

## Step-by-Step Solution for Azure Deployment

### 1. Create Resource Groups

- Create two resource groups for the two regions:
  - **Central US:** ResourceGroupCentralUS
  - **West US:** ResourceGroupWestUS

# Using Azure CLI

**az group create --name ResourceGroupCentralUS --location centralus**

```
new [ ~ ]$ az group create --name ResourceGroupCentralUS --location centralus
{
  "id": "/subscriptions/9b23d2c1-3c85-4730-9eef-8d7211489a95/resourceGroups/ResourceGroupCentralUS",
  "location": "centralus",
  "managedBy": null,
  "name": "ResourceGroupCentralUS",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
```

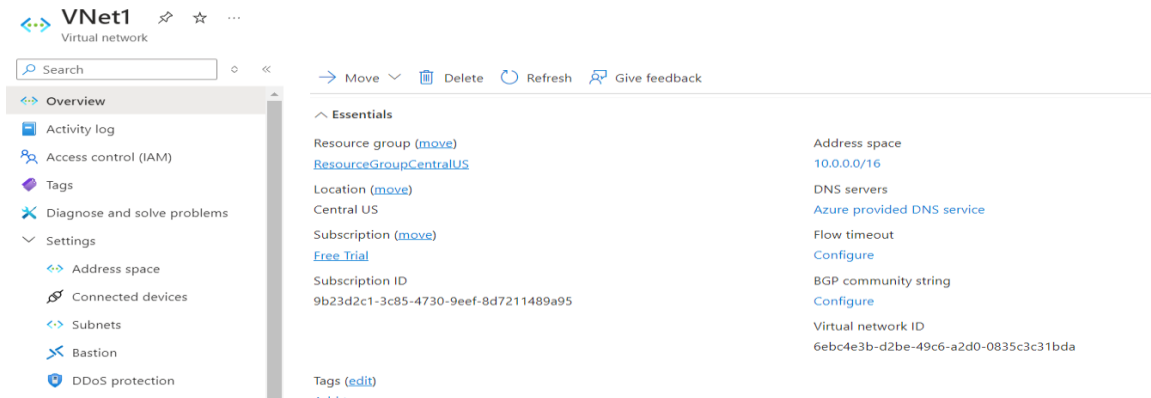
**az group create --name ResourceGroupWestUS --location westus**

```
new [ ~ ]$ az group create --name ResourceGroupWestUS --location westus
{
  "id": "/subscriptions/9b23d2c1-3c85-4730-9eef-8d7211489a95/resourceGroups/ResourceGroupWestUS",
  "location": "westus",
  "managedBy": null,
  "name": "ResourceGroupWestUS",
  "properties": {
    "provisioningState": "Succeeded"
  },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
}
```

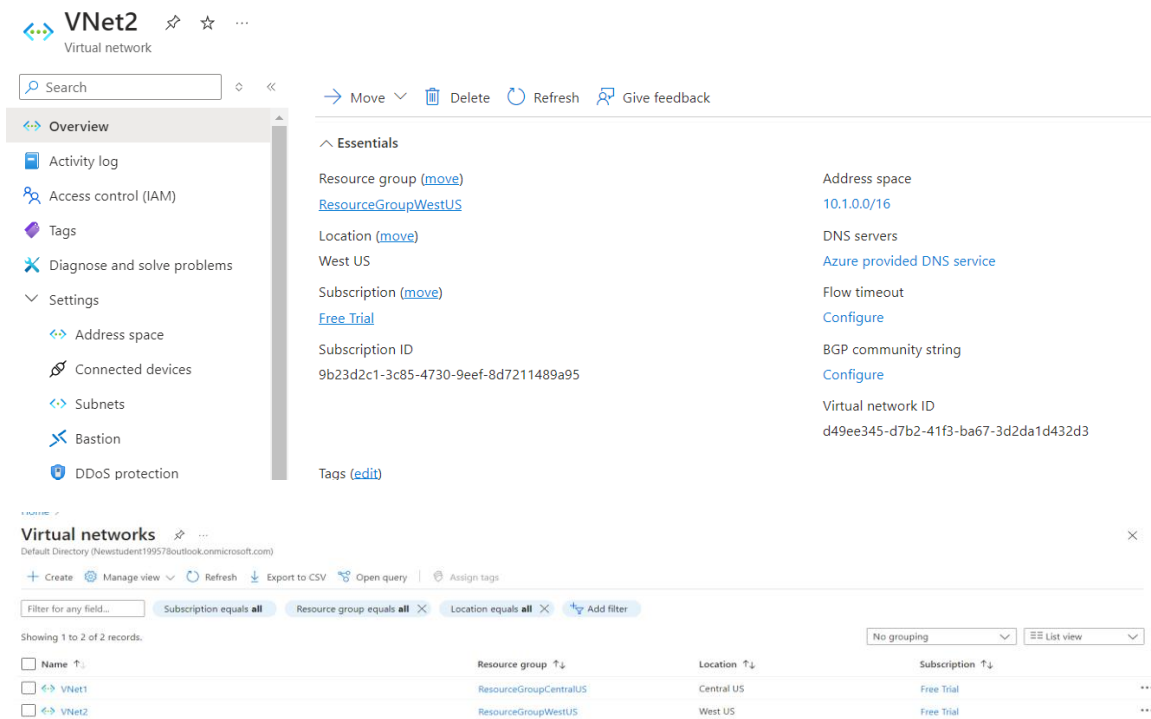
### 2. Create Virtual Networks

- Create two virtual networks, one for each region:

**az network vnet create --resource-group ResourceGroupCentralUS --name VNet1 --  
subnet-name Subnet1**



**az network vnet create --resource-group ResourceGroupWestUS --name VNet2 --subnet-name Subnet2**



### 3. Create Virtual Machines

- Deploy VM1 in Central US and VM2 in West US.

**az vm create --resource-group ResourceGroupCentralUS --name VM1 --image Ubuntu2204 --vnet-name VNet1 --subnet Subnet1 --admin-username azureuser --generate-ssh-keys**

VM1 Virtual machine

Search

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Advisor (1 of 9): Linux virtual machines should enable Azure Disk Encryption or EncryptionAtHost. →

**Virtual machine**

Computer name	VM1
Operating system	Linux (ubuntu 22.04)
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.11.1.12

**Networking**

Public IP address	40.83.14.75 ( Network interface VM1VMNic )
Public IP address (IPv6)	-
Private IP address	10.0.1.4
Private IP address (IPv6)	-
Virtual network/subnet	VNet1/default
DNS name	Configure

**az vm create --resource-group ResourceGroupWestUS --name VM2 --image Ubuntu2204 --vnet-name VNet2 --subnet Subnet2 --admin-username azureuser --generate-ssh-keys**

VM2 Virtual machine

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Advisor (1 of 9): Linux virtual machines should enable Azure Disk Encryption or EncryptionAtHost. →

**Properties** Monitoring Capabilities (7) Recommendations (9) Tutorials

**Virtual machine**

Computer name	VM2
Operating system	Linux (ubuntu 22.04)
VM generation	V2
VM architecture	x64
Agent status	Ready
Agent version	2.11.1.12
Hibernation	Disabled

**Networking**

Public IP address	40.78.96.71 ( Network interface VM2VMNic )
Public IP address (IPv6)	-
Private IP address	10.1.0.4
Private IP address (IPv6)	-
Virtual network/subnet	VNet2/default
DNS name	Configure

Home > Virtual machines

Default Directory (Newstudent19957@outlook.onmicrosoft.com)

+ Create Switch to classic Reservations Manage view Refresh Export to CSV Open query Assign tags Start Restart Stop Delete Services Maintenance

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

Showing 1 to 2 of 2 records.

Name	Subscription	Resource group	Location	Status	Operating system	Size	Public IP address	Disks
VM1	Free Trial	ResourceGroupCentralUS	Central US	Running	Linux	Standard_DS1_v2	40.83.14.75	1
VM2	Free Trial	ResourceGroupWestUS	West US	Running	Linux	Standard_DS1_v2	40.78.96.71	1

## 4. Create V-net Peering

Home > Virtual networks > VNet2

Virtual networks

Default Directory (Newstudent19957@outlook.onmicrosoft.com)

+ Create Manage view

Filter for any field...

Name

VNet1

VNet2

**VNet2 | Peerings**

Search

+ Add Refresh Export to CSV Delete Sync

Virtual network peering enables you to seamlessly connect two or more virtual networks in Azure. The virtual networks appear as one for connectivity purposes. [Learn more](#)

Filter by name...

Name	Peering sync status	Peering...	Remo...	Virtu...
VNet1ToVNet2	Fully Synchronized	Connected	VNet1	Disabled

**VNet1 | Peerings** ☆ ...

Virtual network

Search

+ Add Refresh Export to CSV Delete Sync

Virtual network peering enables you to seamlessly connect two or more virtual networks in Azure. The virtual networks appear as one for connectivity purposes. [Learn more](#)

Filter by name...

Name	Peering sync status	Peeri...	Remo...	Virtu...
VNet1ToVNet2	Fully Synchronized	Connected	VNet2	Disabled

Overview  
Activity log  
Access control (IAM)  
Tags  
Diagnose and solve problems  
Settings  
Address space  
Connected devices

## 5. Test VM Connectivity:

1. Connect to **VM1**
2. Ping the private IP address of **VM2**

Ping 10.1.0.4

```
azureuser@VM1:~$ 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=38.8 ms
64 bytes from 10.1.0.4: icmp_seq=2 ttl=64 time=38.2 ms
64 bytes from 10.1.0.4: icmp_seq=3 ttl=64 time=38.3 ms
64 bytes from 10.1.0.4: icmp_seq=4 ttl=64 time=38.2 ms
64 bytes from 10.1.0.4: icmp_seq=5 ttl=64 time=39.3 ms
64 bytes from 10.1.0.4: icmp_seq=6 ttl=64 time=39.4 ms
64 bytes from 10.1.0.4: icmp_seq=7 ttl=64 time=38.1 ms
64 bytes from 10.1.0.4: icmp_seq=8 ttl=64 time=38.4 ms
64 bytes from 10.1.0.4: icmp_seq=9 ttl=64 time=39.4 ms
64 bytes from 10.1.0.4: icmp_seq=10 ttl=64 time=38.3 ms
64 bytes from 10.1.0.4: icmp_seq=11 ttl=64 time=38.1 ms
64 bytes from 10.1.0.4: icmp_seq=12 ttl=64 time=39.7 ms
64 bytes from 10.1.0.4: icmp_seq=13 ttl=64 time=38.7 ms
64 bytes from 10.1.0.4: icmp_seq=14 ttl=64 time=38.1 ms
64 bytes from 10.1.0.4: icmp_seq=15 ttl=64 time=38.4 ms
64 bytes from 10.1.0.4: icmp_seq=16 ttl=64 time=38.4 ms
64 bytes from 10.1.0.4: icmp_seq=17 ttl=64 time=38.1 ms
64 bytes from 10.1.0.4: icmp_seq=18 ttl=64 time=38.2 ms
```

1. Connect to **VM2**
2. Ping the private IP address of **VM1**

Ping 10.0.1.4

```
azureuser@VM2:~$ 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=38.4 ms
64 bytes from 10.0.1.4: icmp_seq=2 ttl=64 time=38.1 ms
64 bytes from 10.0.1.4: icmp_seq=3 ttl=64 time=38.3 ms
64 bytes from 10.0.1.4: icmp_seq=4 ttl=64 time=41.2 ms
64 bytes from 10.0.1.4: icmp_seq=5 ttl=64 time=38.2 ms
```