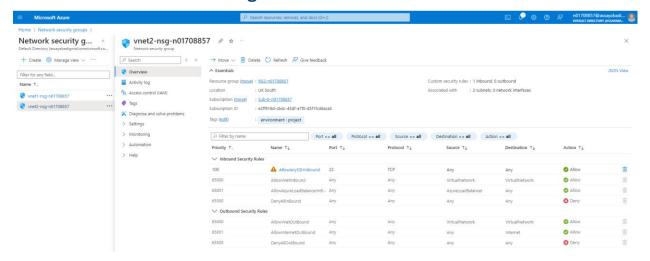
Subnet - Blade: vnet2- n01708857



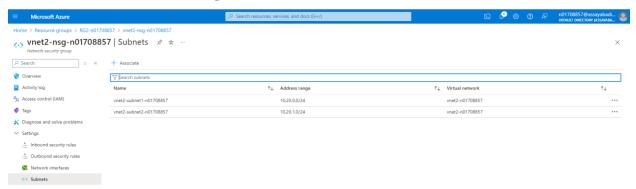
6. Configure Vnet2- NSG

2 SCREENSHOTS showing the Overview and Subnets blades of the network security group

Overview - Blade of vnet2-nsg - n01708857

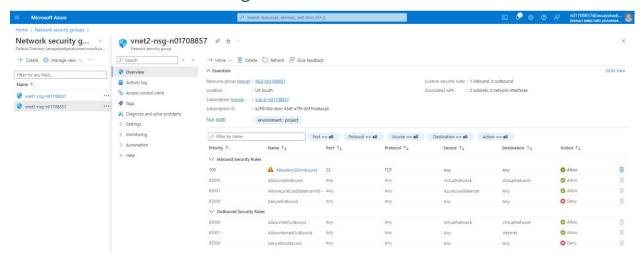


Subnet - Blade - vnet2-nsg- n01708857

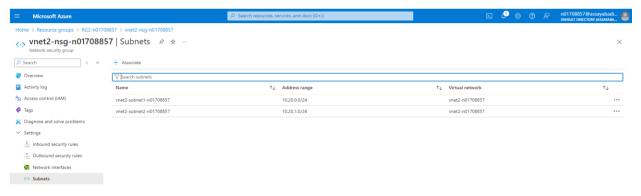


2 SCREENSHOTS showing the Overview and Subnets blades of the network security group

Overview - Blade of vnet2-nsg - n01708857



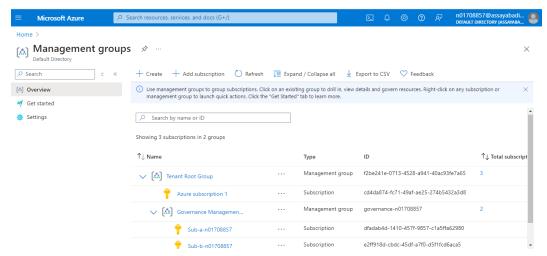
Subnet - Blade - vnet2-nsg- n01708857



7. Configure Governance

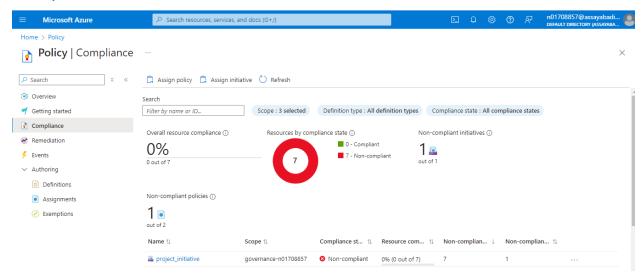
1 SCREENSHOT showing the management group hierarchy

Overview - Blade: Management Group

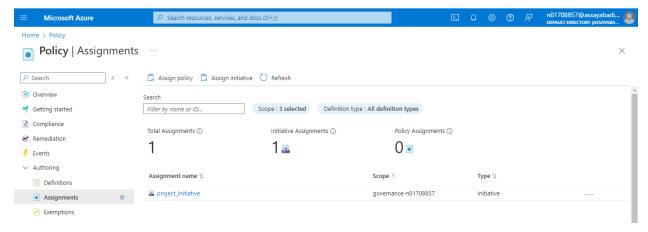


2 SCREENSHOTS showing Compliance and Assignments from Azure Policy

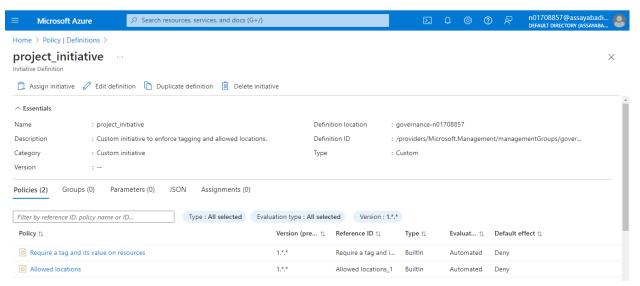
Compliance - Blade



Assignments - Blade

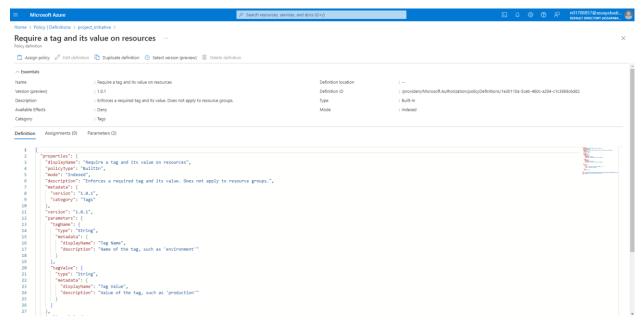


1 SCREENSHOT showing the list of policies in the initiative

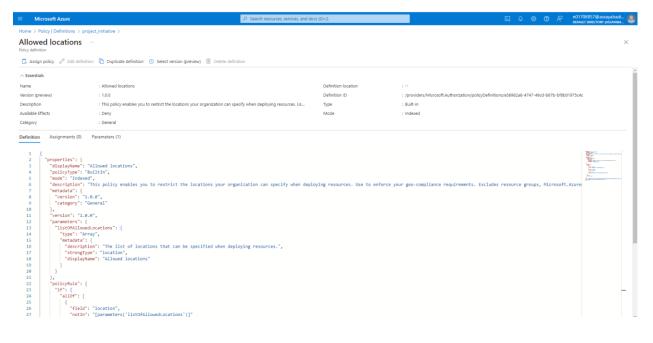


2 SCREENSHOTS showing definitions for both policies

Require a tag and its value on resources



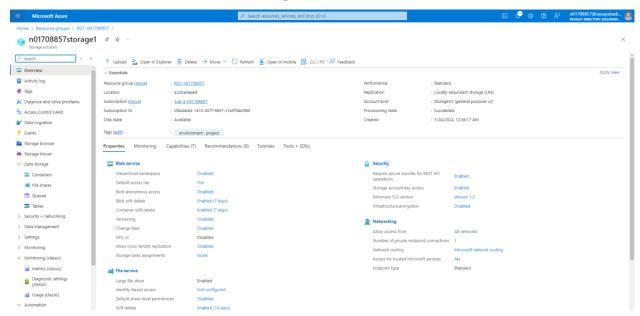
Allowed Locations Definition



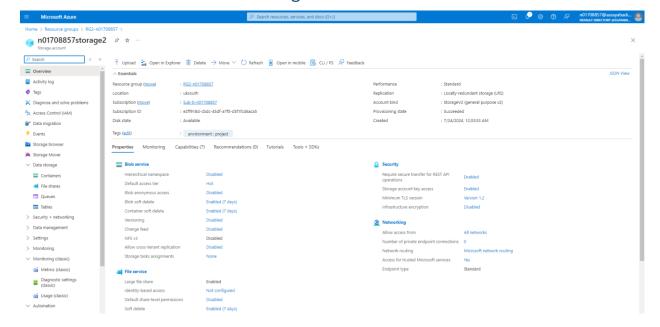
8. Create Storage

2 SCREENSHOTS

Overview blade - n01708857storage1



Overview blade - n01708857storage2

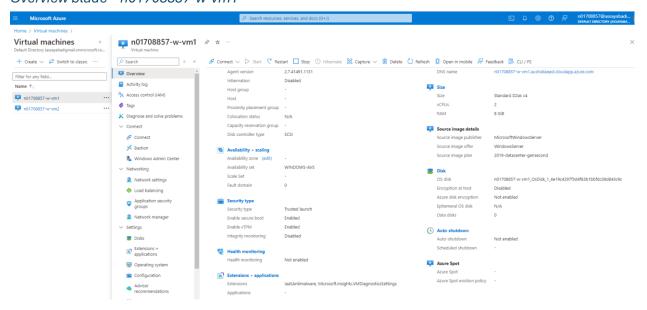


9. Build Compute Resources for Windows Then Create And Attach Public IP Address Resources

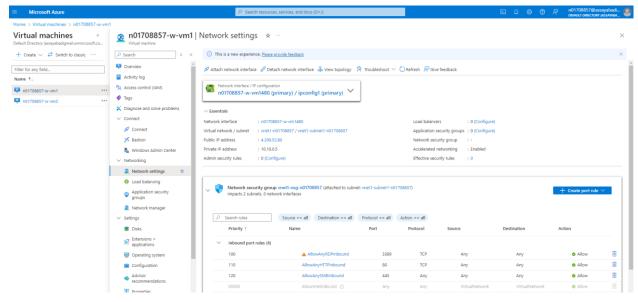
6 SCREENSHOTS (3 per VM) showing the Overview, Networking, and Serial Console blades of each VM (make sure that Overview also includes Availability and Extensions information)

Windows - VM1

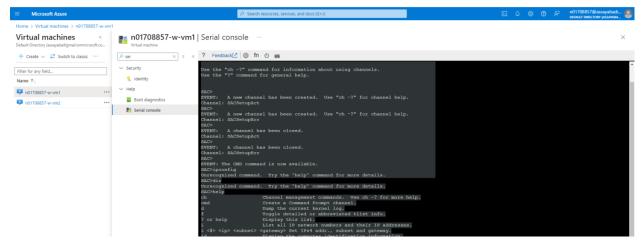
Overview blade - n01708857-w-vm1



Networking blade - n01708857-w-vm1

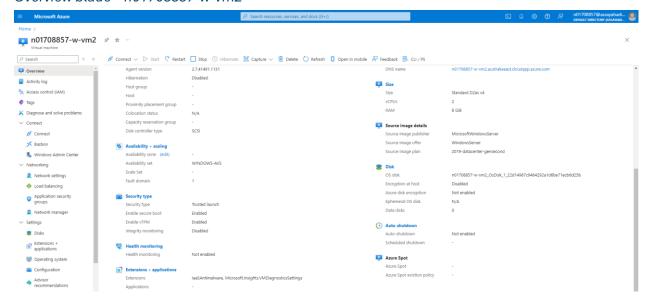


Serial Console blade - n01708857-w-vm1

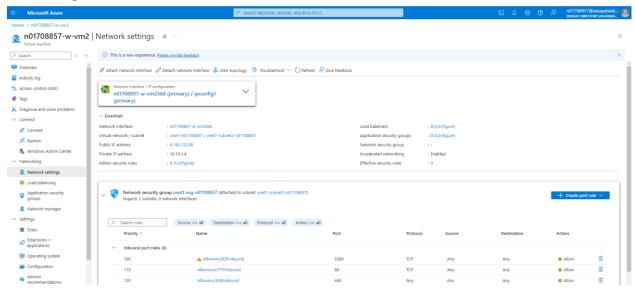


Windows - VM2

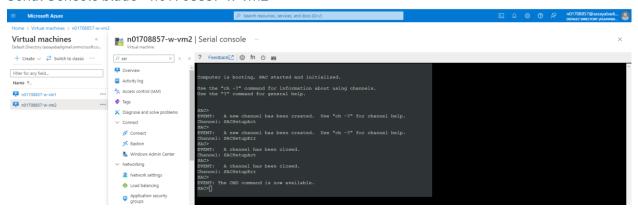
Overview blade - n01708857-w-vm2



Networking blade – n01708857-w-vm2



Serial Console blade – n01708857-w-vm2

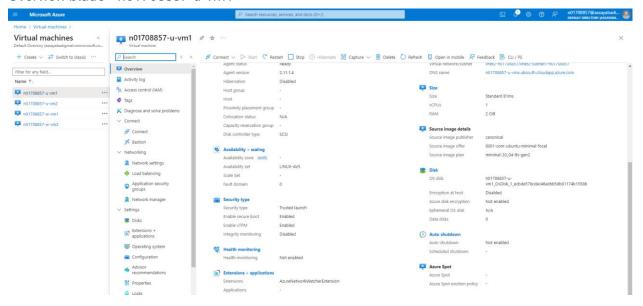


10. Build Compute Resources for Linux Then Create And Attach Public IP Address Resources

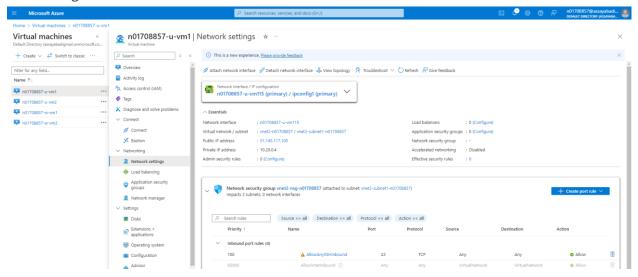
6 SCREENSHOTS (3 per VM) showing the Overview, Networking, and Serial Console blades of each VM (make sure that Overview also includes Availability and Extensions information)

Unix-VM1

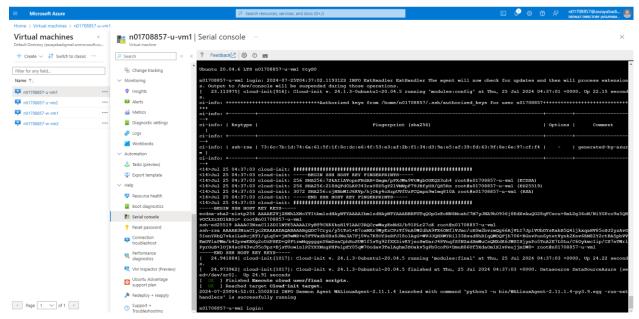
Overview blade - n01708857-u-vm1



Networking blade – n01708857-u-vm1

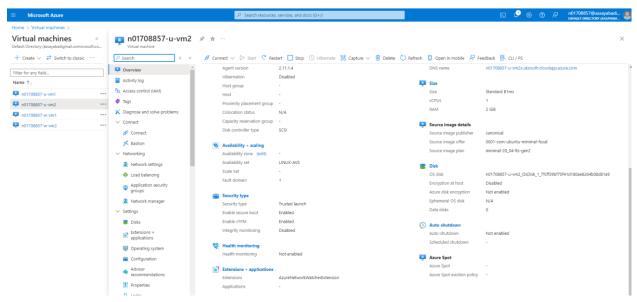


Serial Console blade - n01708857-u-vm1

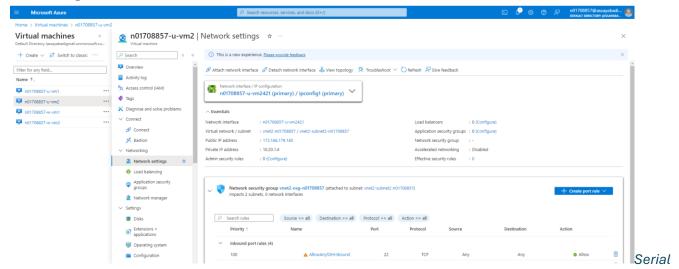


Unix - VM2

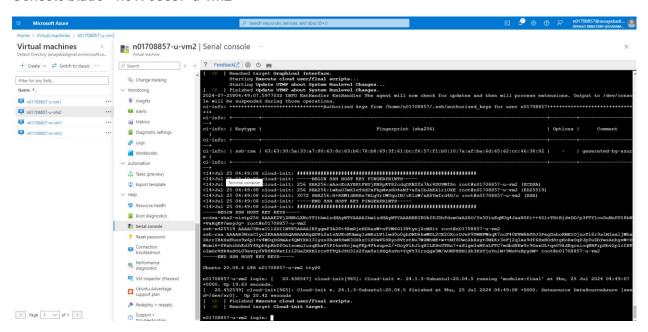
Overview blade – n01708857-u-vm2



Networking blade – n01708857-u-vm2

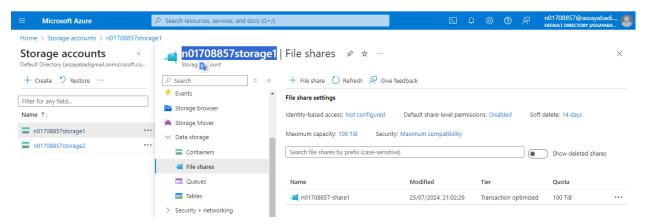


Console blade – n01708857-u-vm2



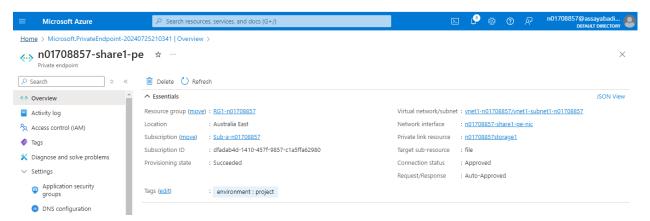
11. Create File Share and Mount it to Windows

1 SCREENSHOT showing the File Share under Azure Storage Account File Shares - blade



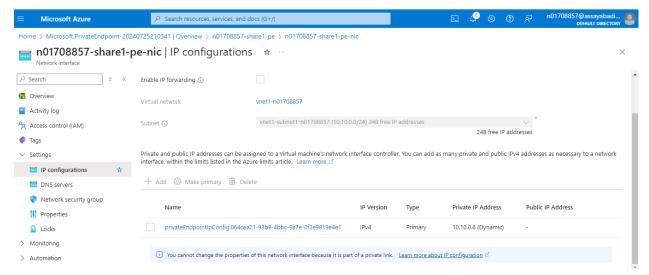
1 SCREENSHOT showing the Overview blade of the private endpoint

Overview - blade



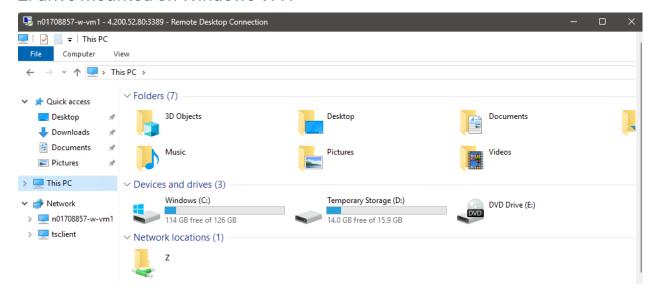
1 SCREENSHOT showing the IP Configurations blade of the private endpoint network interface

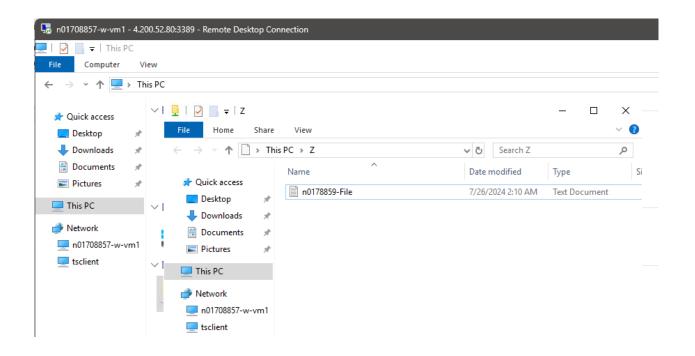
IP Configurations - blade



1 SCREENSHOT showing the Z: drive mounted on Windows VM (log in to the VM

Z: drive mounted on Windows VM1

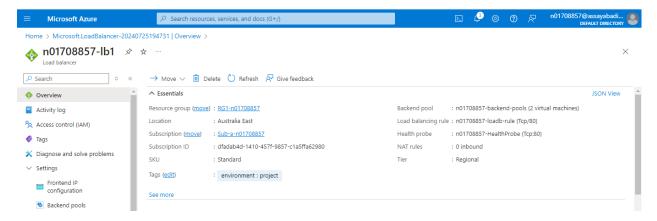




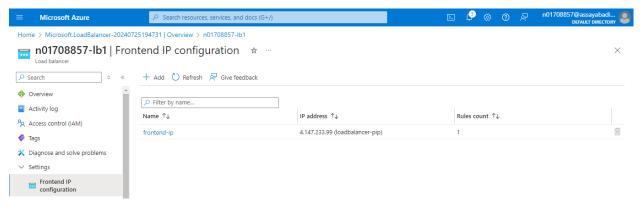
12. Configure Load Balancer

3 SCREENSHOTS showing the Overview, Frontend IP Configuration, and Backend Pools blades from Azure Load Balancer

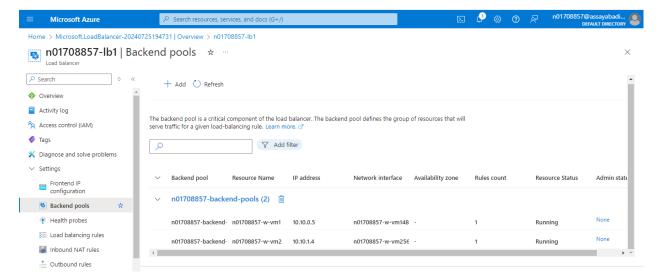
Overview - blade



Frontend IP Configuration - blade

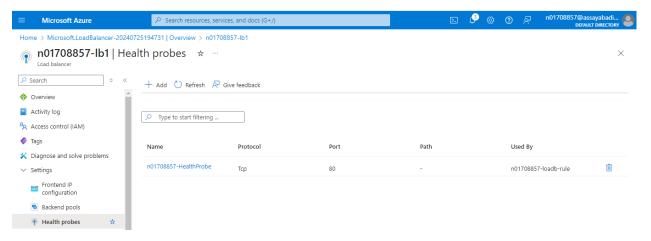


Backend - Pools blade

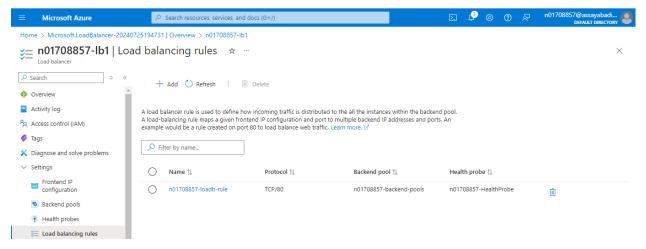


2 SCREENSHOTS showing the Health Probes and Load Balancing Rules configuration from Azure Load Balancer

Health Probes - blade



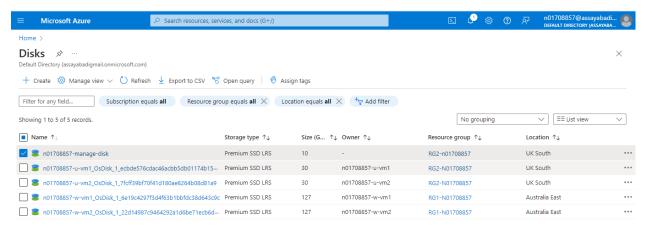
Load Balancing Rules



13. Create Data Disk and Mount it to Linux

1 SCREENSHOT showing the Overview blade of the data disk from Azure Disks

Overview - blade



3 SCREENSHOTS showing the outputs of "lsblk, "cat /etc/fstab", and "df -h" commands (log in to the Linux VM is required) Shares blade

lsblk

```
n01708857@n01708857-u-vm1: ~
n01708857@n01708857-u-vm1:~$ lsblk
       MAJ: MIN RM SIZE RO TYPE MOUNTPOINT
sda
         8:0
                0
                    30G 0 disk
               0 29.9G 0 part /
-sda1
         8:1
 -sda14
         8:14 0 4M 0 part
L-sda15
         8:15 0 106M 0 part /boot/efi
         8:16 0
                    4G 0 disk
L_sdb1
         8:17 0
                    4G 0 part /mnt
              0 10G 0 disk
0 10G 0 part /mydisk01
sdc
         8:32
Lsdc1
         8:33
n01708857@n01708857-u-vm1:~$
```

cat /etc/fstab

```
n01708857@n01708857-u-vm1:~$ cat /etc/fstab
# CLOUD IMG: This file was created/modified by the Cloud Image build process
UUID=60317bf9-69a6-42ca-bd96-867c818a1c33
                                                        ext4
                                                               defaults, discard
UUID=93C3-880C /boot/efi
                               vfat
                                       umask=0077
                                       /mnt
                                               auto
                                                       defaults, nofail, x-system
/dev/disk/cloud/azure resource-part1
d.requires=cloud-init.service, netdev,comment=cloudconfig
                                                                       2
/dev/sdc1 /mydisk01 ext4 defaults,nofail 0 0
n01708857@n01708857-u-vm1:~$
```

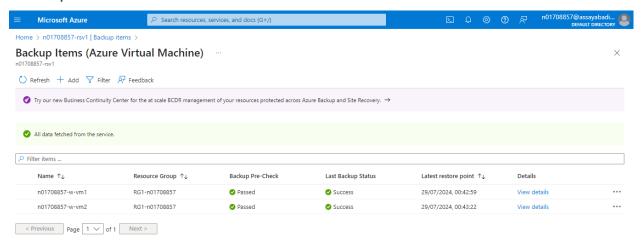
df -h

```
n01708857@n01708857-u-vm1:~$
n01708857@n01708857-u-vm1:~$ df -h
                Size Used Avail Use% Mounted on
Filesystem
/dev/root
                      1.3G
                 29G
                            28G
                                   5% /
                921M
devtmpfs
                      4.0K
                            921M
                                   1% /dev
                            926M
                                   0% /dev/shm
tmpfs
                926M
                         0
tmpfs
                186M
                      664K 185M
                                   1% /run
tmpfs
                5.0M
                         0
                           5.0M
                                   0% /run/lock
                            926M
                                   0% /sys/fs/cgroup
tmpfs
                926M
                         0
/dev/sda15
                                   6% /boot/efi
               105M
                      6.1M
                            99M
/dev/sdb1
                           3.7G
                                   1% /mnt
                3.9G
                       28K
tmpfs
                                   0% /run/user/1000
                186M
                         0
                            186M
/dev/sdc1
                9.8G
                       24K 9.3G
                                   1% /mydisk01
n01708857@n01708857-u-vm1:~$
```

14. Configure Backups

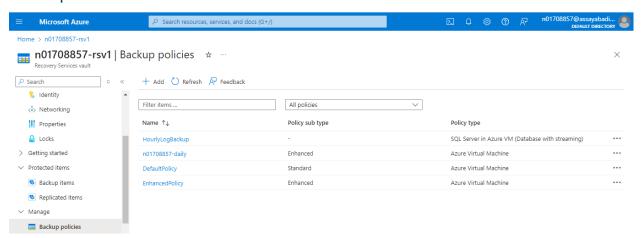
1 SCREENSHOT1 showing Backup Center | Backup Instances

Backup Instances



1 SCREENSHOT1 showing Backup Center | Backup Policies | HumberID-daily

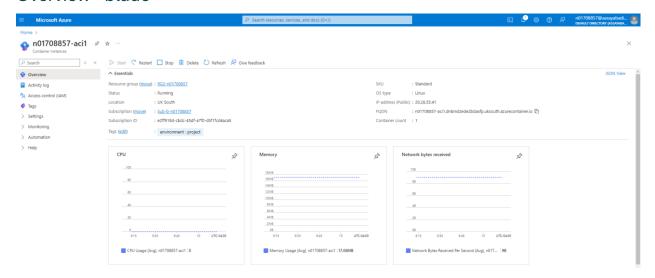
Backup Policies -blade



15. Azure Container Instances

1 SCREENSHOT showing the Overview blade of Azure Container Instance

Overview - blade



1 SCREENSHOT showing the web page when the DNS label is entered in a browser window

Web Page Accessed Using DNS label



16. Hub and Spoke Architectural Diagram of The Project

