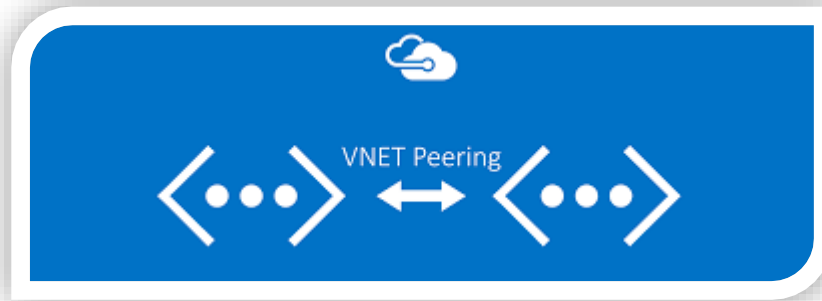


VNET PEERING IN AZURE

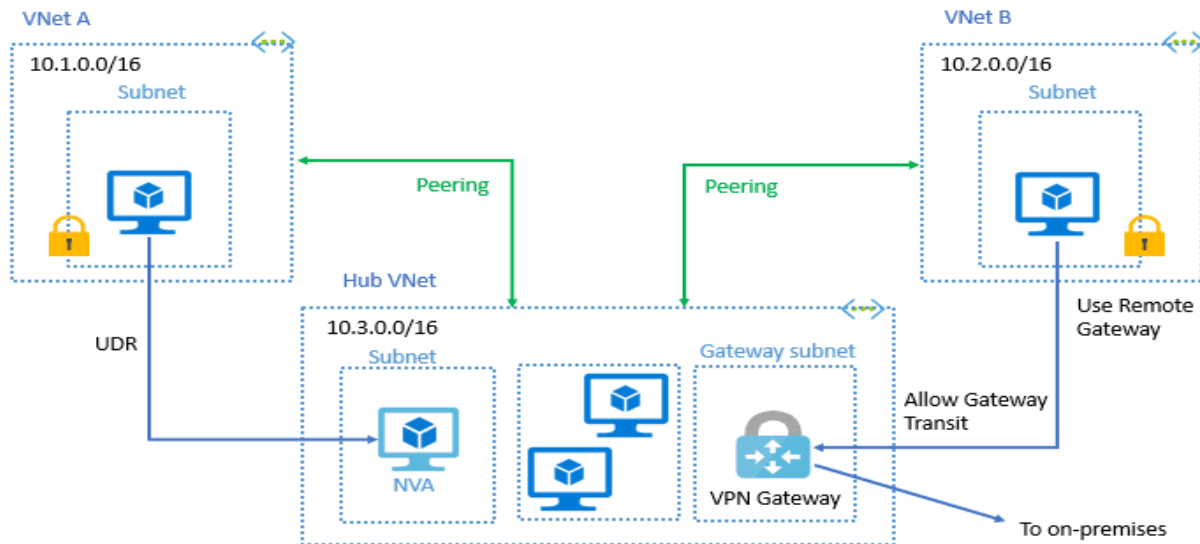


VNet peering (or Virtual Network peering) enables you to connect virtual networks. A VNet peering connection between virtual networks enables you to route traffic between them privately through IPv4 addresses. Virtual machines in the peered VNets can communicate with each other as if they are within the same network.

VNet Peering Types:

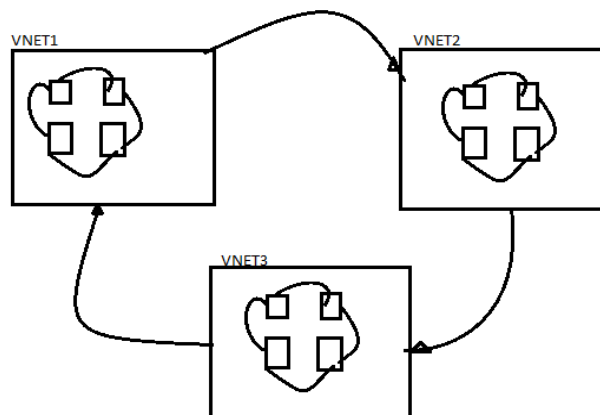
1. Regional VNet Peering: Connecting VNets within the same Azure region.
2. Global VNet Peering: Connecting VNets across Azure regions.

Virtual network peering. Virtual network peering connects two Azure virtual networks. Once peered, the virtual networks appear as one for connectivity purposes. Traffic between virtual machines in the peered virtual networks is routed through the Microsoft backbone infrastructure, through private IP addresses only. No public internet is involved. You can also peer virtual networks across Azure regions (global peering).



Capabilities

- Provides connectivity over private IP.
- Supports cross-subscription connectivity.
- Supports cross-region connectivity.



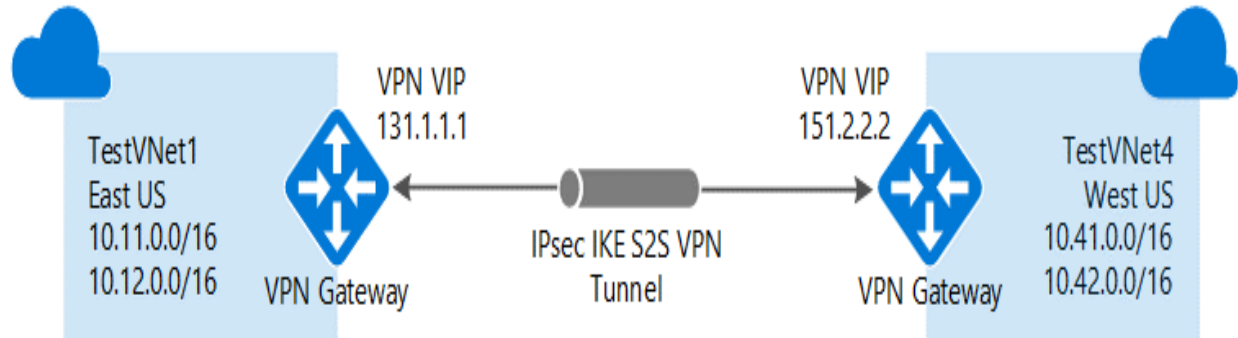
Let's say we have multiple Vnets and we've a no. of servers deployed in them. It is easier to establish connection between resources within the same Vnet.

We can also establish connection between different VNETS if we have the public IP addresses. But let's say VNET3 has only private IP assigned to it. So, in this case it's difficult to have a connection between these VNETS. Hence, to solve this we go ahead with the VNET peering setup.

By peering setup, Azure will allow connections to be established internally without going to internet. We can also perform peering between two different azure accounts and also between VNETS present in different regions or same regions.

VPN Gateway:

Each VNET will have VMs deployed in them. Every VM has a gateway that holds the public IP to connect to the internet. If a user hits the gateway Public IP, then the gateway converts/translates the request to private IP and gives the user access to the application deployed in the VM.



Let's consider file/data transfer between two VMs. Via gateway using the internet file transfer can be done. But this is not recommended. Because, your cloud service providers will charge you for both VMs running and also the bandwidth of data transferred. So, to avoid this we go for VNET peering setup.

By VNET peering we can have data transfer between VMs too. In this case we'll be using the private IPs for data transfer.

LAB SETUP:

Create Resource Group (Peering-RG) in Central-US region.

The screenshot shows the 'Create a resource group' page in the Microsoft Azure portal. The page has a blue header with the Microsoft Azure logo and a search bar. Below the header, there's a breadcrumb trail: 'Home > Resource groups >'. The main title is 'Create a resource group'. There are tabs for 'Basics', 'Tags', and 'Review + create'. The 'Basics' tab is selected. Below the tabs, there's a description of a resource group. The 'Project details' section has two dropdown menus: 'Subscription' (set to 'Azure for Students') and 'Resource group' (set to 'Peering-RG'). The 'Resource details' section has a dropdown menu for 'Region' (set to '(US) Central US'). At the bottom, there are three buttons: 'Review + create', '< Previous', and 'Next: Tags >'. The 'Review + create' button is highlighted.

Create VNETS.

1. Central-Us-vnet1 (10.0.0.0/16). Add subnet-1 with CIDR (10.0.1.0/24).

The screenshot shows the 'Create virtual network' page in the Microsoft Azure portal. The page has a blue header with the Microsoft Azure logo and a search bar. Below the header, there's a breadcrumb trail: 'Home > Virtual networks >'. The main title is 'Create virtual network'. There are tabs for 'Basics', 'IP Addresses', 'Security', 'Tags', and 'Review + create'. The 'Basics' tab is selected. Below the tabs, there's a description of a virtual network. The 'Project details' section has two dropdown menus: 'Subscription' (set to 'Azure for Students') and 'Resource group' (set to 'Peering-RG'). The 'Instance details' section has two dropdown menus: 'Name' (set to 'Central-US-Vnet-1') and 'Region' (set to 'Central US'). At the bottom, there are four buttons: 'Review + create', '< Previous', 'Next: IP Addresses >', and 'Download a template for automation'. The 'Review + create' button is highlighted.

Microsoft Azure

Search resources, services, and docs (G+J)

ashutoshmallick@outlo...

DEFAULT DIRECTORY

Home > Virtual networks >

Create virtual network ...

Basics IP Addresses Security Tags Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

10.0.0.0/16 10.0.0.0 - 10.0.255.255 (65536 addresses)

☐ Add IPv6 address space ⓘ

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

+ Add subnet

Remove subnet

Subnet name	Subnet address range	NAT gateway
This virtual network doesn't have any subnets.		

✖ This virtual network doesn't have any subnets.

ℹ

Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to a subnet after you create the virtual network. [Learn more](#)

Review + create

< Previous

Next : Security >

Download a template for automation

Add subnet

Subnet name *

Subnet-1

Subnet address range *

10.0.1.0/24

10.0.1.0 - 10.0.1.255 (251 + 5 Azure reserved addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway

None

SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Services ⓘ

0 selected

Add

Cancel

- Create second VNET – Central-Us-Vnet-2 with CIDR (11.0.0.0/16). Add subnet-2 to it with CIDR value (11.0.1.0/24).

Microsoft Azure

Search resources, services, and docs (G+J)

ashutoshmallick@outlo...

DEFAULT DIRECTORY

Home > Virtual networks >

Create virtual network ...

Basics IP Addresses Security Tags Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. [Learn more about virtual network](#)

Project details

Subscription *

Azure for Students

Resource group *

Peering-RG

Create new

Instance details

Name *

Central-Us-Vnet-2

Region *

Central US

Review + create

< Previous

Next : IP Addresses >

Download a template for automation

Microsoft Azure

Search resources, services, and docs (G+J)

Home > Virtual networks >

Create virtual network ...

Basics IP Addresses Security Tags Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

11.0.0.0/16

The entered address ranges '11.0.0.0/16' may not work correctly. It is recommended to use address ranges within the private, non-routable address space defined in RFC 1918. [Learn more](#)

☐ Add IPv6 address space

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

+ Add subnet

Remove subnet

Subnet name	Subnet address range	NAT gateway
This virtual network doesn't have any subnets.		

This virtual network doesn't have any subnets.

Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to a subnet after you create the virtual network. [Learn more](#)

Review + create

< Previous

Next : Security >

Download a template for automation

Add subnet

Subnet name *

Subnet-2

Subnet address range *

11.0.1.0/24

11.0.1.0 - 11.0.1.255 (251 + 5 Azure reserved addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway

None

SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific Azure resources from your virtual network over service endpoints. [Learn more](#)

Services

0 selected

Add

Cancel

Now Create VMs within the VNETS “Vm-1-Vnet-1” into Subnet-1 and “Vm-2-Vnet-2” into Subnet-2 respectively.

Microsoft Azure

Search resources, services, and docs (G+J)

Home > Virtual machines >

Create a virtual machine ...

Project details

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

Subscription *

Azure for Students

Resource group *

Peering-RG

Create new

Instance details

Virtual machine name *

Vm-1-Vnet-1

Region *

(US) Central US

Availability options

No infrastructure redundancy required

Security type

Standard

Image *

Ubuntu Server 20.04 LTS - Gen2

See all images | Configure VM generation

Run with Azure Spot discount

☐

Size *

Standard_DS1 - 1 vcpu, 3.5 GiB memory (₹4,049.66/month)

See all sizes

Administrator account

Authentication type

☒ SSH public key
 ☐ Password

Azure now automatically generates an SSH key pair for you and allows you to

Review + create

< Previous

Next : Disks >

Give feedback

Microsoft Azure

Search resources, services, and docs (5+)

Home > Virtual machines >

Create a virtual machine

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

Subscription *

Resource group * [Create new](#)

Instance details

Virtual machine name *

Region *

Availability options

Security type

Image * [See all images](#) | [Configure VM generation](#)

Run with Azure Spot discount ☐

Size * [See all sizes](#)

Administrator account

Authentication type ☒ SSH public key ☐ Password

Azure now automatically generates an SSH key pair for you and allows you to store it for future use. It is a fast, simple, and secure way to connect to your virtual machine.

[Review + create](#) [< Previous](#) [Next : Disks >](#) [Give feedback](#)

portal.azure.com/?Microsoft_Azure_Education_correlationId=693f3021feb5436f9c55487c3bf34d14&Microsoft_Azure_Education_newA4E=true&Microsoft_Azure_Education_asoSubG...

Microsoft Azure

Search resources, services, and docs (5+)

Home > Virtual machines >

Create a virtual machine

[Learn more](#)

Network interface

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

Virtual network * [Create new](#)

Subnet * [Manage subnet configuration](#)

Public IP [Create new](#)

NIC network security group ☐ None ☒ Basic ☐ Advanced

Public inbound ports * ☐ None ☒ Allow selected ports

Select inbound ports *

⚠ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

[Review + create](#) [< Previous](#) [Next : Management >](#) [Give feedback](#)

Now Connect VM-1 and VM-2 via SSH using Xshell.

Try ping to google.com from each VM to check whether the servers have access to internet or not.

VM-1-vnet-1 - root@Vm-1-Vnet-1: ~ - Xshell 7 (Free for Home/School)

File Edit View Tools Tab Window Help

ssh://azureuser@209.54.142.22

To add the current session, click on the left arrow button.

Session Manager

1 Vm-1-vnet-1 2 Vm-2-Vnet-2

azureuser@Vm-1-Vnet-1:~\$ sudo su
root@Vm-1-Vnet-1:/home/azureuser# cd
root@Vm-1-Vnet-1:~# ping google.com
PING google.com (209.85.146.100) 56(84) bytes of data:
64 bytes from jf-in-f100.1e100.net (209.85.146.100): icmp_seq=1 ttl=53 time=26.4 ms
64 bytes from jf-in-f100.1e100.net (209.85.146.100): icmp_seq=2 ttl=53 time=26.1 ms
64 bytes from jf-in-f100.1e100.net (209.85.146.100): icmp_seq=3 ttl=53 time=26.4 ms
64 bytes from jf-in-f100.1e100.net (209.85.146.100): icmp_seq=4 ttl=53 time=26.3 ms
64 bytes from jf-in-f100.1e100.net (209.85.146.100): icmp_seq=5 ttl=53 time=26.3 ms

Name	All Sessi...
Type	Folder
Sub Items	0
Host	
Port	22
Protocol	SSH
User Name	
Description	

ssh://azureuser@209.54.142.22

VM-2-Vnet-2 - root@Vm-2-Vnet-2: ~ - Xshell 7 (Free for Home/School)

File Edit View Tools Tab Window Help

ssh://azureuser@209.30.141.22

To add the current session, click on the left arrow button.

Session Manager

1 Vm-1-vnet-1 2 Vm-2-Vnet-2

azureuser@Vm-2-Vnet-2:~\$ sudo su
root@Vm-2-Vnet-2:/home/azureuser# cd
root@Vm-2-Vnet-2:~# ping google.com
PING google.com (142.250.148.113) 56(84) bytes of data:
64 bytes from jj-in-f113.1e100.net (142.250.148.113): icmp_seq=1 ttl=103 time=22.4 ms
64 bytes from jj-in-f113.1e100.net (142.250.148.113): icmp_seq=2 ttl=103 time=22.6 ms
64 bytes from jj-in-f113.1e100.net (142.250.148.113): icmp_seq=3 ttl=103 time=22.5 ms
64 bytes from jj-in-f113.1e100.net (142.250.148.113): icmp_seq=4 ttl=103 time=22.5 ms
64 bytes from jj-in-f113.1e100.net (142.250.148.113): icmp_seq=5 ttl=103 time=22.5 ms

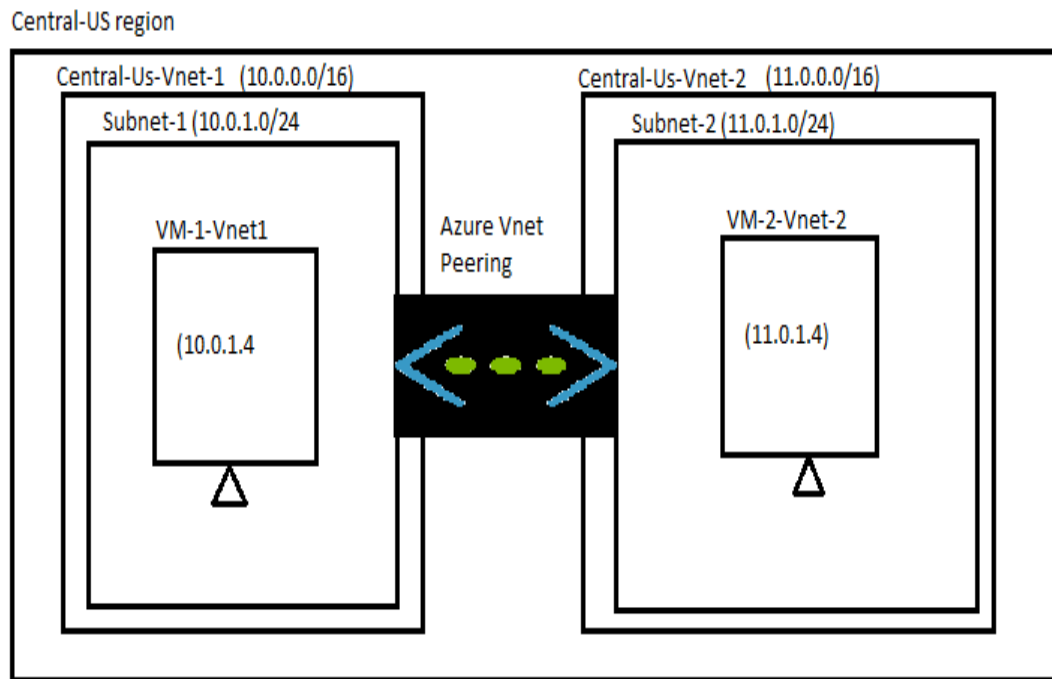
Name	All Sessi...
Type	Folder
Sub Items	0
Host	
Port	22
Protocol	SSH
User Name	
Description	

ssh://azureuser@209.30.141.22

We can see that Ping is successful for both VM-1 and VM-2.

We can also ping the public IP of one VM from another VM as they have internet access. But the same can't be done with their private IP addresses. To establish the same we'll go for Peering connection setup.

Peering Connection Setup: (within same region):



Go to peering – add connection.

In Central-us-vnet-2 perform the peering operation.

Microsoft Azure

Search resources, services, and docs (G+)

ashutoshmallick@outlo...
DEFAULT DIRECTORY

Home > Virtual networks > Central-Us-Vnet-2 >

central-us-vnet1_to_central-us-vnet2 ...

Central-Us-Vnet-2

This virtual network

Peering link name
central-us-vnet1_to_central-us-vnet2

Peering status
Fully Synchronized

Peering state
Updating

Traffic to remote virtual network ⓘ
☒ Allow (default)
☐ Block all traffic to the remote virtual network

Traffic forwarded from remote virtual network ⓘ
☒ Allow (default)
☐ Block traffic that originates from outside this virtual network

Virtual network gateway or Route Server ⓘ
☐ Use this virtual network's gateway or Route Server
☐ Use the remote virtual network's gateway or Route Server
☒ None (default)

Remote virtual network
Remote Vnet Id
/subscriptions/9dbeb810-be7d-4dd9-9a12-0f2dd16c41aa/resourceGroups/Peering-RG/providers/Microsoft.Network/vl...

Address space
10.0.0.0/16

Save

Cancel

Microsoft Azure

Search resources, services, and docs (G+)

ashutoshmallick@outlo...
DEFAULT DIRECTORY

Home > Virtual networks > Central-US-Vnet-1

Central-US-Vnet-1 | Peerings ☆ ...

Virtual network

Search (Ctrl+)

+ Add Refresh Sync

Filter by name...

Peering status == all

Name ↑↓	Peering status ↑↓	Peer ↑↓	Gateway transit ↑↓	
central-us-vnet2_to_central-us-vnet1	Updating	Central-Us-Vnet-2	Disabled	...

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Address space

Connected devices

Subnets

Bastion

DDoS protection

Firewall

Microsoft Defender for Cloud

Network manager

DNS servers

Peerings

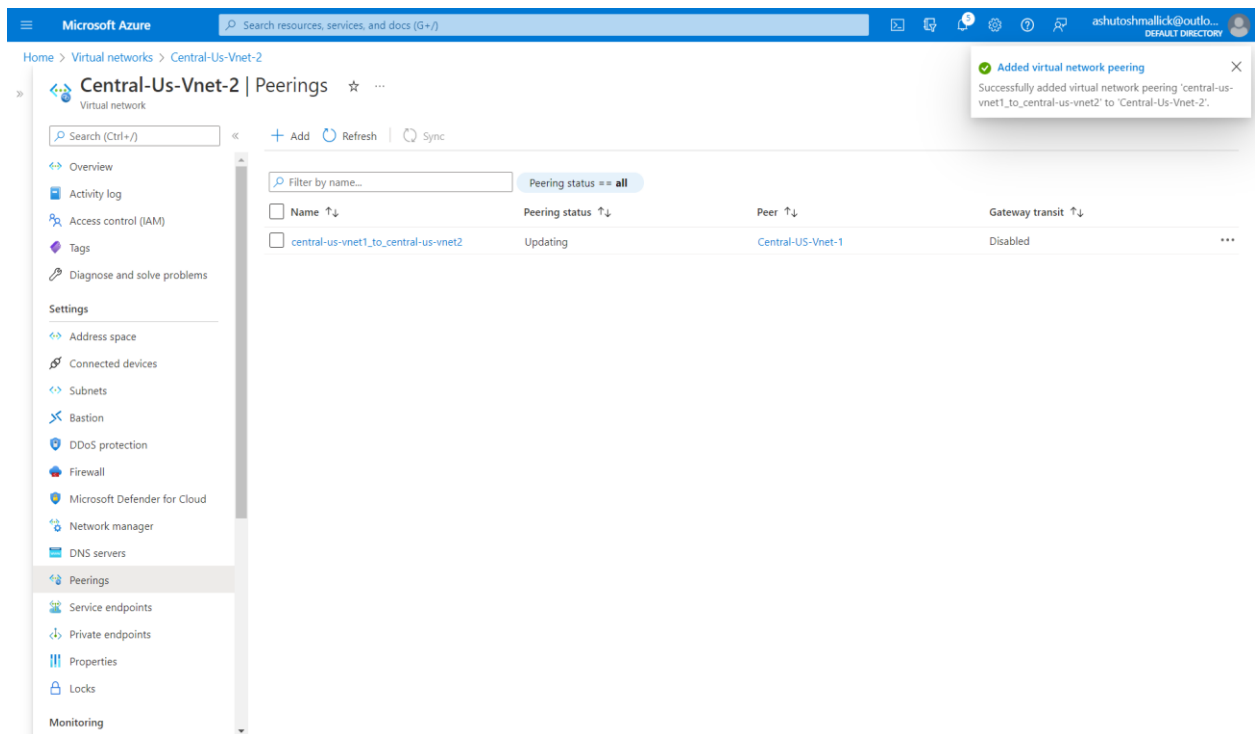
Service endpoints

Private endpoints

Properties

Locks

Monitoring

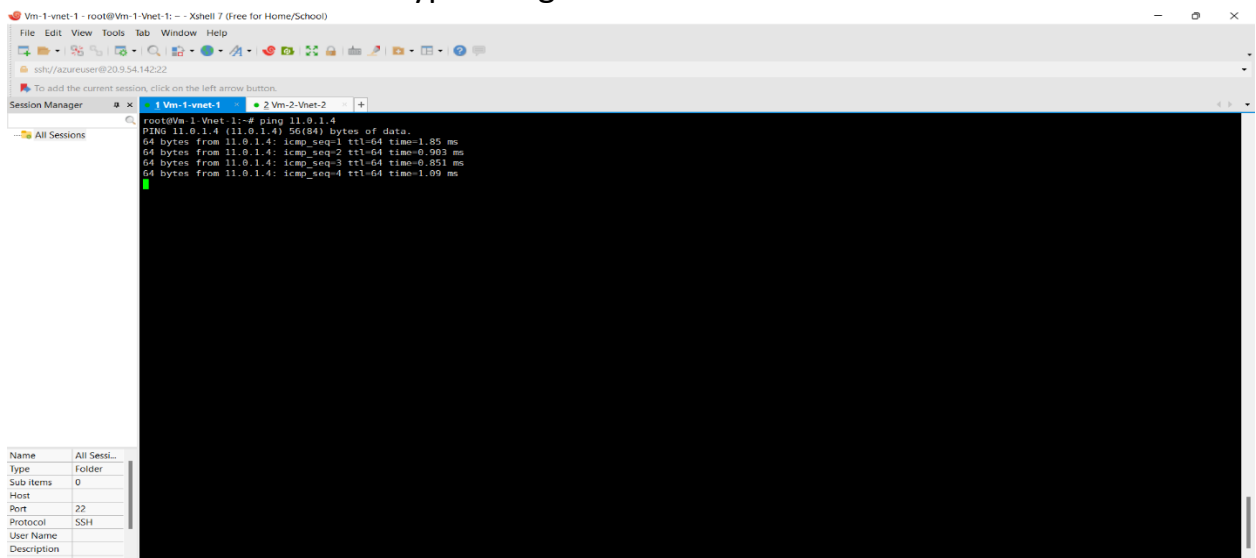


After establishing of the peering connection let's try pinging the private IP of one VM from another VM.

Private IP of VM-1: 10.0.1.4

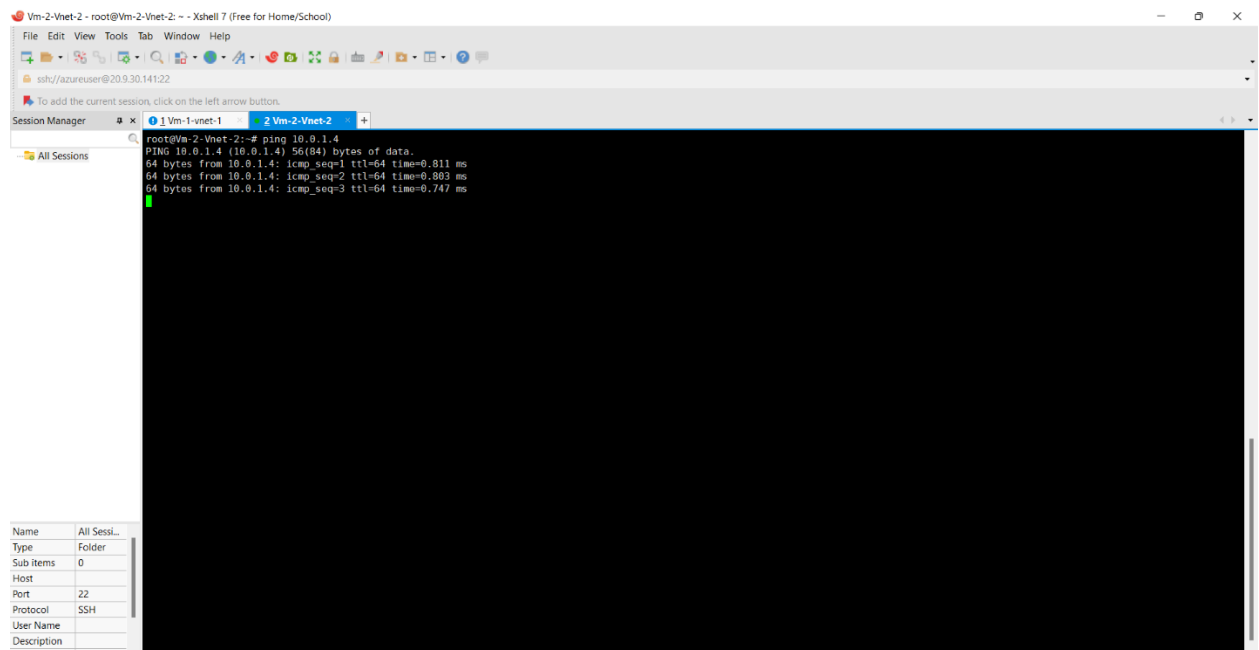
Private IP of VM-2: 11.0.1.4

In VM-1 console of Xshell type "Ping 11.0.1.4"



We can see that ping request is approved. Thus, peering connection is successfully established.

Similarly, for VM-2 we can verify the same.



The screenshot shows an Xshell terminal window titled "Vm-2-Vnet-2 - root@Vm-2-Vnet-2: ~ - Xshell 7 (Free for Home/School)". The terminal displays the output of a ping command: `root@Vm-2-Vnet-2:~# ping 10.0.1.4`. The output shows three successful ping requests from 10.0.1.4 to 10.0.1.4, each with 64 bytes of data and a TTL of 64. The response times are 0.811 ms, 0.863 ms, and 0.747 ms respectively. The terminal window also shows a Session Manager on the left with two sessions: "1 Vm-1-vnet-1" and "2 Vm-2-Vnet-2".

```
root@Vm-2-Vnet-2:~# ping 10.0.1.4
PING 10.0.1.4 (10.0.1.4) 56(84) bytes of data:
64 bytes from 10.0.1.4: icmp_seq=1 ttl=64 time=0.811 ms
64 bytes from 10.0.1.4: icmp_seq=2 ttl=64 time=0.863 ms
64 bytes from 10.0.1.4: icmp_seq=3 ttl=64 time=0.747 ms
```

Peering connection Setup (Between two different region VNETs):

Now let's create another VNET "Central-IND-Vnet-3" in Central-India region. Give CIDR value as (12.0.0.0/16).

Microsoft Azure Search resources, services, and docs (G+/f) ashutoshm@outlo... DEFAULT DIRECTORY

Home > Virtual networks >

Create virtual network

Basics IP Addresses Security Tags Review + create

Azure Virtual Network (VNet) is the fundamental building block for your private network in Azure. VNet enables many types of Azure resources, such as Azure Virtual Machines (VM), to securely communicate with each other, the internet, and on-premises networks. VNet is similar to a traditional network that you'd operate in your own data center, but brings with it additional benefits of Azure's infrastructure such as scale, availability, and isolation. [Learn more about virtual network](#)

Project details

Subscription * Azure for Students

Resource group * Peering-RG [Create new](#)

Instance details

Name * Central-Ind-Vnet-3

Region * Central India

[Review + create](#) < Previous Next : IP Addresses > [Download a template for automation](#)

Attach subnet-3 to it with CIDR (12.0.1.0/24).

Microsoft Azure Search resources, services, and docs (G+/f) ashutoshm@outlo... DEFAULT DIRECTORY

Home > Virtual networks >

Create virtual network

Basics IP Addresses Security Tags Review + create

The virtual network's address space, specified as one or more address prefixes in CIDR notation (e.g. 192.168.1.0/24).

IPv4 address space

12.0.0.0/16

IPv6 address space

☐ Add IPv6 address space

The subnet's address range in CIDR notation (e.g. 192.168.1.0/24). It must be contained by the address space of the virtual network.

[+ Add subnet](#) [Remove subnet](#)

Subnet name	Subnet address range	NAT gateway
This virtual network doesn't have any subnets.		

Subnets

This virtual network doesn't have any subnets.

Use of a NAT gateway

Use of a NAT gateway is recommended for outbound internet access from a subnet. You can deploy a NAT gateway and assign it to a subnet after you create the virtual network. [Learn more](#)

[Review + create](#) < Previous Next : Security > [Download a template for automation](#)

Add subnet

Subnet name * Subnet-3

Subnet address range * 12.0.1.0/24
12.0.1.0 - 12.0.1.255 (251 + 5 Azure reserved addresses)

NAT GATEWAY

Simplify connectivity to the internet using a network address translation gateway. Outbound connectivity is possible without a load balancer or public IP addresses attached to your virtual machines. [Learn more](#)

NAT gateway None

SERVICE ENDPOINTS

Create service endpoint policies to allow traffic to specific azure resources from your virtual network over service endpoints. [Learn more](#)

Services 0 selected

[Add](#) [Cancel](#)

Create a VM "Vm-3-Vnet-3" within this VNET.

Microsoft Azure

Search resources, services, and docs (G + J)

ashutoshmallick@outlo...
DEFAULT DIRECTORY

Home > Virtual machines >

Create a virtual machine ...

Project details

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

Subscription *

Azure for Students

Resource group *

Peering-RG

Create new

Instance details

Virtual machine name *

Vm-3-Vnet-3

Region *

(Asia Pacific) Central India

Availability options

No infrastructure redundancy required

Security type

Standard

Image *

Ubuntu Server 20.04 LTS - Gen2

See all images | Configure VM generation

Run with Azure Spot discount

☐

Size *

Standard_DS1 - 1 vcpu, 3.5 GiB memory (₹3,707.81/month)

See all sizes

Administrator account

Authentication type

☒ SSH public key

☐ Password

Azure now automatically generates an SSH key pair for you and allows you to

Review + create

< Previous

Next : Disks >

Give feedback

Microsoft Azure

Search resources, services, and docs (G + J)

ashutoshmallick@outlo...
DEFAULT DIRECTORY

Home > Virtual machines >

Create a virtual machine ...

Basics

Disks

Networking

Management

Advanced

Tags

Review + create

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 *

Central-IND-Vnet-3

Create new

Subnet *

Subnet-3 (12.0.1.0/24)

Manage subnet configuration

Public IP

(new) Vm-3-Vnet-3-ip

Create new

NIC network security group

☐ None

☒ Basic

☐ Advanced

Public inbound ports *

☐ None

☒ Allow selected ports

Select inbound ports *

SSH (22)

This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Review + create

< Previous

Next : Management >

Give feedback

Try connecting the VM and ping google.com to check if internet works or not.

The screenshot shows an Xshell terminal window titled "vm-3-vnet-3 - root@Vm-3-Vnet-3: ~ - Xshell 7 (Free for Home/School)". The terminal displays the following commands and output:

```
azureuser@Vm-3-Vnet-3:~$ sudo su
root@Vm-3-Vnet-3:/home/azureuser# cd
root@Vm-3-Vnet-3:~# ping google.com
PING google.com (142.250.183.14) 56(84) bytes of data:
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=1 ttl=113 time=3.38 ms
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=2 ttl=113 time=3.52 ms
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=3 ttl=113 time=3.53 ms
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=4 ttl=113 time=3.57 ms
^C
-- google.com ping statistics --
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 3.384/3.498/3.566/0.068 ms
root@Vm-3-Vnet-3:~#
```

On the left side of the terminal, there is a "Session Manager" pane showing a list of sessions. Below it, a table displays session details:

Name	All Sessi...
Type	Folder
Sub Items	0
Host	
Port	22
Protocol	SSH
User Name	
Description	

At the bottom of the terminal window, a status bar shows "ssh://azureuser@20.219.221.622" and "3 sessions".

We can verify that Ping command works.

Now let's establish a peering connection between "Central-US-Vnet-1" and "Central-IND-Vnet-3".

The screenshot shows the Microsoft Azure portal interface for configuring a peering connection. The breadcrumb navigation indicates the path: Home > Virtual networks > Central-US-Vnet-1 > Add peering.

The configuration page is titled "Add peering" and includes the following fields and options:

- Peering link name ***: A text input field containing "central-us-vnet1_to_central-ind-vnet3" with a green checkmark icon.
- Traffic to remote virtual network**: Two radio button options: "Allow (default)" (selected) and "Block all traffic to the remote virtual network".
- Traffic forwarded from remote virtual network**: Two radio button options: "Allow (default)" (selected) and "Block traffic that originates from outside this virtual network".
- Virtual network gateway or Route Server**: Three radio button options: "Use this virtual network's gateway or Route Server", "Use the remote virtual network's gateway or Route Server", and "None (default)" (selected).
- Remote virtual network**:
 - Peering link name ***: A text input field containing "central-ind-vnet3_to_central-us-vnet1" with a green checkmark icon.
 - Virtual network deployment model**: Two radio button options: "Resource manager" (selected) and "Classic".
 - ☐ I know my resource ID
- Subscription ***: A dropdown menu showing "Azure for Students".
- Virtual network ***: A dropdown menu showing "Central-IND-Vnet-3".
- Add**: A blue button at the bottom left.

Peering Connection established for Central-Us-Vnet-1

Microsoft Azure

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ashutoshmallick@outlo...
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central-us-vnet1_to_central-ind-vnet3 ...

Central-US-Vnet-1

This virtual network

Peering link name

central-us-vnet1_to_central-ind-vnet3

Peering status

Fully Synchronized

Peering state

Succeeded

Traffic to remote virtual network

☒ Allow (default)

☐ Block all traffic to the remote virtual network

Traffic forwarded from remote virtual network

☒ Allow (default)

☐ Block traffic that originates from outside this virtual network

Virtual network gateway or Route Server

☐ Use this virtual network's gateway or Route Server

☐ Use the remote virtual network's gateway or Route Server

☒ None (default)

Remote virtual network

Remote Vnet Id

/subscriptions/9dbeb810-be7d-4dd9-9a12-0f2dd16c41aa/resourceGroups/Peering-RG/providers/Microsoft.Network/vl...

Address space

12.0.0.0/16

Save

Cancel

Peering Connection established for Central-IND-Vnet-3

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central-ind-vnet3_to_central-us-vnet1 ...

Central-IND-Vnet-3

This virtual network

Peering link name

central-ind-vnet3_to_central-us-vnet1

Peering status

Fully Synchronized

Peering state

Succeeded

Traffic to remote virtual network

☒ Allow (default)

☐ Block all traffic to the remote virtual network

Traffic forwarded from remote virtual network

☒ Allow (default)

☐ Block traffic that originates from outside this virtual network

Virtual network gateway or Route Server

☐ Use this virtual network's gateway or Route Server

☐ Use the remote virtual network's gateway or Route Server

☒ None (default)

Remote virtual network

Remote Vnet Id

/subscriptions/9dbeb810-be7d-4dd9-9a12-0f2dd16c41aa/resourceGroups/Peering-RG/providers/Microsoft.Network/vl...

Address space

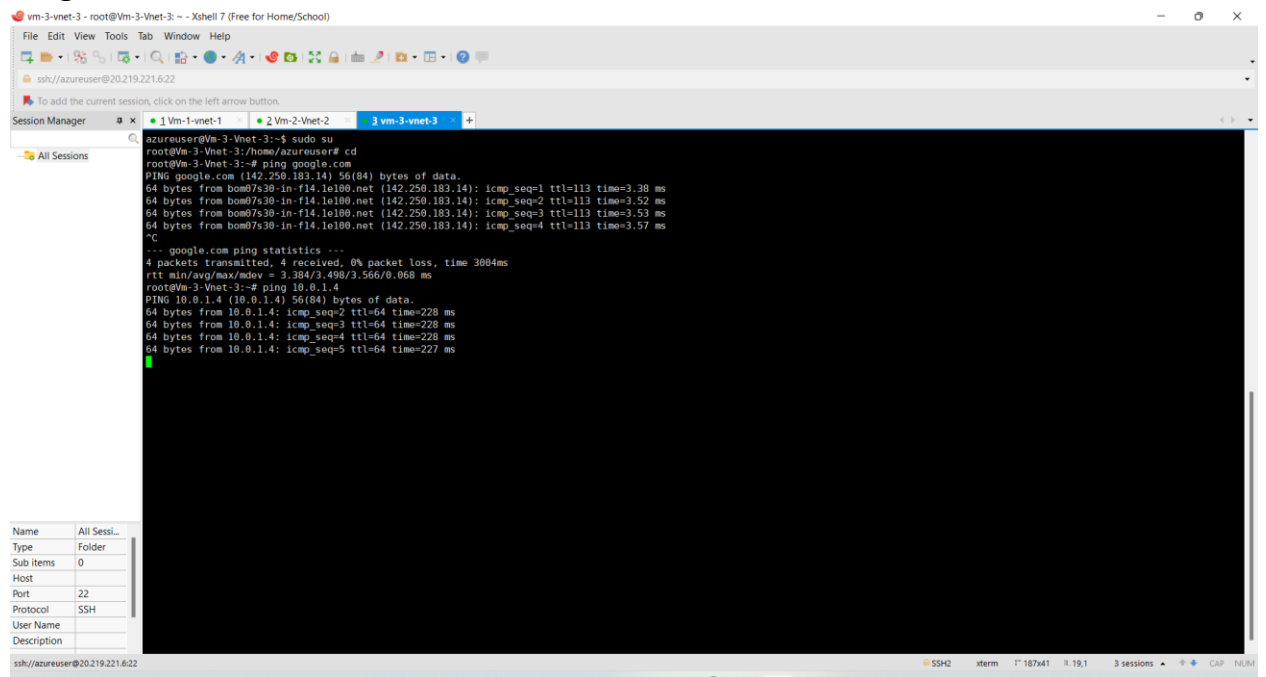
10.0.0.0/16

Save

Cancel

Now let's try Pinging the private IP of Vnet-1 from Vnet-3 console and vice-versa.

Ping Successful from Vnet-3 to Vnet-1.

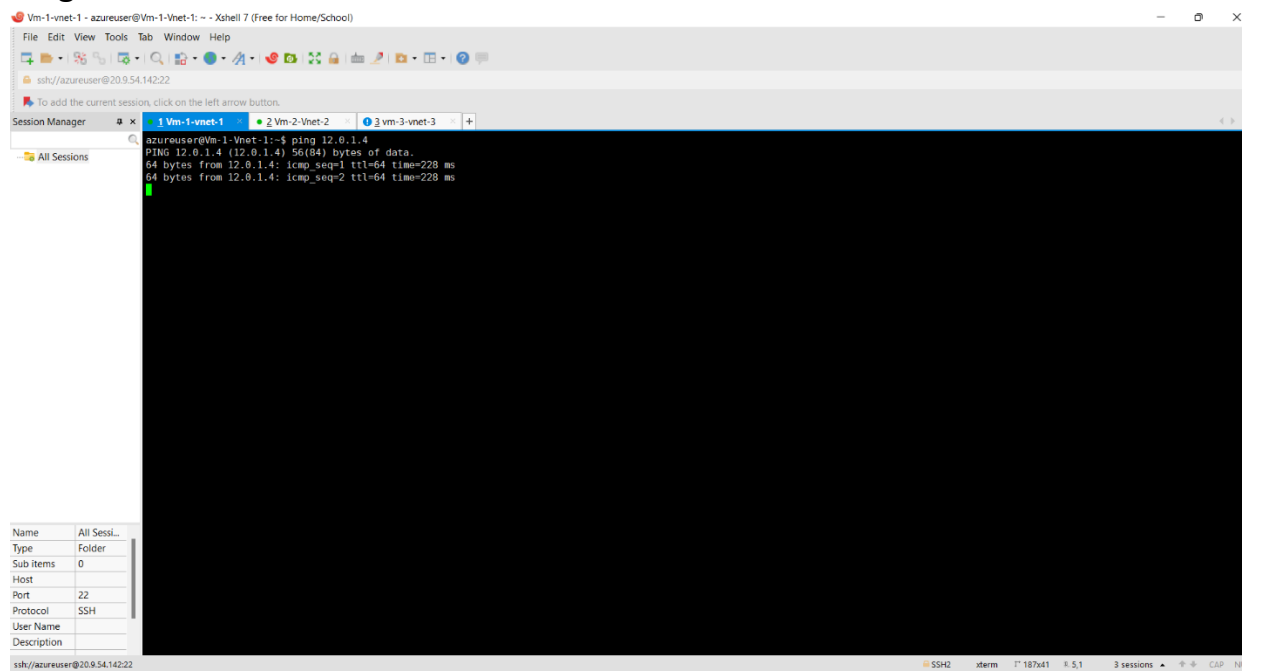


The screenshot shows a terminal window titled "vm-3-vnet-3 - root@Vm-3-Vnet-3: ~ - Xshell 7 (Free for Home/School)". The terminal displays the following commands and output:

```
azureuser@Vm-3-Vnet-3:~$ sudo su
root@Vm-3-Vnet-3:/home/azureuser# cd
root@Vm-3-Vnet-3:~# ping google.com
PING google.com (142.250.183.14) 56(84) bytes of data.
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=1 ttl=113 time=3.38 ms
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=2 ttl=113 time=3.52 ms
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=3 ttl=113 time=3.53 ms
64 bytes from bom07s30-in-f14.1e100.net (142.250.183.14): icmp_seq=4 ttl=113 time=3.57 ms
^C
--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 3.384/3.498/3.566/0.068 ms
root@Vm-3-Vnet-3:~# ping 10.0.1.4
PING 10.0.1.4 (10.0.1.4) 56(84) bytes of data.
64 bytes from 10.0.1.4: icmp_seq=2 ttl=64 time=228 ms
64 bytes from 10.0.1.4: icmp_seq=3 ttl=64 time=228 ms
64 bytes from 10.0.1.4: icmp_seq=4 ttl=64 time=228 ms
64 bytes from 10.0.1.4: icmp_seq=5 ttl=64 time=227 ms
```

The Session Manager on the left shows a table with columns "Name" and "All Sessi...". The table is currently empty.

Ping Successful from Vnet-1 to Vnet-3.

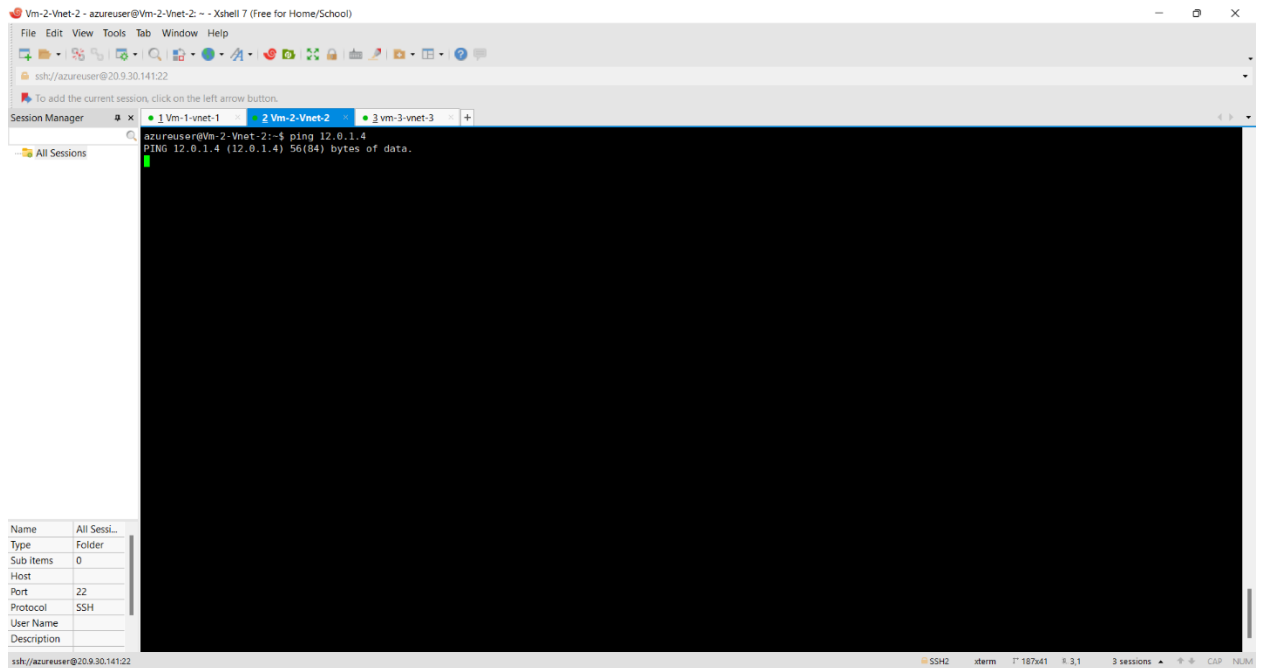


The screenshot shows a terminal window titled "Vm-1-vnet-1 - azureuser@Vm-1-Vnet-1: ~ - Xshell 7 (Free for Home/School)". The terminal displays the following commands and output:

```
azureuser@Vm-1-Vnet-1:~$ ping 12.0.1.4
PING 12.0.1.4 (12.0.1.4) 56(84) bytes of data.
64 bytes from 12.0.1.4: icmp_seq=1 ttl=64 time=228 ms
64 bytes from 12.0.1.4: icmp_seq=2 ttl=64 time=228 ms
```

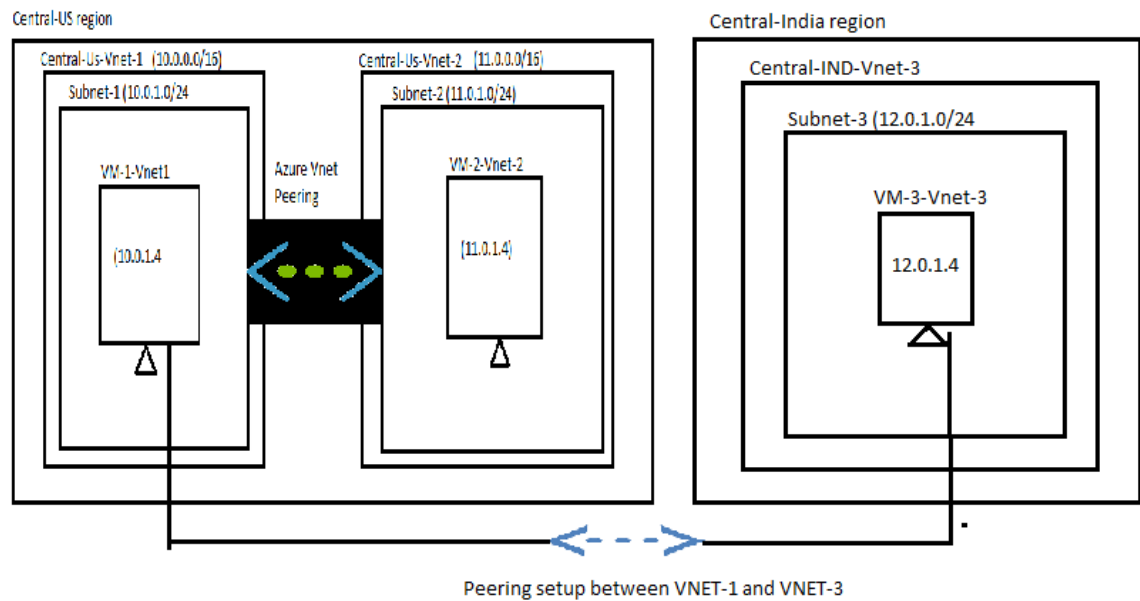
The Session Manager on the left shows a table with columns "Name" and "All Sessi...". The table is currently empty.

Ping between Vnet-2 and Vnet-3 can't be established since we've not established any peering connection between them.



Hence, we verified that peering connection can be established between two virtual networks regardless of the region in which they exist.

Project Deployment Architecture:



Project deployment architecture

Thank You!!