

# Active Directory Domain Services Deployment with Azure Virtual Network Subnetting

## Project Overview

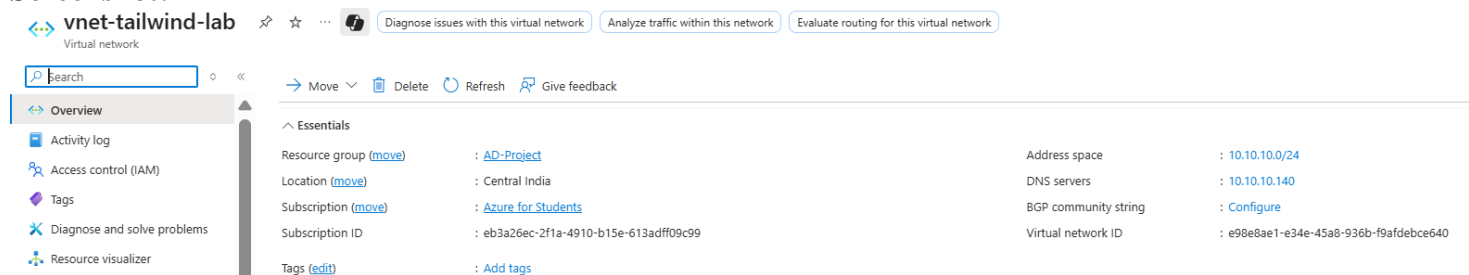
This guided project prepares you to manage Active Directory Domain Services (AD DS) by walking through:

- Creating and deploying domains
- Configuring group policy objects
- Establishing and enforcing password policies
- Maintaining overall security of Active Directory

## 1. Introduction to Azure Virtual Networks

Azure Virtual Networks (VNets) are the backbone for securely running Azure resources. VNets allow your resources, such as VMs and domain controllers, to communicate privately and securely.

### Screenshot:



## 2. Creating the Virtual Network

### Step 1: Select Subscription and Resource Group

- Subscription: Azure for Students
- Resource group: AD-Project

### Step-2: Configure Virtual Network Details

- Name: vnet-tailwind-lab
- Region: Central India

Screenshot:

BasicsSecurityIP addressesTagsReview + 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.](#)

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 \*

AD-Project

Create new

Instance details

Virtual network name \*

vnet-tailwind-lab

Region \*

(Asia Pacific) Central India

Deploy to an Azure Extended Zone

3. Subnetting the Virtual Network

Defining Address Space

- IPv4 address space: 10.10.10.0/24
- Division into subnets, e.g., Azure Bastion and Servers

Screenshot:

Create virtual network ...

BasicsSecurityIP addressesTagsReview + create

Configure your virtual network address space with the IPv4 and IPv6 addresses and subnets you need. [Learn more](#)

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](#)

☐ Allocate using IP address pools. [Learn more](#)

☒ Add a subnet

10.10.10.0/24

10.10.10.0

/24

10.10.10.0 - 10.10.10.255256 addresses

Delete address space

Subnets	IP address range	Size	NAT gateway
<a href="#">AzureBastionSubnet</a>	10.10.10.0 - 10.10.10.63	/26 (64 addresses)	-

Add IPv4 address space

Previous

Next : Tags

Review + create

Azure Bastion Subnet:

- Name: AzureBastionSubnet
- Address range: 10.10.10.0/26 (64 addresses)

Servers Subnet:

- Name: servers
- Address range: 10.10.10.128/25 (128 addresses)

Screenshot:

BasicsSecurityIP addressesTagsReview + create

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10.10.10.0/24

10.10.10.0

/24

10.10.10.0 - 10.10.10.255256 addresses

Subnets	IP address range	Size	NAT gateway
<a href="#">AzureBastionSubnet</a>	10.10.10.0 - 10.10.10.63	/26 (64 addresses)	-

Add IPv4 address space

Screenshot:

Create virtual network ...

Validation passed

BasicsSecurityIP addressesTagsReview + create

[View automation template](#)

Basics

Subscription

Azure for Students

Resource Group

AD-Project

Name

vnet-tailwind-lab

Region

Central India

Security

Azure Bastion

Enabled

- Name

(New) vnet-tailwind-lab-Bastion

- Public IP Address

(New) vnet-tailwind-lab-bastion

Azure Firewall

Disabled

Azure DDoS Network Protection

Disabled

IP addresses

Address space

10.10.10.0/24 (256 addresses)

Subnet

AzureBastionSubnet (10.10.10.0/26) (64 addresses)

Subnet

servers (10.10.10.128/25) (128 addresses)

Tags

## Screenshot:

# Add a subnet



### Security

Simplify internet access for virtual machines by using a network address translation gateway. Filter subnet traffic using a network security group. [Learn more](#)

NAT gateway ⓘ

None



[Create new](#)

**i** A NAT gateway is recommended for outbound internet access from subnets. Edit the subnet to add a NAT gateway. [Learn more](#)

Network security group ⓘ

None



[Create new](#)

Route table

None



### Service Endpoints

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

Services

Remove service endpoint

Select a service endpoint



### Subnet Delegation

Delegate subnet to a service

None



### Network Policy for Private Endpoints

The network policy affects the types of network policies that control traffic going to the private endpoints in this subnet. [Learn more](#)

Private endpoint network policy

Disabled



Azure Bastion provides secure RDP/SSH connectivity without exposing VMs to public IPs.

### Enabling Bastion:

- Hostname: vnet-tailwind-lab-Bastion
- Public IP: (New) vnet-tailwind-lab-bastion

### Screenshot:

## Create virtual network ...

Basics Security IP addresses Tags Review + create

Enhance the security of your virtual network with these additional paid security services. [Learn more](#) ↗

### Virtual network encryption

Enable Virtual network encryption to encrypt traffic traveling within the virtual network. Virtual machines must have accelerated networking enabled. Traffic to public IP addresses is not encrypted. [Learn more](#). ↗

Virtual network encryption ☐

### Azure Bastion

Azure Bastion is a paid service that provides secure RDP/SSH connectivity to your virtual machines over TLS. When you connect via Azure Bastion, your virtual machines do not need a public IP address. [Learn more](#). ↗

Enable Azure Bastion ☒

Azure Bastion host name

Azure Bastion public IP address \*  [Create a public IP address](#)

## Screenshot:

### Create virtual network ...

Basics Security IP addresses Tags Review + create

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☐ Allocate using IP address pools. [Learn more](#)

☐ Add a subnet

10.10.10.0/24 [Delete address space](#)

10.10.10.0 /24

10.10.10.0 - 10.10.10.255 256 addresses

Subnets	IP address range	Size	NAT gateway
<a href="#">AzureBastionSubnet</a>	10.10.10.0 - 10.10.10.63	/26 (64 addresses)	- <a href="#">edit</a> <a href="#">delete</a>
<a href="#">servers</a>	10.10.10.128 - 10.10.10.255	/25 (128 addresses)	- <a href="#">edit</a> <a href="#">delete</a>

Add IPv4 address space ☐

Validate configuration before deployment. Review network name, group, region, address space, subnets, and Bastion.

## Screenshot:

Azure Bastion protects your virtual machines by secure and seamless RDP & SSH connectivity without the need to expose them through public IP addresses. [Learn more](#)

Using Bastion: [vnet-tailwind-lab-Bastion](#)

Provisioning State: **Succeeded**

Select a VM to connect to \*

Please enter username and password to your virtual machine to connect using Bastion.

Authentication Type ⓘ

VM Password

Username ⓘ

VM Password ⓘ


☒ Open in new browser tab

Connect

A summary overview pane after deployment shows address range, DNS, region, and resource group.

Screenshot:

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.

 Search subnets

<input type="checkbox"/>	Name ↑	IPv4	IPv6	Available IPs	Delegated to	Security group	Route table
<input type="checkbox"/>	<a href="#">servers</a>	10.10.10.128/25	-	123	-	-	-
<input type="checkbox"/>	<a href="#">AzureBastionSubnet</a>	10.10.10.0/26	-	57	-	-	-

Optional security, routing, and endpoint settings for each subnet.