Server Deployment: TAILWIND-DC1

1. Setup

To create the TAILWIND-DC1 server:

- Navigate to Azure Virtual Machines and select "Create."
- Select your subscription and resource group Azure for Students, AD-Project).
- Enter the VM name: TAILWIND-DC1.
- Select the region: Central India.
- Choose the availability zone and security type.
- Select the image: Windows Server 2022 Datacenter - x64 Gen2.
- Set VM size: Standard_D2s_v3 2 vCPUs, 8 GiB memory).
- Configure administrator username and password e.g., TAILWIND-ADMIN1).
- No public inbound ports enabled for security.

Screenshots:

Create a virtual machine ...

| Basics | Disks | Networking | Management | Monitoring | Advanced | Tags | Review + create |

Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. Learn more ☐

ⓘ This subscription may not be eligible to deploy VMs of certain sizes in certain regions.

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 machine name * ⓘ
> TAILWIND-DC1

Region * ⓘ
> (Asia Pacific) Central India
> Deploy to an Azure Extended Zone

Availability options ⓘ
> Availability zone

Zone options ⓘ
> ⦿ Self-selected zone
> Choose up to 3 availability zones, one VM per zone
>
> ◯ Azure-selected zone (Preview)
> Let Azure assign the best zone for your needs

ⓘ Using an Azure-selected zone is not supported in region 'Central India'.

Screenshots:

Create a virtual machine ···

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. Learn more ⧉

VM disk encryption

Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (OS and data disks) at rest by default when persisting it to the cloud.

Encryption at host ⓘ   ☐

> ⓘ Encryption at host is not registered for the selected subscription. Learn more ⧉

OS disk

OS disk size ⓘ | Image default (127 GiB)   ⌄ |

OS disk type * ⓘ | Standard HDD (locally-redundant storage)   ⌄ |

The selected VM size supports premium disks. We recommend Premium SSD for high IOPS workloads. Virtual machines with Premium SSD disks qualify for the 99.9% connectivity SLA.

Delete with VM ⓘ   ☑

Key management ⓘ | Platform-managed key   ⌄ |

Enable Ultra Disk compatibility ⓘ   ☐

Data disks for TAILWIND-DC1

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GiB)	Disk type	Host caching	Delete with VM ⓘ

Create and attach a new disk   Attach an existing disk

< Previous		Next : Networking >		**Review + create**

Screenshots:

Create a virtual machine ···

Basics **Disks** Networking Management Monitoring Advanced Tags Review + create

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| < Previous | Next : Networking > | **Review + create** |

2. Review of the Setup

After configuring your VM, Azure provides a comprehensive review section prior to deployment. This is essential for confirming the VM's settings and making sure everything is aligned with the design requirements.

- Basics: Subscription, resource group, VM name, location, image, security settings, VM size, inbound ports, and admin username.

Screenshots:

Basics

Subscription	Azure for Students
Resource group	AD-Project
Virtual machine name	TAILWIND-DC1
Region	Central India
Availability options	Availability zone
Zone options	Self-selected zone
Availability zone	1
Security type	Trusted launch virtual machines
Enable secure boot	Yes
Enable vTPM	Yes
Integrity monitoring	No
Image	Windows Server 2022 Datacenter - Gen2
VM architecture	x64
Size	Standard D2s v3 (2 vcpus, 8 GiB memory)
Enable Hibernation	No
Username	TAILWIND-ADMIN1
Public inbound ports	None
Already have a Windows license?	No
Azure Spot	No

Continued….

- Disks: OS disk size/type, managed disk status, ephemeral disk, delete behavior. Networking: VNet name, subnet, public IP assignment, accelerated networking, and NIC behaviors.

Screenshots:

Disks

OS disk size	Image default
OS disk type	Standard HDD LRS
Use managed disks	Yes
Delete OS disk with VM	Enabled
Ephemeral OS disk	No

Networking

Virtual network	vnet-tailwind-lab
Subnet	servers
Public IP	None
Accelerated networking	On
Place this virtual machine behind an existing load balancing solution?	No
Delete NIC when VM is deleted	Disabled

- Advanced: Extensions, VM applications, cloud-init, disk controller, placement groups. R4)

Advanced

Extensions	None
VM applications	None
Cloud init	No
User data	No
Disk controller type	SCSI
Proximity placement group	None
Capacity reservation group	None

[< Previous] [Next >] [**Create**]

Continued….

- Management & Monitoring: Defender for Cloud tier, managed identity, backup, diagnostics, patching, and alerts.

Screenshots:

Management

Microsoft Defender for Cloud	Basic (free)
System assigned managed identity	Off
Login with Microsoft Entra ID	Off
Auto-shutdown	Off
Backup	Disabled
Site Recovery	Disabled
Enable periodic assessment	Off
Enable hotpatch	Off
Patch orchestration options	OS-orchestrated patching: patches will be installed by OS

Monitoring

Alerts	Off
Boot diagnostics	On
Enable OS guest diagnostics	Off
Enable application health monitoring	Off

Continued….

3. IP Configuration

Custom DNS Configuration: Set the DNS server for your virtual network to enable internal name resolution and support Active Directory deployment.

- DNS Servers: Custom
- IP Address: 10.10.10.140 static IP assigned to TAILWIND-DC1 after deployment)
  Screenshot: VNET-IP1)

Continued….

Assigning a Static Private IP to TAILWIND-DC1

- Open the network interface settings for TAILWIND-DC1.
- Choose Static under Private IP address allocation.
- Set the desired IP e.g., 10.10.10.140).

Screenshots:

Validating Allowed Address Range

- Azure will only permit static IPs that fall within the available IP pool of the selected subnet.
- Attempting to assign an address outside the valid or reserved range gives an error.

Screenshots:

Screenshots:

Edit IP configuration
tailwind-dc123_z1   ✕

ⓘ A primary IP configuration already exists. Any additional IP configurations will be secondary.
    The virtual network this network interface is attached to only supports IPv4. Learn more ⬈

Name *   ipconfig1

IP version   IPv4

Type   Primary

Private IP address settings

Allocation   ◯ Dynamic
                                ◉ Static

Private IP address * | 10.10.10.140 |

Public IP address settings

Associate public IP address   ☐

Save   Cancel   ⥴ Give feedback

Continued….

4. Promotion to Active Directory Domain Services

a) Install the AD DS Role and Begin Promotion

- Use Server Manager's "Add Roles and Features Wizard."
- Install roles: Active Directory Domain Services, Group Policy Management, AD Admin Center, etc.

Screenshot:
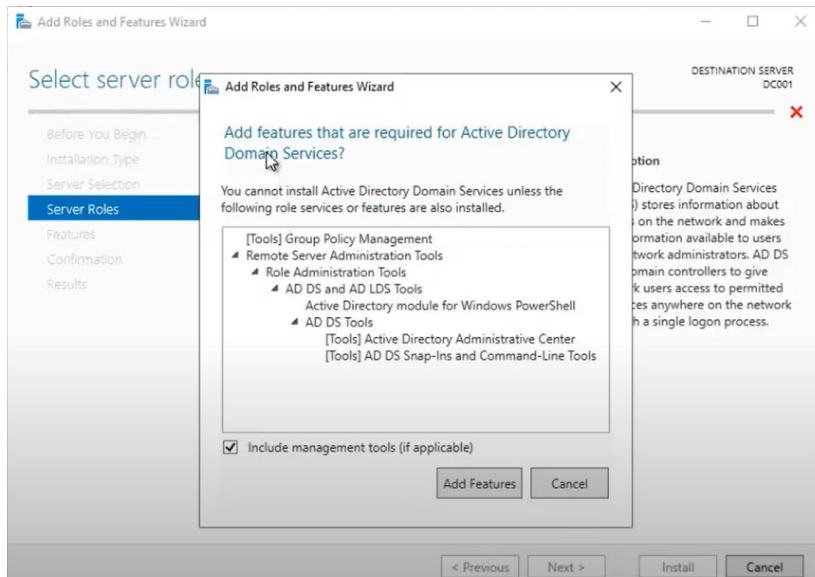
b) Deployment Configuration New Forest)

- Select: Add a new forest
- Set root domain name: tailwindtraders.internal

Screenshot:
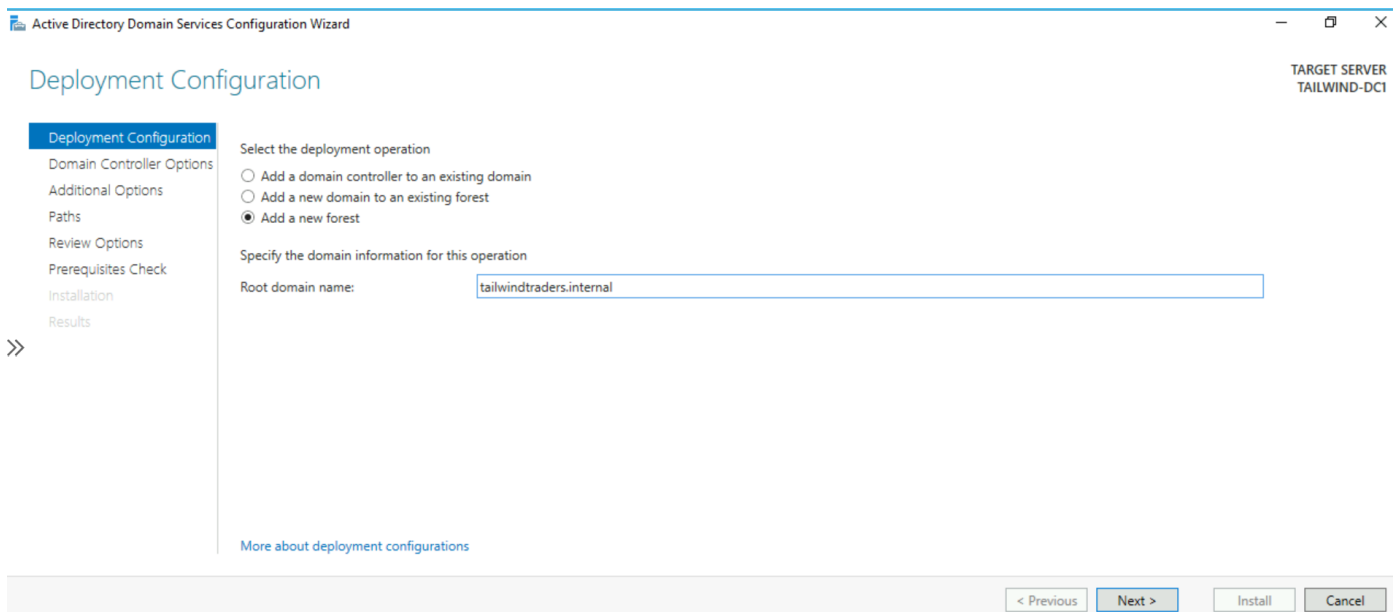
c) Domain Controller Options

- Set forest & domain functional level: Windows Server 2016
- Enable Domain Name System DNS), Global Catalog GC)
- Set Directory Services Restore Mode DSRM) password

Screenshot:

d) DNS Options

- Decide on DNS delegation (usually unchecked)
- Review warning if parent zone isn't on Windows DNS

Screenshot:

e) Additional Options

- Verify or change NetBIOS name (e.g., TAILWINDTRADERS)

Screenshot:

f) Paths

- Set database, log, and SYSVOL paths as needed defaults: C:\Windows\NTDS, C:\Windows\SYSVOL)

Screenshot:

g) Review and Install

- Run prerequisites check, then install
- Monitor installation progress

Screenshot:
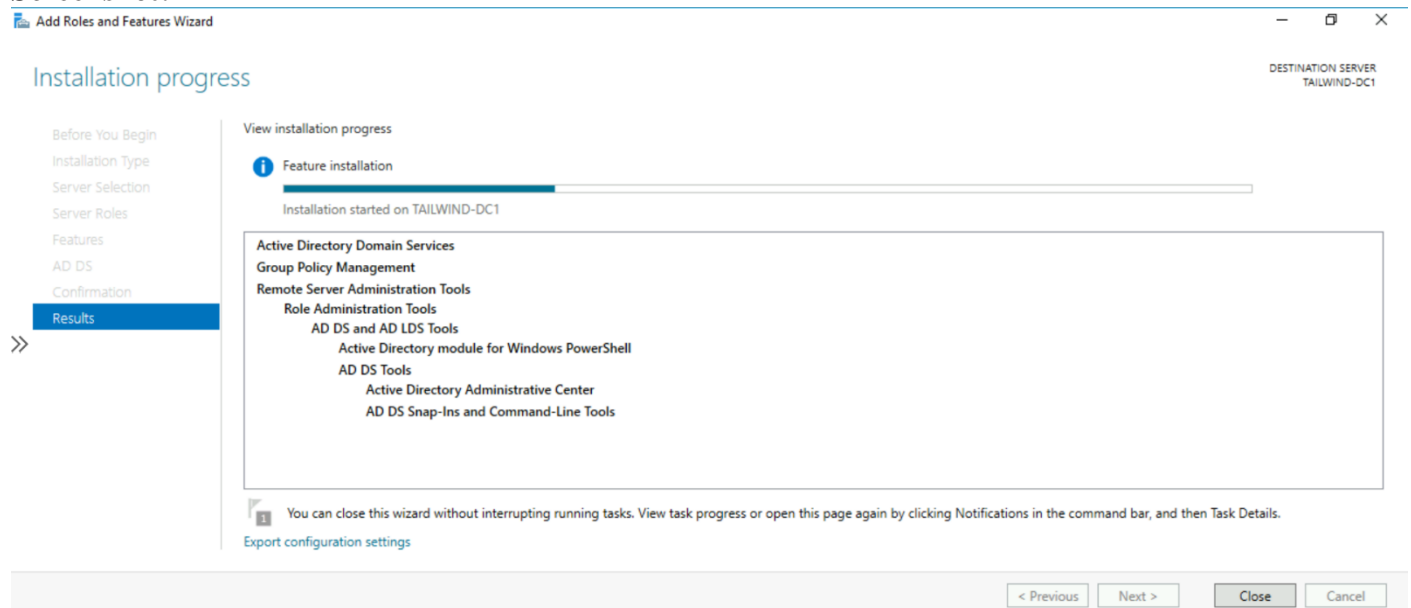
Continued….

Review Options - AD DS Promotion TAILWIND-DC1)

Carefully review all selected options before installation.

- Configuration summary: first AD domain controller in a new forest.
- New domain: tailwindtraders.internal
- NetBIOS name: TAILWINDTRADERS
- Forest/domain level: Windows Server 2016
- Global Catalog/DNS: Enabled
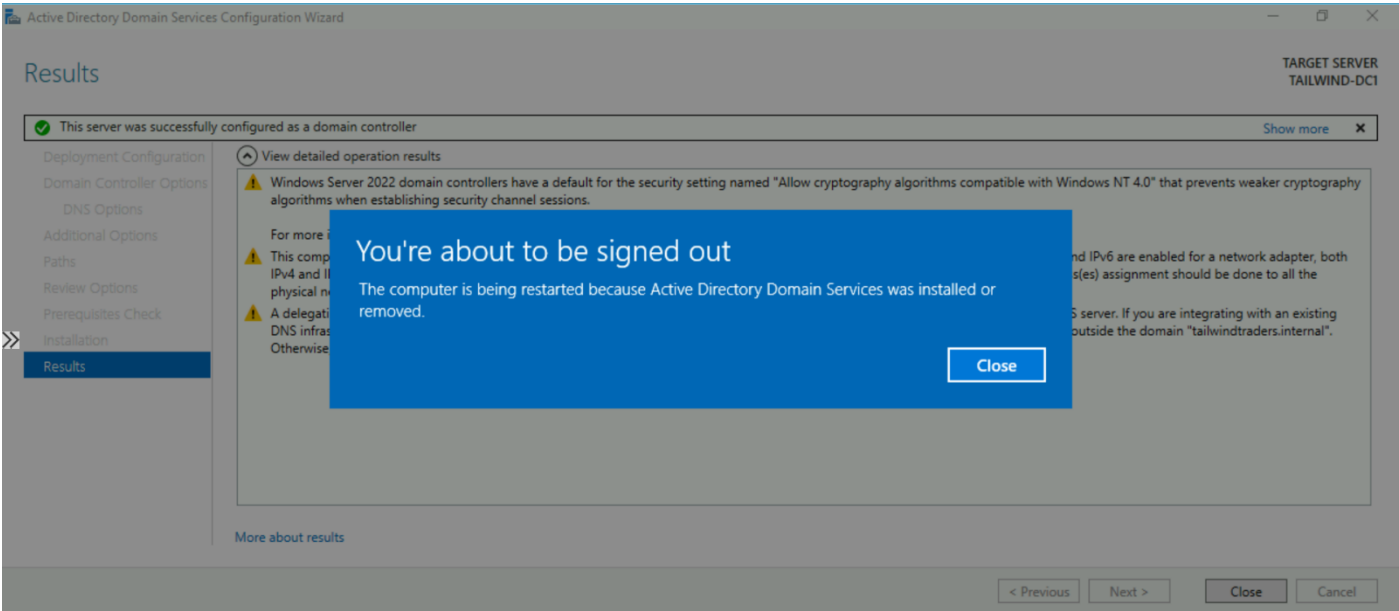- Database/log/SYSVOL paths confirmed

Screenshots:

Confirmation and Verification: Successful Promotion to AD DS

After configuration and review, the server is promoted to domain controller.

a) Promotion Confirmation:

- Successful configuration, restart required to finalize.

Screenshot:

b) AD DS Console Verification:

- Server appears online, correct static IP, healthy status.

Screenshot: