

# HUB AND SPOKE MODEL

**Was able to ping all spokes from the hub**

[Home](#) >

# Virtual networks

Default Directory (vaibhavguptaavy1013gmail.onmicrosoft.com)

[+ Create](#) [Manage view](#) [Refresh](#) [Export to CSV](#) [Open query](#) [Assign tags](#)

Subscription equals all

Resource group equals all

Location equals all

[+ Add filter](#)

Showing 1 to 4 of 4 records.

No grouping

List view

<input type="checkbox"/> Name ↑↓	Resource group ↑↓	Location ↑↓	Subscription ↑↓	
<input type="checkbox"/> <a href="#">DevelopingVNet</a>	<a href="#">celebal-internship-vaibhav_group</a>	North Europe	<a href="#">Free Trial</a>	...
<input type="checkbox"/> <a href="#">managementVnet</a>	<a href="#">celebal-internship-vaibhav_group</a>	North Europe	<a href="#">Free Trial</a>	...
<input type="checkbox"/> <a href="#">ProductionVNet</a>	<a href="#">celebal-internship-vaibhav_group</a>	North Europe	<a href="#">Free Trial</a>	...
<input type="checkbox"/> <a href="#">TestingVNet</a>	<a href="#">celebal-internship-vaibhav_group</a>	North Europe	<a href="#">Free Trial</a>	...

&lt; Previous

Page

1

of 1

Next &gt;

## Create four virtual networks

[Give feedback](#)

# Create virtual network ...



Basics Security **IP addresses** Tags Review + create

Define the address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets to segment the virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subnet, Azure assigns the resource an IP address from the subnet. [Learn more](#)

Add IPv4 address space | ▾

^ 10.0.0.0/16

Delete address space

This address prefix overlaps with virtual network 'managementVnet'. If you intend to peer these virtual networks, change the address space. [Learn more](#)

10.0.0.0

/16 ▾

10.0.0.0 - 10.0.255.255

65,536 addresses

+ Add a subnet

Subnets

IP address range

Size

NAT gateway

default

10.0.0.0 - 10.0.0.255

/24 (256 addresses)

-



Make sure u have different subnets so ip don't overlap

- 10.0.0.0/16
- 10.1.0.0/16
- 10.2.0.0/16
- 10.3.0.0/16

Previous

Next

Review + create

Give feedback

## Virtual machines



Default Directory (vaibhavguptaavy1013gmail.onmicrosoft.com)

[+ Create](#) [↔ Switch to classic](#) [🕒 Reservations](#) [⚙️ Manage view](#) [🔄 Refresh](#) [⬇ Export to CSV](#) [🔗 Open query](#) | [🏷 Assign tags](#) [▶ Start](#) [🔄 Restart](#) [⋮](#)

Subscription equals all

Type equals all

Resource group equals all X

Location equals all X

[+ Add filter](#)

Showing 1 to 4 of 4 records.

No grouping

List view

<input type="checkbox"/> Name ↑↓	Type ↑↓	Subscription ↑↓	Resource group ↑↓	Location ↑↓	Status ↑↓	Operating system ↑↓	Size ↑↓
<input type="checkbox"/> DevelopingVM	Virtual machine	<a href="#">Free Trial</a>	<a href="#">celebal-internship-vai...</a>	North Europe	Running	Linux	Standard
<input type="checkbox"/> ManagementVM	Virtual machine	<a href="#">Free Trial</a>	<a href="#">celebal-internship-vai...</a>	North Europe	Running	Linux	Standard
<input type="checkbox"/> ProductionVM	Virtual machine	<a href="#">Free Trial</a>	<a href="#">celebal-internship-vai...</a>	North Europe	Running	Linux	Standard
<input type="checkbox"/> TestingVM	Virtual machine	<a href="#">Free Trial</a>	<a href="#">celebal-internship-vai...</a>	North Europe	Running	Linux	Standard

Similar create 4 vm and make sure to add them in subnets/vnets

# CONFIGURE YOUR NSG FOR ICMP PROTOCOL(PING)

[Home](#) >


## Network security groups

Default Directory (vaibhavguptaavy1013gmail.onmicrosoft.com)

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

Filter for any field...


Subscription equals all

Resource group equals all 







Location equals all 

 Add filter

Showing 1 to 4 of 4 records.

No grouping 

List view 

<input type="checkbox"/> Name 	Resource group 	Location 	Subscription 	Flow log 
<input type="checkbox"/>  DevelopingVMNSG	celebal-internship-vaibh...	North Europe	Free Trial	...
<input type="checkbox"/>  ManagementVMNSG	celebal-internship-vaibh...	North Europe	Free Trial	...
<input type="checkbox"/>  ProductionVMNSG	celebal-internship-vaibh...	North Europe	Free Trial	...
<input type="checkbox"/>  TestingVMNSG	celebal-internship-vaibh...	North Europe	Free Trial	...

< Previous

Page

1 

of 1

Next >

 Give feedback



# Add icmp protocol to both inbound and outbound



Move



Delete



Refresh



Give feedback



## Overview



Activity log



Access control (IAM)



Tags



Diagnose and solve problems



Settings

Inbound security rules

Outbound security rules

Network interfaces

Subnets

Properties

Locks



Monitoring



Automation



Help

## Essentials

JSON View

Resource group [\(move\)](#)[celebal-internship-vaibhav\\_group](#)

Location

North Europe

Subscription [\(move\)](#)[Free Trial](#)

Subscription ID

afebb711-1102-44c1-86e3-a4d3d1af9199

Tags [\(edit\)](#)[Add tags](#)

Custom security rules

2 inbound, 1 outbound

Associated with

0 subnets, 1 network interfaces

Port == all

Protocol == all

Source == all

Destination == all

Action == all

Priority ↑↓

Name ↑↓

Port ↑↓

Protocol ↑↓

Source ↑↓

Destination ↑↓

## Inbound Security Rules

100

[AllowICMPIn](#)

Any

Icmp

Any

Any

1000

[default-allow-ssh](#)

22

Tcp

Any

Any

65000

AllowVnetInBound

Any

Any

VirtualNetwork

VirtualNetwork

65001

AllowAzureLoadBalan...

Any

Any

AzureLoadBalancer

Any

65500

DenyAllInBound

Any

Any

Any

Any



## ManagementVMNSG

Network security group

 Move Delete Refresh Give

## Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Inbound security rules

Outbound security rules

Network interfaces

Subnets

Properties

Locks

&gt; Monitoring

&gt; Automation

&gt; Help

Subscription ID

afebb711-1102-44c1-86e3-a4d3d1af9199

Tags [\(edit\)](#)[Add tags](#)

Port == all

Protocol == all

Source

Priority ↑↓

Name ↑↓

## Inbound Security Rules

100 AllowICMPIn

1000 default-allow-ssh

65000 AllowVnetInBound

65001 AllowAzureLoadBalan...

65500 DenyAllInBound

## Outbound Security Rules

100 AllowICMPOut

65000 AllowVnetOutBound

65001 AllowInternetOutBound

65500 DenyAllOutBound



## AllowICMPIn

ManagementVMNSG



Source ⓘ

Any

Source port ranges \* ⓘ

\*

Destination ⓘ

Any

Service ⓘ

Custom

Destination port ranges \* ⓘ

\*

Protocol

☐ Any☐ TCP☐ UDP☒ ICMPv4

Action

☒ Allow

Save

Cancel

Give feedback



## ManagementVMNSG

Network security group

 Move Delete Refresh Give

## Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Inbound security rules

Outbound security rules

Network interfaces

Subnets

Properties

Locks

&gt; Monitoring

&gt; Automation

&gt; Help

Subscription ID

afebb711-1102-44c1-86e3-a4d3d1af9199

Tags [\(edit\)](#)[Add tags](#)

Port == all

Protocol == all

Source

Priority ↑↓

Name ↑↓

## Inbound Security Rules

100	AllowICMPIn
1000	default-allow-ssh
65000	AllowVnetInBound
65001	AllowAzureLoadBalan...
65500	DenyAllInBound

## Outbound Security Rules

100	AllowICMPOut
65000	AllowVnetOutBound
65001	AllowInternetOutBound
65500	DenyAllOutBound



## AllowICMPIn

ManagementVMNSG



Protocol

☐ Any☐ TCP☐ UDP☒ ICMPv4

Action

☒ Allow☐ Deny

Priority \* ⓘ

Name

Description

Check the priority no.  
if incase it does not  
work

Save

Cancel

Give feedback





# managementVnet

Virtual network



peering



Move



Delete



Refresh



Give feedback

Settings



Peerings

Essentials

[JSON View](#)

Resource group [\(move\)](#)

[celebal-internship-vaibhav\\_group](#)

Location [\(move\)](#)

North Europe

Subscription [\(move\)](#)

[Free Trial](#)

Subscription ID

afebb711-1102-44c1-86e3-a4d3d1af9199

Address space

10.0.0.0/16

DNS servers

[Azure provided DNS service](#)

Flow timeout

[Configure](#)

BGP community string

[Configure](#)

Virtual network ID

42d8e00c-5f47-4f03-98b7-6b926cd0a46c

Tags [\(edit\)](#)

[Add tags](#)

Topology

Properties

**Capabilities (5)**

Recommendations

Tutorials



## DDoS protection

Configure additional protection from distributed denial of service attacks.



## Azure Firewall

Protect your network with a stateful L3-L7 firewall.



## Peerings

Seamlessly connect two or more virtual networks.

Search for  
peering in  
vnets \*4  
everything

avy@ManagementVM ~

avy@ManagementVM:~ (0.002s)

Welcome to Ubuntu 18.04.6 LTS (GNU/Linux 5.4.0-1109-azure x86\_64)

\* Documentation: <https://help.ubuntu.com>  
\* Management: <https://landscape.canonical.com>  
\* Support: <https://ubuntu.com/advantage>

System information as of Sat Jul 20 20:23:07 UTC 2024

System load:	0.07	Processes:	104
Usage of /:	4.5% of 28.89GB	Users logged in:	0
Memory usage:	21%	IP address for eth0:	10.0.0.4
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 Infrastructure is not enabled.

0 updates can be applied immediately.

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

To run a command as administrator (user "root"), use "`sudo <command>`".  
See "`man sudo_root`" for details.

Ssh into the HUB VM

~ / Desktop (13.847s)

`ssh -i /Users/avy/Downloads/az2.pem avy@52.169.202.51`

The authenticity of host '52.169.202.51 (52.169.202.51)' can't be established.  
ED25519 key fingerprint is SHA256:joTZ3TSlefYlMSd+139tAffEVUL0N+1iM9jHX4mIo3o.  
This key is not known by any other names.  
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes  
Warning: Permanently added '52.169.202.51' (ED25519) to the list of known hosts.  
To run a command as administrator (user "root"), use "`sudo <command>`".  
See "`man sudo_root`" for details.

ResourceGroup	PowerState	PublicIpAddress	Fqdns	PrivateIpAddress	MacAddress	Location	Zones
celebal-internship-vaibhav_group	VM running	52.169.202.51		10.0.0.4	60-45-BD-DF-3C-22	northeurope	
celebal-internship-vaibhav_group	VM running			10.1.0.4	00-0D-3A-68-5A-29	northeurope	
celebal-internship-vaibhav_group	VM running			10.2.0.4	00-22-48-9D-06-3D	northeurope	
celebal-internship-vaibhav_group	VM running			10.3.0.4	00-0D-3A-B1-D7-1F	northeurope	

Extracted vm private ip address

avy@ManagementVM ~

avy@ManagementVM ~ (6.054s)

ping 10.1.0.4

```
PING 10.1.0.4 (10.1.0.4) 56(84) bytes of data.  
64 bytes from 10.1.0.4: icmp_seq=1 ttl=64 time=2.25 ms  
64 bytes from 10.1.0.4: icmp_seq=2 ttl=64 time=1.88 ms  
64 bytes from 10.1.0.4: icmp_seq=3 ttl=64 time=1.55 ms  
64 bytes from 10.1.0.4: icmp_seq=4 ttl=64 time=1.32 ms  
64 bytes from 10.1.0.4: icmp_seq=5 ttl=64 time=1.28 ms  
64 bytes from 10.1.0.4: icmp_seq=6 ttl=64 time=1.67 ms  
^C  
--- 10.1.0.4 ping statistics ---  
6 packets transmitted, 6 received, 0% packet loss, time 5008ms  
rtt min/avg/max/mdev = 1.281/1.663/2.255/0.337 ms
```

avy@ManagementVM ~

avy@ManagementVM ~ (5.6s)

ping 10.3.0.4

```
PING 10.3.0.4 (10.3.0.4) 56(84) bytes of data.  
64 bytes from 10.3.0.4: icmp_seq=1 ttl=64 time=2.28 ms  
64 bytes from 10.3.0.4: icmp_seq=2 ttl=64 time=1.29 ms  
64 bytes from 10.3.0.4: icmp_seq=3 ttl=64 time=1.27 ms  
64 bytes from 10.3.0.4: icmp_seq=4 ttl=64 time=1.15 ms  
64 bytes from 10.3.0.4: icmp_seq=5 ttl=64 time=1.75 ms  
64 bytes from 10.3.0.4: icmp_seq=6 ttl=64 time=1.09 ms  
^C  
--- 10.3.0.4 ping statistics ---  
6 packets transmitted, 6 received, 0% packet loss, time 5008ms  
rtt min/avg/max/mdev = 1.098/1.476/2.284/0.421 ms
```

avy@ManagementVM ~ (5.125s)

ping 10.2.0.4

```
PING 10.2.0.4 (10.2.0.4) 56(84) bytes of data.  
64 bytes from 10.2.0.4: icmp_seq=1 ttl=64 time=2.85 ms  
64 bytes from 10.2.0.4: icmp_seq=2 ttl=64 time=2.38 ms  
64 bytes from 10.2.0.4: icmp_seq=3 ttl=64 time=1.01 ms  
64 bytes from 10.2.0.4: icmp_seq=4 ttl=64 time=1.43 ms  
64 bytes from 10.2.0.4: icmp_seq=5 ttl=64 time=2.12 ms  
^C  
--- 10.2.0.4 ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 4006ms  
rtt min/avg/max/mdev = 1.016/1.962/2.852/0.658 ms
```

Able to ping all the VM's

THANKS FOR SEEING MY  
EFFORTS TILL END