

# BUILD MULTIPLE VNET CONNECTION IN DIFFERENT 3 REGIONS AND CONNECT EACH VM WITH ANOTHER VM

## VIRTUAL NETWORK:

### STEP1:Create a virtual Network (vnet1)

The screenshot displays the Azure portal interface for a virtual network named 'vnet1'. The left sidebar shows the navigation menu with options like 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, and Service endpoints. The main content area shows the 'Overview' tab for 'vnet1'. Key details include: Resource group: rg1, Location: North Europe, Subscription: Azure for Students, Subscription ID: 0cd3caea-3a12-4e77-9565-5ea394282db2, Address space: 10.0.0.0/16, DNS servers: Azure provided DNS service, Flow timeout: Configure, BGP community string: Configure, and Virtual network ID: 558ac0be-6d91-4a7d-ae19-1bce33529b5f. Below these details, there are sections for 'Capabilities' including DDoS protection, Azure Firewall, Peerings, Microsoft Defender for Cloud, and Private endpoints, all of which are currently 'Not configured'.

### STEP2:Create a virtual machine (vm1)with same virtual network(vnet1) region.

The screenshot displays the Azure portal interface for a virtual machine named 'vm1'. The left sidebar shows the navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect, Disks, Size, Microsoft Defender for Cloud, Advisor recommendations, Extensions + applications, Availability + scaling, Configuration, Identity, Properties, and Agents. The main content area shows the 'Overview' tab for 'vm1'. Key details include: Resource group: rg1, Status: Running, Location: North Europe (Zone 1), Subscription: Azure for Students, Subscription ID: 0cd3caea-3a12-4e77-9565-5ea394282db2, Availability zone: 1, Operating system: Linux (ubuntu 20.04), Size: Standard E2s v3 (2 vcpus, 16 GiB memory), Public IP address: 20.107.177.54, Virtual network/subnet: vnet1/subnet1, DNS name: Not configured, and Health state: -. Below these details, there are sections for 'Properties' and 'Networking'. The 'Properties' section lists details like Computer name (vm1), Operating system (Linux (ubuntu 20.04)), Image publisher (canonical), Image offer (0001-com-ubuntu-server-focal), Image plan (20\_04-lts-gen2), VM generation (V2), VM architecture (x64), and Agent status (Ready). The 'Networking' section lists details like Public IP address (20.107.177.54), Private IP address (10.0.0.4), and Virtual network/subnet (vnet1/subnet1).

### STEP3: Create a virtual network (vnet2) using another region of vnet1

The screenshot shows the Azure portal interface for a new virtual network named 'vnet2'. The left sidebar contains navigation links for 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, Peering, and Service endpoints. The main content area is divided into 'Essentials' and 'Capabilities' tabs. The 'Essentials' tab shows the following details:

- Resource group: rg1
- Location: East US
- Subscription: Azure for Students
- Subscription ID: 0cd3caea-3a12-4e77-9565-5ea394282db2
- Address space: 20.0.0.0/16
- DNS servers: Azure provided DNS service
- Flow timeout: Configure
- BGP community string: Configure
- Virtual network ID: 839810e9-db40-40bf-ac6b-fd755c0ca2a3

The 'Capabilities' tab shows four sections, all currently 'Not configured':

- DDoS protection:** Configure additional protection from distributed denial of service attacks.
- Azure Firewall:** Protect your network with a stateful L3-L7 firewall.
- Peering:** Seamlessly connect two or more virtual networks.
- Microsoft Defender for Cloud:** Strengthen the security posture of your environment.

At the bottom, there is a 'Private endpoints' section with the description 'Privately access Azure services without sending traffic across internet.' and a 'Not configured' status.

### STEP4: Create a virtual machine (vm2) using virtual network (vnet2) region.

The screenshot shows the Azure portal interface for a new virtual machine named 'vm2'. The left sidebar contains navigation links for Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect, Disks, Size, Microsoft Defender for Cloud, Advisor recommendations, Extensions + applications, Availability + scaling, Configuration, Identity, Properties, and Size. The main content area is divided into 'Essentials' and 'Properties' tabs. The 'Essentials' tab shows the following details:

- Resource group: rg1
- Status: Running
- Location: East US (Zone 1)
- Subscription: Azure for Students
- Subscription ID: 0cd3caea-3a12-4e77-9565-5ea394282db2
- Availability zone: 1
- Operating system: Linux (ubuntu 20.04)
- Size: Standard E2s v3 (2 vcpus, 16 GiB memory)
- Public IP address: 172.171.251.129
- Virtual network/subnet: vnet2/subnet2
- DNS name: Not configured
- Health state: -

The 'Properties' tab shows the following details:

- Virtual machine:**
  - Computer name: vm2
  - Operating system: Linux (ubuntu 20.04)
  - Image publisher: canonical
  - Image offer: 0001-com-ubuntu-server-focal
  - Image plan: 20\_04-its-gen2
  - VM generation: V2
  - VM architecture: x64
  - Agent status: Ready
- Networking:**
  - Public IP address: 172.171.251.129 (Network interface vm2993\_z1)
  - Public IP address (IPv6): -
  - Private IP address: 20.0.0.4
  - Private IP address (IPv6): -
  - Virtual network/subnet: vnet2/subnet2
  - DNS name: Configure

## STEP5: Create another virtual network (vnet3) with another region .

The screenshot displays the Microsoft Azure portal interface for a virtual network named 'vnet3'. The left sidebar shows the navigation menu with options like 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, Peering, and Service endpoints. The main content area shows the 'Essentials' section with the following details:

- Resource group: [rg1](#)
- Location: [East US 2](#)
- Subscription: [Azure for Students](#)
- Subscription ID: 0cd3caea-3a12-4e77-9565-5ea394282db2
- Address space: 30.0.0.0/16
- DNS servers: [Azure provided DNS service](#)
- Flow timeout: [Configure](#)
- BGP community string: [Configure](#)
- Virtual network ID: 6ae02b37-6336-4207-a557-7e041bc980b9

Below the Essentials section, there are tabs for Topology, Properties, Capabilities (5), Recommendations, and Tutorials. The 'Capabilities' tab is active, showing four cards: DDoS protection (Not configured), Azure Firewall (Not configured), Peering (Not configured), and Microsoft Defender for Cloud (Strengthen the security posture of your environment). A 'Private endpoints' section is also visible, indicating it is 'Not configured'.

## STEP6: Create virtual machine using virtual network region

The screenshot displays the Microsoft Azure portal interface for a virtual machine named 'vm3'. The left sidebar shows the navigation menu with options like Overview, Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Networking, Connect, Disks, Size, Microsoft Defender for Cloud, Advisor recommendations, Extensions + applications, Availability + scaling, Configuration, Identity, and Properties. The main content area shows the 'Essentials' section with the following details:

- Resource group: [rg1](#)
- Status: Running
- Location: [East US 2 \(Zone 1\)](#)
- Subscription: [Azure for Students](#)
- Subscription ID: 0cd3caea-3a12-4e77-9565-5ea394282db2
- Availability zone: 1
- Operating system: Linux (ubuntu 20.04)
- Size: Standard E2s v3 (2 vcpus, 16 GiB memory)
- Public IP address: [172.200.216.238](#)
- Virtual network/subnet: [vnet3/subnet3](#)
- DNS name: [Not configured](#)
- Health state: -

Below the Essentials section, there are tabs for Properties, Monitoring, Capabilities (7), Recommendations, and Tutorials. The 'Properties' tab is active, showing details for the virtual machine:

- Computer name: vm3
- Operating system: Linux (ubuntu 20.04)
- Image publisher: canonical
- Image offer: 0001-com-ubuntu-server-focal
- Image plan: 20\_04-lts-gen2
- VM generation: V2
- VM architecture: x64
- Agent status: Ready

The 'Networking' section shows the following details:

- Public IP address: [172.200.216.238](#) (Network interface vm3596\_z1)
- Public IP address (IPv6): -
- Private IP address: 30.0.0.4
- Private IP address (IPv6): -
- Virtual network/subnet: [vnet3/subnet3](#)
- DNS name: [Configure](#)

## PEERING:

### STEP7:vnet1 peering with vnet2

The screenshot shows the Microsoft Azure portal interface for configuring peering between virtual networks. The browser tabs include WhatsApp, Screenshot (71).png, Codemind, azure for students - Y..., vnet1 - Microsoft Az..., NetworkWatcherRG - X, and 74.234.0.91. The URL bar shows the path to vnet1 in the Azure portal. The left sidebar shows the navigation menu with 'Peerings' selected. The main content area displays the 'vnet1 | Peerings' page. A search bar contains 'pe'. The table below shows the peering configuration for vnet1.

Name	Peering status	Peer	Gateway transit
vnet1_vnet2	Connected	vnet2	Disabled

The bottom of the screen shows a Windows taskbar with a search bar, task icons, and system tray information including temperature (28°C), network status, and time (11:30, 12-09-2023).

### STEP8:vnet2 peering with vnet3

The screenshot shows the Microsoft Azure portal interface for configuring peering between virtual networks. The browser tabs include WhatsApp, Screenshot (71).png, Codemind, azure for students - Y..., vnet2 - Microsoft Az..., NetworkWatcherRG - X, and 74.234.0.91. The URL bar shows the path to vnet2 in the Azure portal. The left sidebar shows the navigation menu with 'Peerings' selected. The main content area displays the 'vnet2 | Peerings' page. A search bar contains 'pe'. The table below shows the peering configuration for vnet2.

Name	Peering status	Peer	Gateway transit
vnet2_vnet1	Connected	vnet1	Disabled
vnet2_vnet3	Updating	vnet3	Disabled

The bottom of the screen shows a Windows taskbar with a search bar, task icons, and system tray information including temperature (28°C), network status, and time (11:31, 12-09-2023).

## STEP9:vnet3 peering with vnet2

Home > vnet3

**vnet3 | Peerings** ☆ ...

Virtual network

Filter by name... Peering status == all

Name ↑↓	Peering status ↑↓	Peer ↑↓	Gateway transit ↑↓	
<input type="checkbox"/> vnet3_vnet2	Connected	vnet2	Disabled	...
<input type="checkbox"/> vnet3_vnet1	Updating	vnet1	Disabled	...

28°C Mostly cloudy

## STEP8:

Home > vm2

**vm2** ☆ ...

Virtual machine

Search

Connect Start Restart Stop Capture Delete Refresh Open in mobile Feedback CLI / PS

**Overview**

Activity log Access control (IAM) Tags Diagnose and solve problems Settings Networking Connect

**Essentials**

Resource group (move) : rg1

Status : Running

Location : East US (Zone 1)

Subscription (move) : Azure for Students

Subscription ID : 0cd3caea-3a12-4e77-9565-5ea394282db2

Availability zone : 1

Tags (edit) : Add tags

Operating system : Linux (ubuntu 20.04)

Size : Standard E2 Copied .16 GiB memory)

Public IP address : 172.171.251.129

Virtual network/subnet : vnet2/subnet2

DNS name : Not configured

Health state : -

[JSON View](#)

Bash

```
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

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

bhandavi@vm1:~$ ssh bhandavi@172.171.251.129
The authenticity of host '172.171.251.129 (172.171.251.129)' can't be established.
ECDSA key fingerprint is SHA256:cvz11D7n/gcrFYrRVfQ3KgPQ0vMap1U3jECnrZNm1w8.
```

30°C Mostly cloudy

vm2 - Microsoft Azure

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

21A91A0410@aec.edu.in  
ADITYA EDUCATIONAL INSTITUTE...

Home >

vm2  
Virtual machine

Search

Connect Start Restart Stop Capture Delete Refresh Open in mobile Feedback CLI / PS

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Essentials

Resource group (move) : rg1

Status : Running

Location : East US (Zone 1)

Subscription (move) : Azure for Students

Subscription ID : 0cd3caea-3a12-4e77-9565-5ea394282db2

Availability zone : 1

Tags (edit) : Add tags

Operating system : Linux (ubuntu 20.04)

Size : Standard E2 Copied 16 GiB memory)

Public IP address : 172.171.251.129

Virtual network/subnet : vnet2/subnet2

DNS name : Not configured

Health state : -

JSON View

Bash

```
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
bhandavi@vm2:~$
```

vm3 - Microsoft Azure

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

21A91A0410@aec.edu.in  
ADITYA EDUCATIONAL INSTITUTE...

Home >

vm3  
Virtual machine

Search

Connect Start Restart Stop Capture Delete Refresh Open in mobile Feedback CLI / PS

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Settings

Networking

Connect

Essentials

Resource group (move) : rg1

Status : Running

Location : East US 2 (Zone 1)

Subscription (move) : Azure for Students

Subscription ID : 0cd3caea-3a12-4e77-9565-5ea394282db2

Availability zone : 1

Tags (edit) : Add tags

Operating system : Linux (ubuntu 20.04)

Size : Standard E2 Copied 16 GiB memory)

Public IP address : 172.200.216.238

Virtual network/subnet : vnet3/subnet3

DNS name : Not configured

Health state : -

JSON View

Bash

```
The programs included with the Ubuntu system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
bhandavi@vm3:~$
```

Microsoft Azure portal interface showing the 'vnet1' Virtual Network Diagram.

**Page Header:** Microsoft Azure | Search resources, services, and docs (G+/I) | 21A91A0410@aec.edu.in

**Breadcrumbs:** Home > vnet1

**Left Navigation Panel:**

- Service endpoints
- Private endpoints
- Properties
- Locks
- Monitoring
  - Alerts
  - Metrics
  - Diagnostics settings
  - Logs
  - Connection monitor (classic)
  - Diagram (selected)
- Automation
  - Tasks (preview)
  - Export template
- Help
  - Connection troubleshoot
  - Support + Troubleshooting

**Main Content Area:**

**vnet1 | Diagram** ☆ ...

Virtual network

Diagram showing the Virtual Network (vnet1) topology. The diagram includes a central box labeled 'vnet1' with a sub-label 'Virtual Network vnet1'. To the right, there is a detailed view of the network topology, showing connections between various components, including a 'vnet1' box and a 'vnet1' box. The diagram is interactive, with zoom controls (plus, minus, and reset) visible on the right side.

**Bottom Taskbar:** 30°C Mostly cloudy | Search | ENG IN | 11:41 12-09-2023