

Practical No: 4

setup using Domain Controller

Deploy DC and Install AD Connect to sync users to AAD

Agenda:

Section 3: Implement Azure Virtual Desktop Host pool

1. Create VM
2. Deploy Domain Controller
3. Install AD connect to sync users to AAD
4. Reference: - <https://www.youtube.com/watch?v=1corwQ5DlaU&list=PL-7q6zBuziYE9ZMWhigjU6VXI0v1mLnPL&index=3>

Steps to setup AVD using Domain Controller:

1. Create VM:

- Sign in Azure portal and Click to Create a new virtual Machine and Deploying Region as Europe Norway East also Available options selected as no infrastructure
- In image Select Windows 2019, only 2016 and 2019 Server Manager is available, by using 2019 we can Deploy Domain Controller

Microsoft Azure Upgrade Search resources, services, and docs (G+/I) Piyush@nil DEFAULT DIREC

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 [Configure security features](#)

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

VM architecture ☐ Arm64 ☒ x64

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

Section 3: Implement Azure Virtual Desktop Host pool

- Select a Size for your VM from the drop-down for your computer resources such as RAM, Memory as per requirements.
- Give Administrator Account username and Password

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Home > Virtual machines >

Create a virtual machine

⚠ Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.

Size * See all sizes

Enable Hibernation (preview) ☐
 ⓘ To enable Hibernation, you must register your subscription. [Learn more](#) ⓘ

Administrator account

Username * ✓

Password * ✓

Confirm password * ✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

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

- Select Disk size as per requirement

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Home > Virtual machines >

Create a virtual machine

default when persisting it to the cloud.

Encryption at host ☐
 ⓘ Encryption at host is not registered for the selected subscription. [Learn more about enabling this feature](#) ⓘ

OS disk

OS disk size
 ⓘ Some images are, by default, smaller than the selected OS disk size. [Click here to learn how to expand your disk partition size after you create your VM.](#) ⓘ

OS disk type *
 Delete with VM ☒
 Key management
 Enable Ultra Disk compatibility ☐
 ⓘ Ultra disk is not supported in Malaysia East

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

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- In Networking keep Default

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Home > Virtual machines >

Create a virtual machine

Basics Disks **Networking** Management Monitoring 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 * (new) Domain1-vnet
 [Create new](#)

Subnet * (new) default (10.2.0.0/24)
 [Create new](#)

Public IP (new) Domain1-ip
 [Create new](#)

NIC network security group
 ☐ None
 ☒ Basic
 ☐ Advanced

Public inbound ports *
 ☐ None
 ☒ Allow selected ports

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

- Click to Create VM

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Home >

CreateVm-MicrosoftWindowsServer.WindowsServer-201-20240212110250 | Overview

Deployment

Search Delete Cancel Redeploy Download Refresh

Overview Inputs Outputs Template

✓ Your deployment is complete

Deployment name: CreateVm- MicrosoftWindowsServer.WindowsSe... Start time: 12/02/2024, 11:05:04
Subscription: Free Trial Correlation ID: 84e88e10-8b79-46af-9d1e-397c2e812258
Resource group: Domain1

Deployment details

Next steps

Setup auto-shutdown Recommended
Monitor VM health, performance and network dependencies Recommended
Run a script inside the virtual machine Recommended

[Go to resource](#) [Create another VM](#)

Give feedback
Tell us about your experience with deployment

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[Set up cost alerts >](#)

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Azure experts are service provider partn who can help manage your assets on Az and be your first line of support.
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- VM is Ready

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Home >

Domain1

Virtual machine

Search Connect Start Restart Stop Hibernate (preview) Capture Delete Refresh Open in mobile

Overview Activity log Access control (IAM) Tags Diagnose and solve problems

Connect Connect Bastion Windows Admin Center

Networking Network settings Load balancing Application security groups Network manager

Settings

Essentials JSON View

Resource group [\(move\)](#) [Domain1](#)
Status Running
Location East US 2
Subscription [\(move\)](#) [Free Trial](#)
Subscription ID 388c354a-444c-43d2-876d-2e1c79b4308f

Operating system Windows (Windows Server 2019 Datacenter)
Size Standard DS1 v2 (1 vcpu, 3.5 GiB memory)
Public IP address [20.119.169.184](#)
Virtual network/subnet [Domain1-vnet/default](#)
DNS name [Not configured](#)
Health state -

Tags [\(edit\)](#) [Add tags](#)

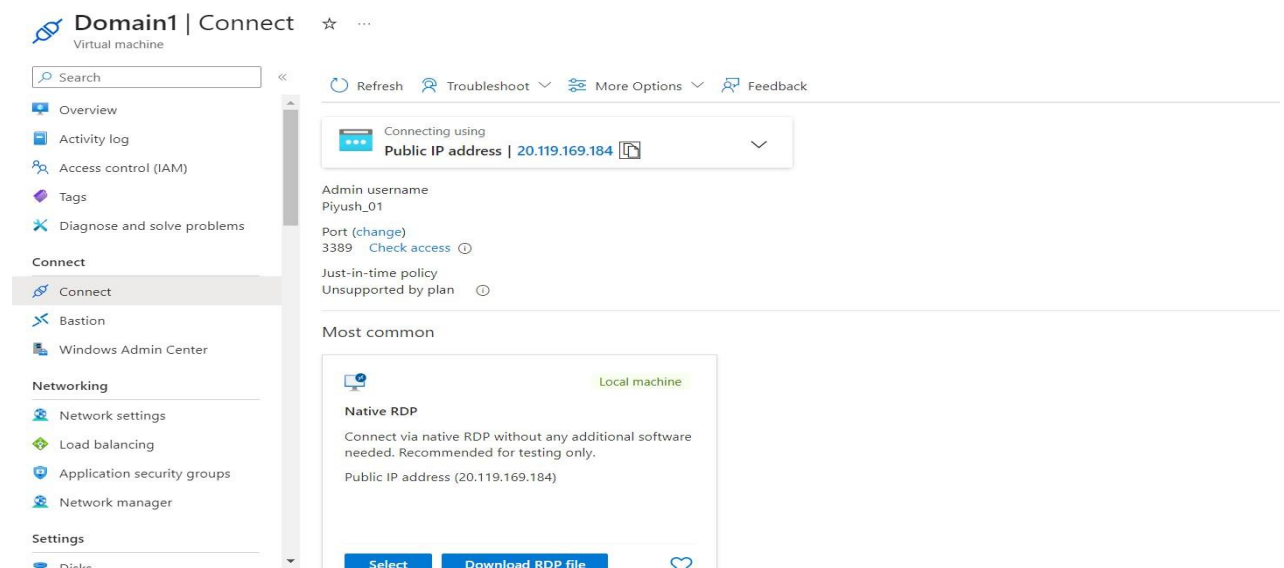
Properties Monitoring Capabilities (8) Recommendations Tutorials

Virtual machine
Computer name Domain1
Operating system Windows (Windows Server 2019)

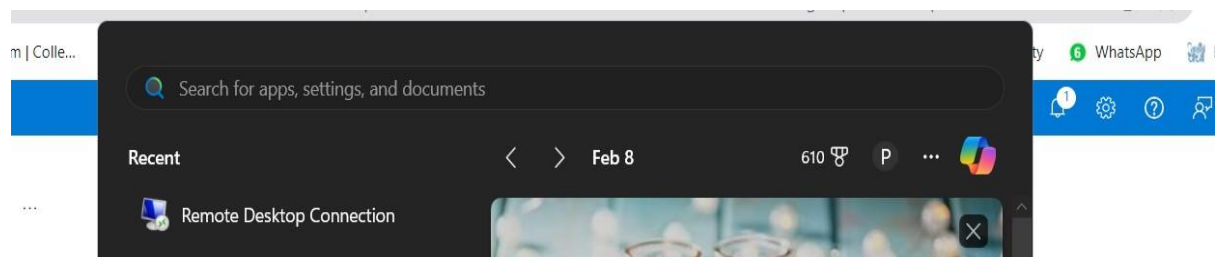
Networking
Public IP address [20.119.169.184](#) (Network interface [domain1598](#))

Section 3: Implement Azure Virtual Desktop Host pool

- Click to Connect
- Copy the Public IP



- Search into windows search bar Remote Desktop Connection

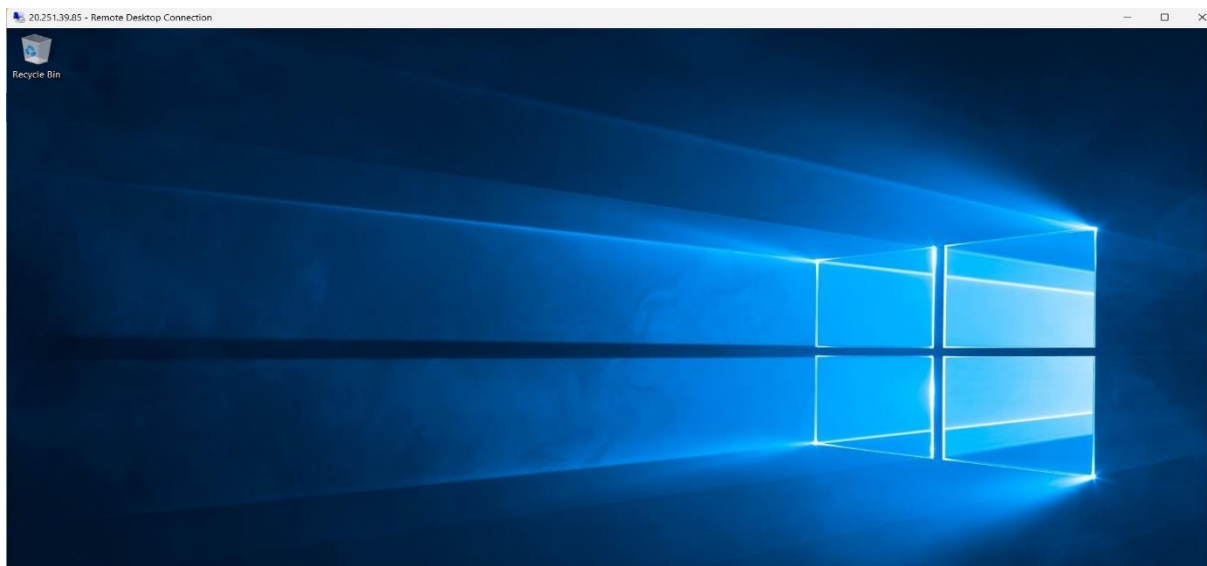


- Paste the public ip
- Click to Connect



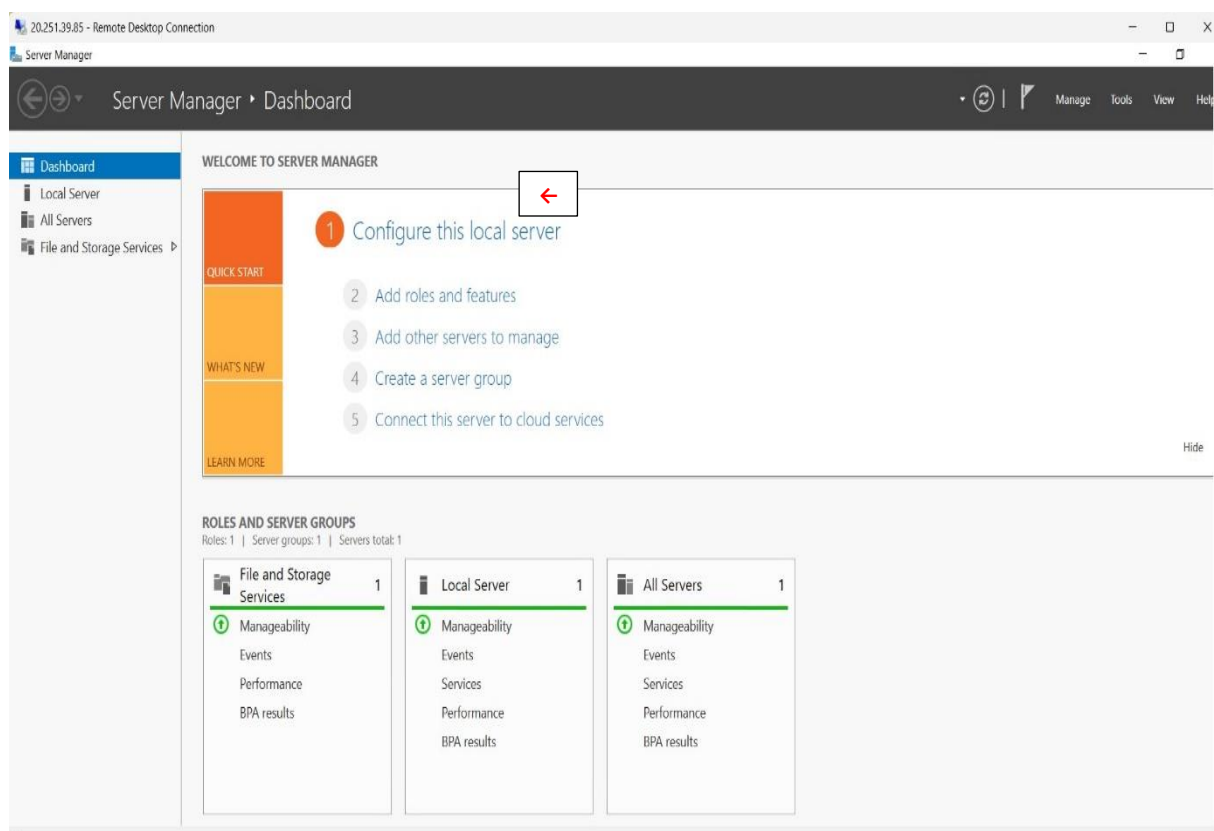
Section 3: Implement Azure Virtual Desktop Host pool

- VM is ready



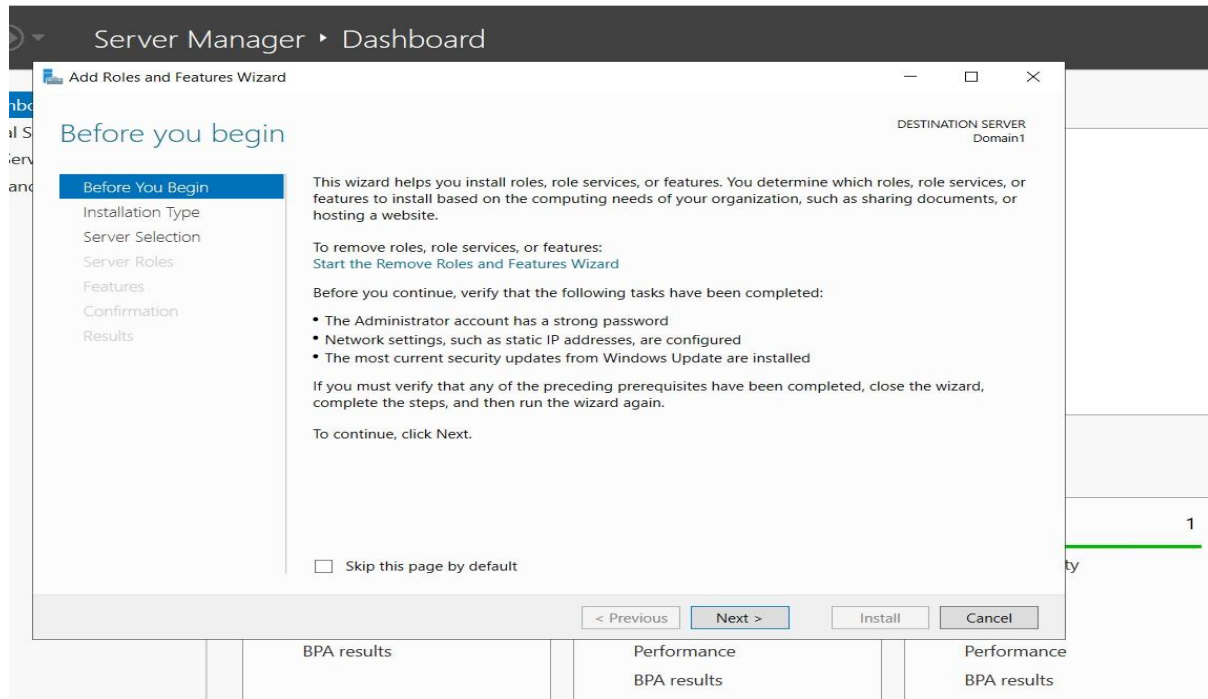
2. Deploy Domain Controller:

- Then open server Manager
- Click to Add roles and Features

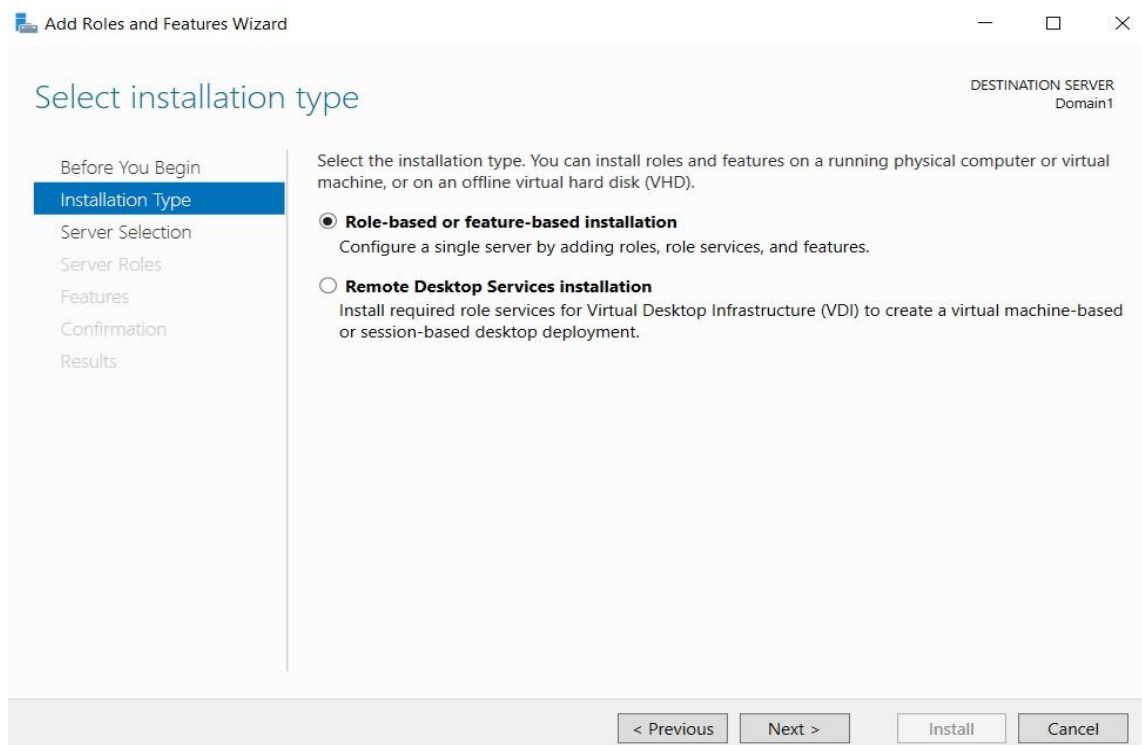


- Click to Next

Section 3: Implement Azure Virtual Desktop Host pool

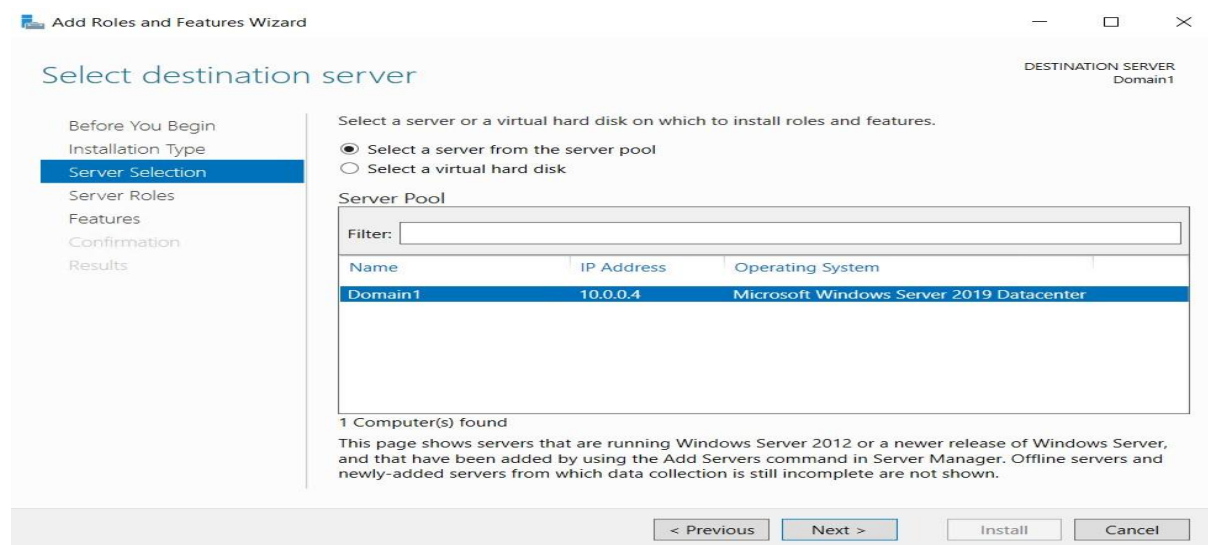


- Installation Type- Click next

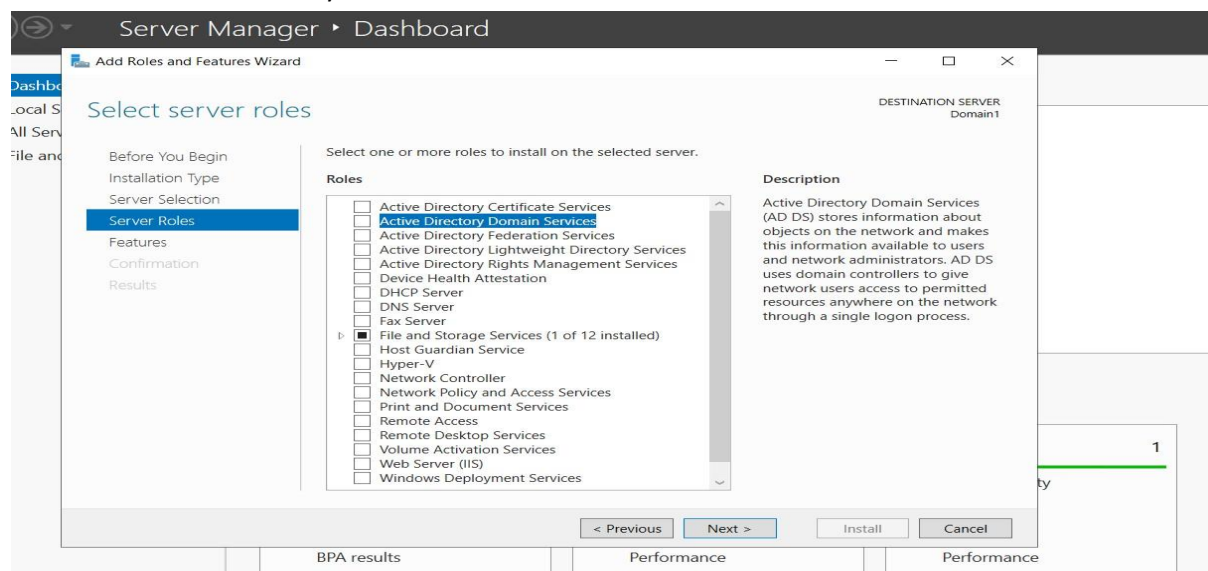


Section 3: Implement Azure Virtual Desktop Host pool

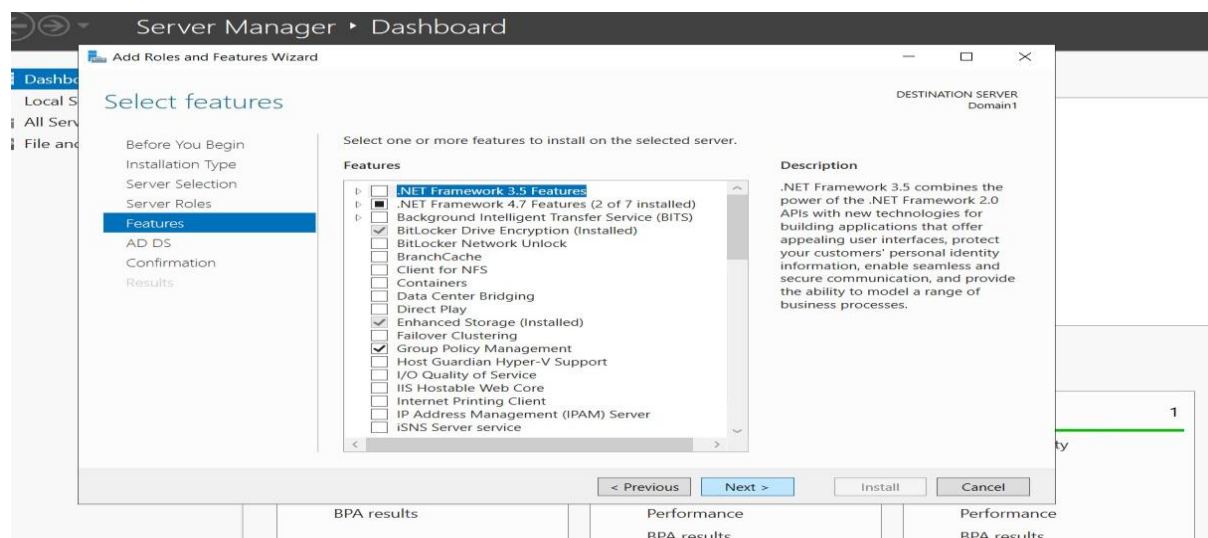
- Click to Next



- Select Active Directory Domain Services

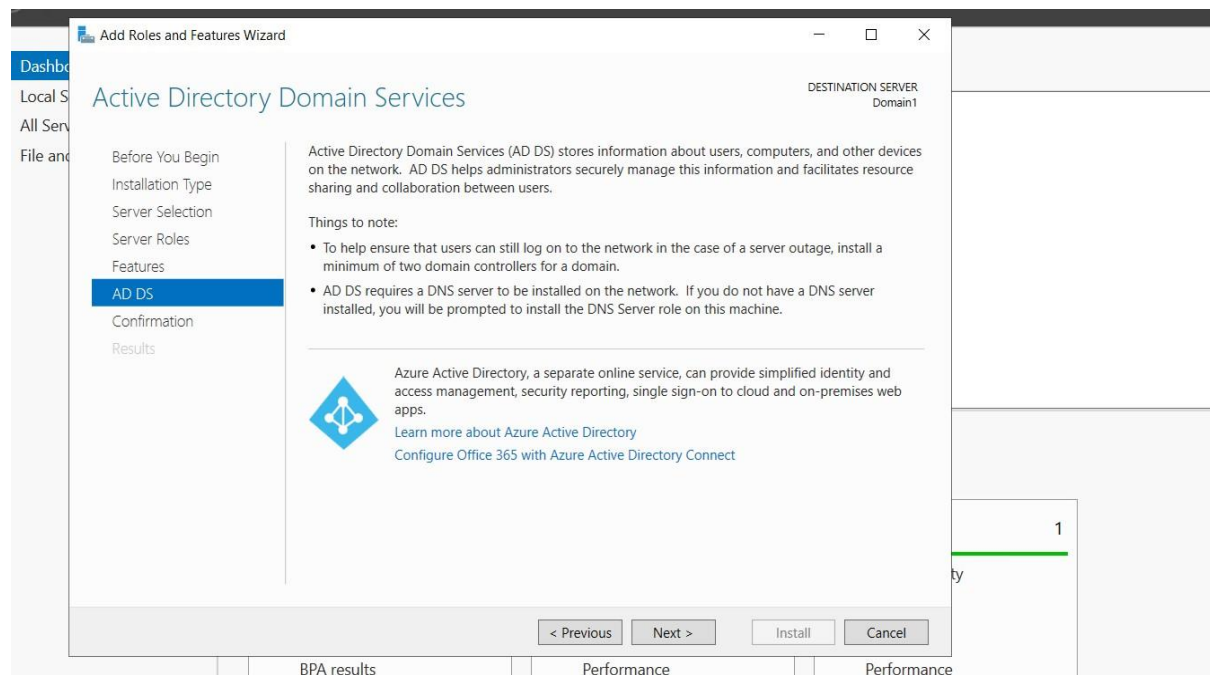


- Then click to next and click to Add features
- Click next

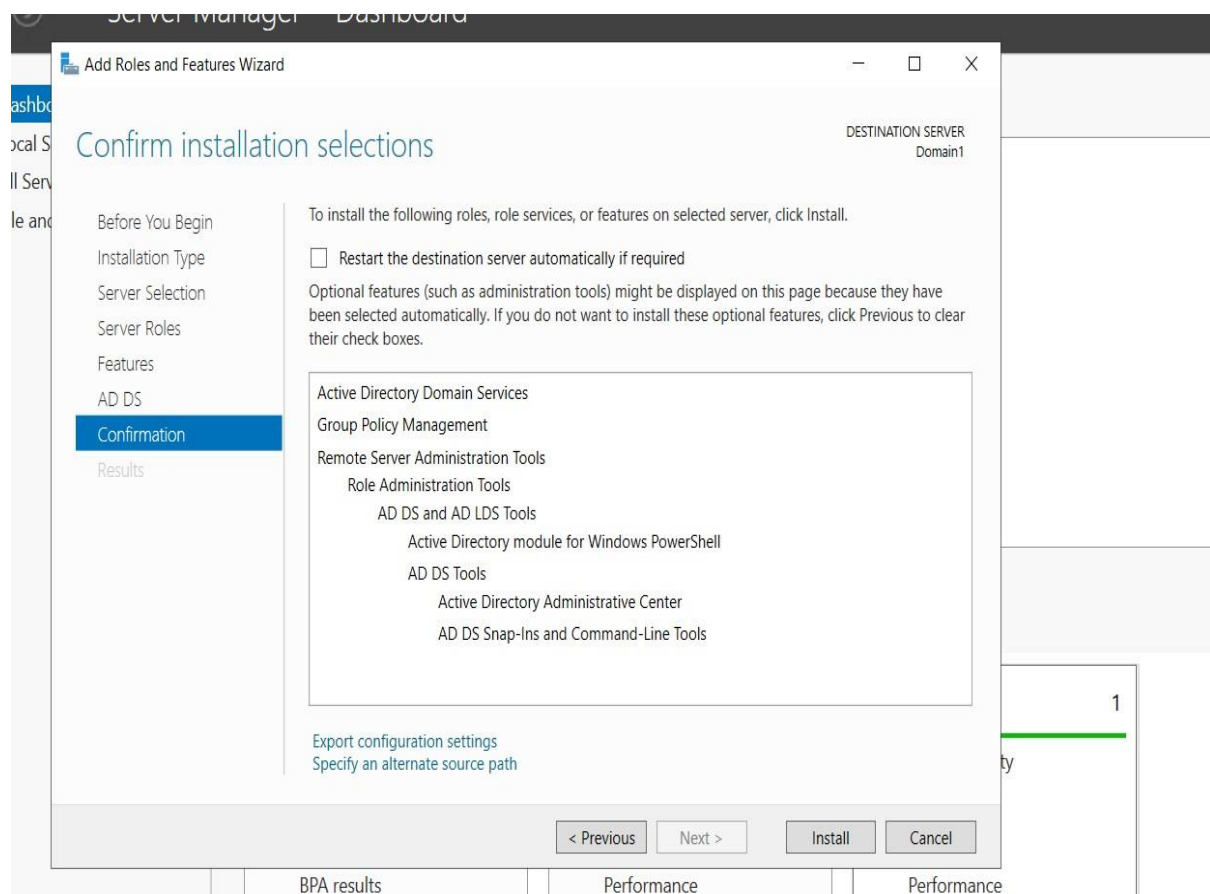


Section 3: Implement Azure Virtual Desktop Host pool

- Click to Next

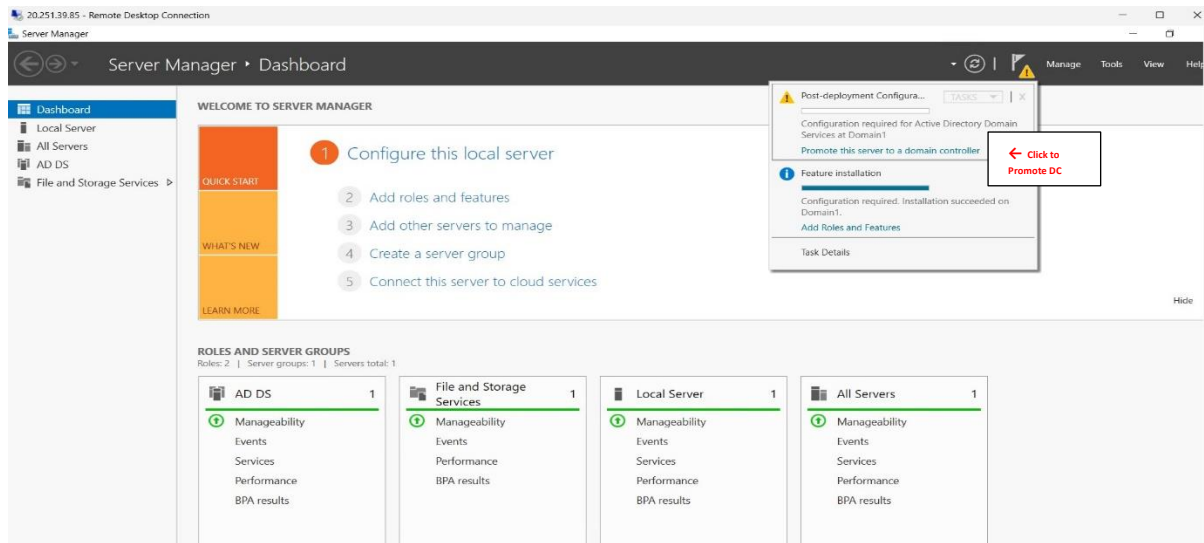


- Click to Next
- Click to install:

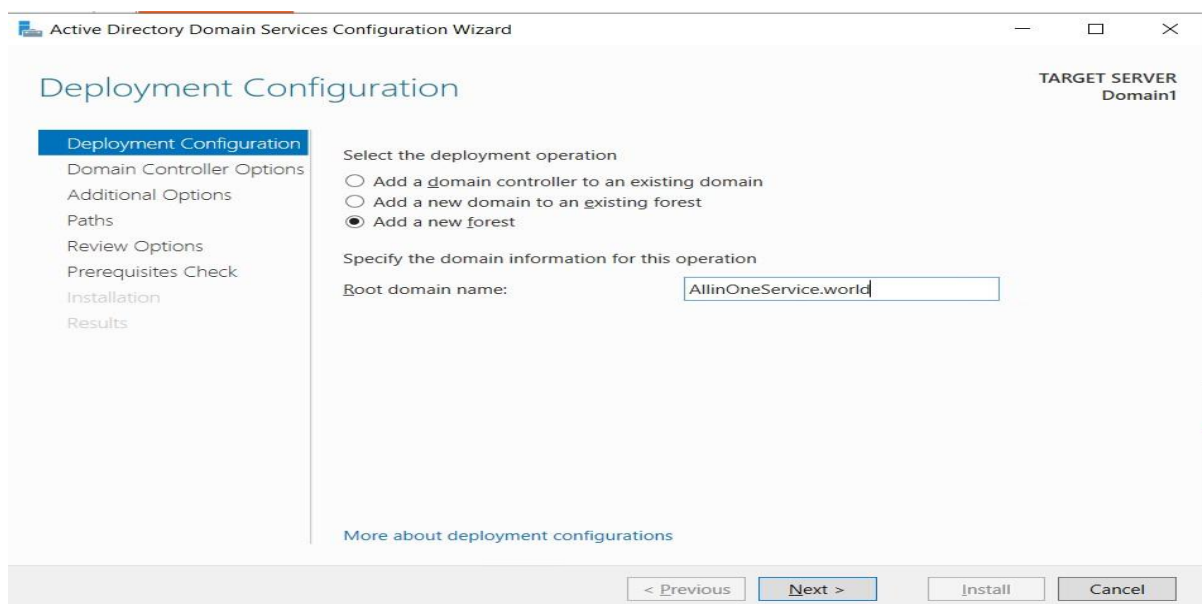


Section 3: Implement Azure Virtual Desktop Host pool

- After installation,
- To add Domain Controller, we required Domain
- Click promote this server to a domain controller

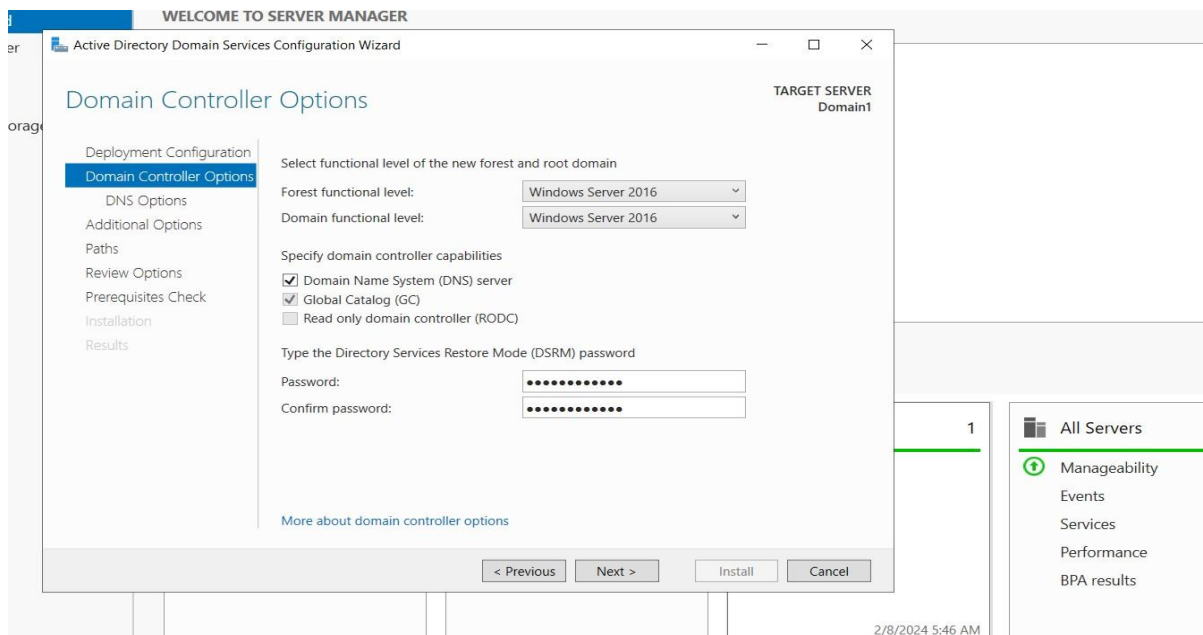


- Select Add a new forest
- Type your Root domain name AllinOneService.world
- Then click to next

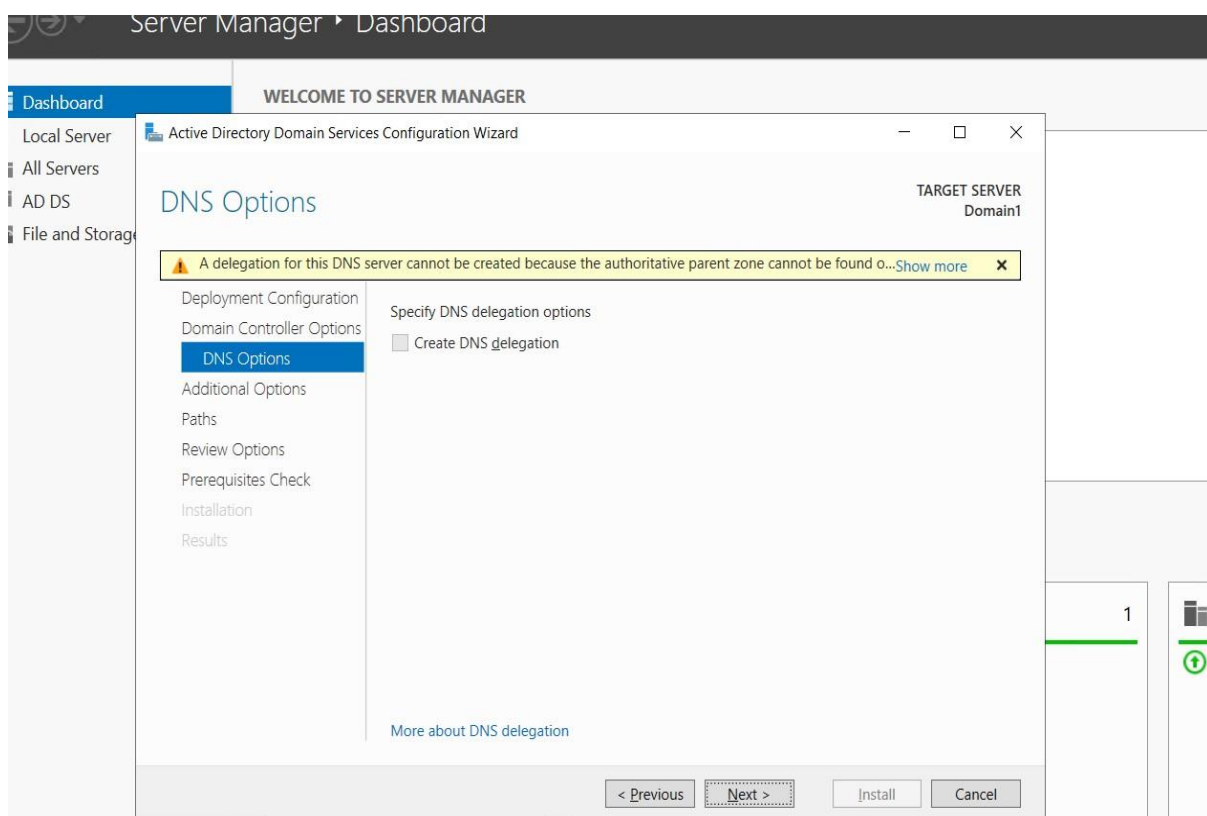


Section 3: Implement Azure Virtual Desktop Host pool

- create a new password as per requirement



- Click to Next



Section 3: Implement Azure Virtual Desktop Host pool

- Click to Next

The screenshot shows the 'Additional Options' step of the Active Directory Domain Services Configuration Wizard. The title bar reads 'Active Directory Domain Services Configuration Wizard'. The main heading is 'Additional Options'. On the left, a navigation pane lists the steps: Deployment Configuration, Domain Controller Options, DNS Options, Additional Options (highlighted), Paths, Review Options, Prerequisites Check, Installation, and Results. The main area contains the text 'Verify the NetBIOS name assigned to the domain and change it if necessary' and 'The NetBIOS domain name:' followed by a text box containing 'ALLINONESERVICE'. A link 'More about additional options' is at the bottom. The bottom bar has buttons for '< Previous', 'Next >', 'Install', and 'Cancel'. The top right corner indicates 'TARGET SERVER Domain1'.

- Click to Next

The screenshot shows the 'Paths' step of the Active Directory Domain Services Configuration Wizard. The title bar reads 'Active Directory Domain Services Configuration Wizard'. The main heading is 'Paths'. On the left, a navigation pane lists the steps: Deployment Configuration, Domain Controller Options, DNS Options, Additional Options, Paths (highlighted), Review Options, Prerequisites Check, Installation, and Results. The main area contains the text 'Specify the location of the AD DS database, log files, and SYSVOL' and three rows of fields: 'Database folder:' with 'C:\Windows\NTDS', 'Log files folder:' with 'C:\Windows\NTDS', and 'SYSVOL folder:' with 'C:\Windows\SYSVOL'. Each field has a browse button (three dots) to its right. A link 'More about Active Directory paths' is at the bottom. The bottom bar has buttons for '< Previous', 'Next >', 'Install', and 'Cancel'. The top right corner indicates 'TARGET SERVER Domain1'.

Section 3: Implement Azure Virtual Desktop Host pool

- Click to Next

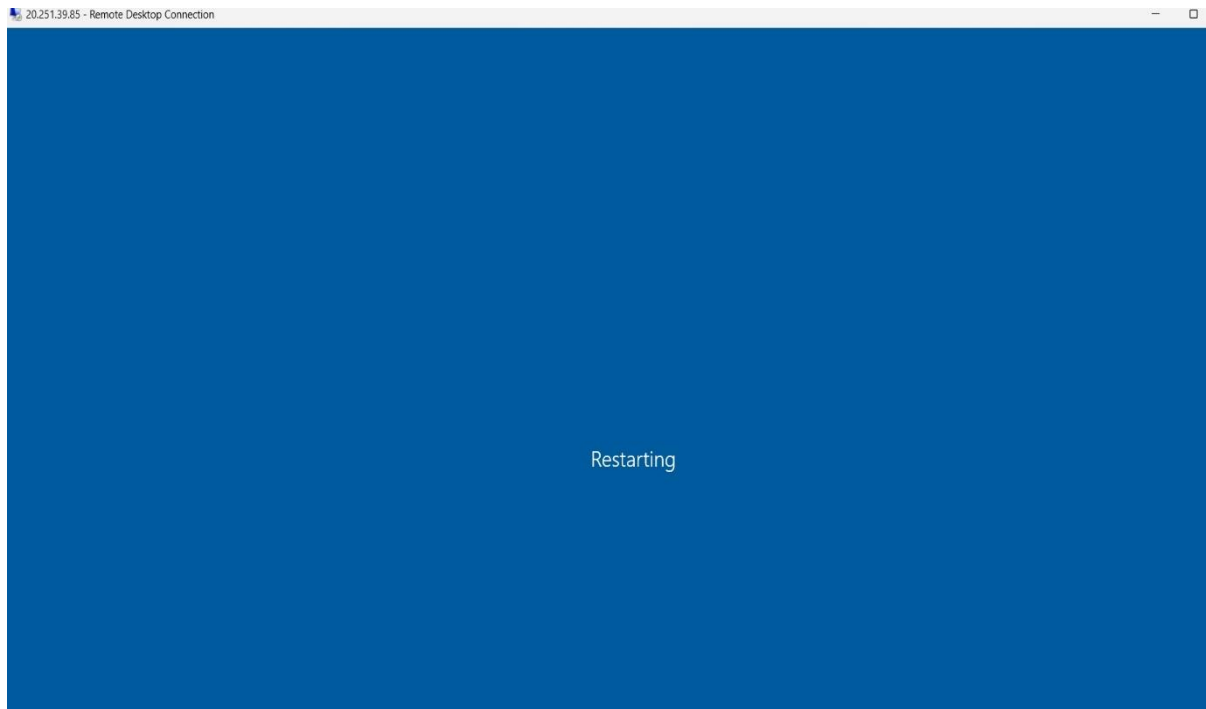
The screenshot shows the 'Review Options' step of the 'Active Directory Domain Services Configuration Wizard'. The left sidebar contains a list of steps: Deployment Configuration, Domain Controller Options, DNS Options, Additional Options, Paths, Review Options (highlighted), Prerequisites Check, Installation, and Results. The main area is titled 'Review your selections:' and lists the following configuration details: 'Configure this server as the first Active Directory domain controller in a new forest.', 'The new domain name is "AllinOneService.world". This is also the name of the new forest.', 'The NetBIOS name of the domain: ALLINONESERVICE', 'Forest Functional Level: Windows Server 2016', 'Domain Functional Level: Windows Server 2016', and 'Additional Options: Global catalog: Yes, DNS Server: Yes, Create DNS Delegation: No'. At the bottom, there is a 'View script' button and a 'More about installation options' link. The bottom navigation bar includes '< Previous', 'Next >', 'Install', and 'Cancel' buttons.

- Click to Next

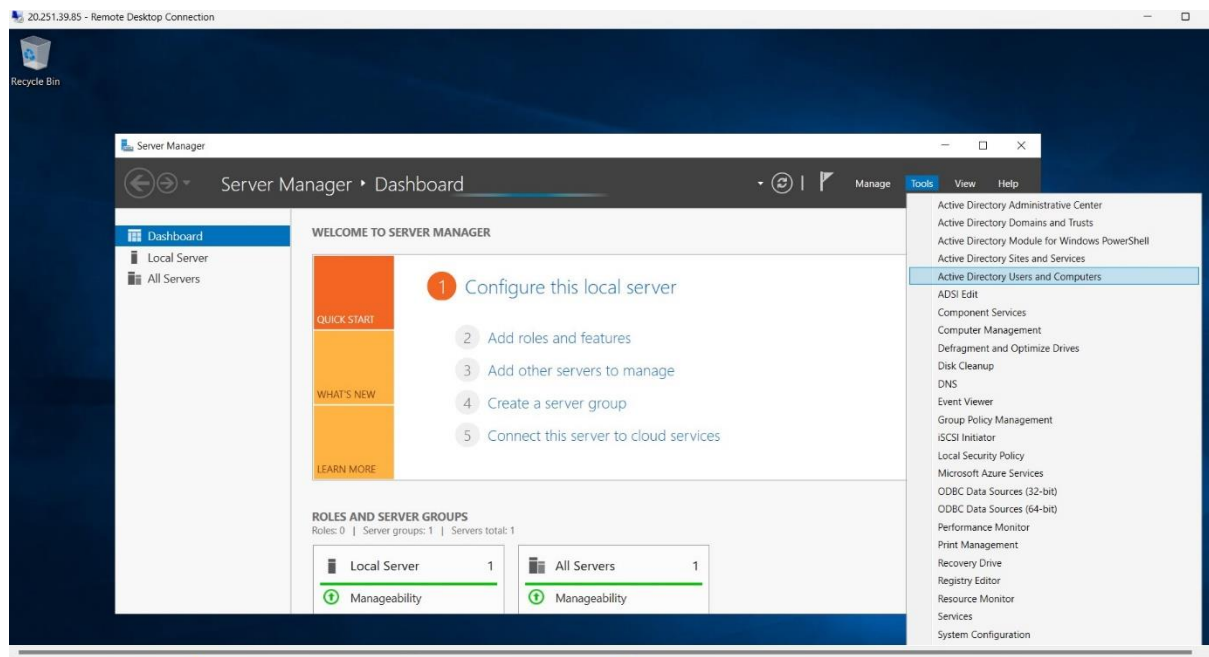
The screenshot shows the 'Prerequisites Check' step of the 'Active Directory Domain Services Configuration Wizard'. The left sidebar is the same as the previous screen, with 'Prerequisites Check' highlighted. The main area shows a green checkmark and the message: 'All prerequisite checks passed successfully. Click "Install" to begin installation.' with a 'Show more' link. Below this, it states 'Prerequisites need to be validated before Active Directory Domain Services is installed on this computer' and provides a 'Rerun prerequisites check' link. A 'View results' section shows two warnings: 'Windows Server 2019 domain controllers have a default for the security setting named "Allow cryptography algorithms compatible with Windows NT 4.0" that prevents weaker cryptography algorithms when establishing security channel sessions.' and 'This computer has at least one physical network adapter that does not have static IP address(es) assigned to its IP Properties. If both IPv4 and IPv6 are enabled for a network adapter, both IPv4 and IPv6 static IP addresses should be assigned to both IPv4 and IPv6 Properties of the physical network adapter. Such static IP address(es) assignment should be done to all the physical network adapters for reliable Domain Name System (DNS) resolution.' A final warning states: 'If you click Install, the server automatically reboots at the end of the promotion operation.' There is a 'More about prerequisites' link at the bottom. The bottom navigation bar includes '< Previous', 'Next >', 'Install', and 'Cancel' buttons.

Section 3: Implement Azure Virtual Desktop Host pool

- After installation, it will Automatically Restart the VM

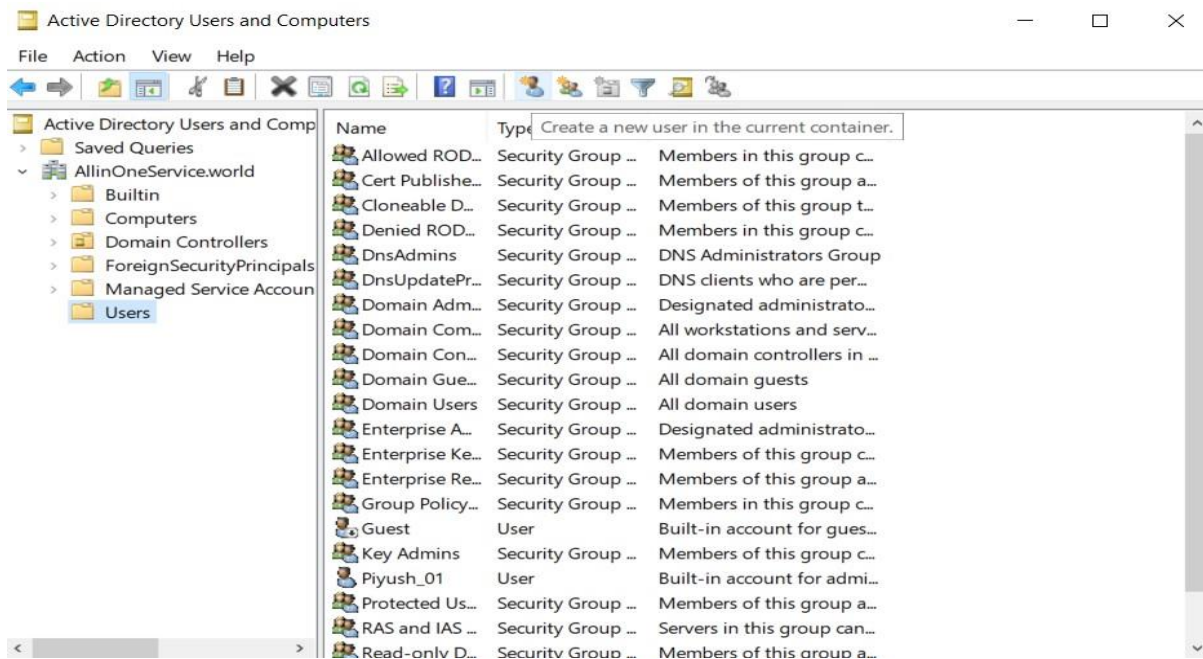


- After restarting Vm,
- GO to Server Manager → click to tools→ click to Active directory users and computers



- Click to Users
- Then Create a new user

Section 3: Implement Azure Virtual Desktop Host pool



- Create User AVDDomain, we will create this user as a admin
- Click next

New Object - User

Create in: AllinOneService.world/Users

First name: AVDDomain Initials:

Last name:

Full name: AVDDomain

User logon name: AVDDomain @AllinOneService.world

User logon name (pre-Windows 2000): ALLINONESERVICE\ AVDDomain

< Back Next > Cancel

New Object - User

Create in: AllinOneService.world/Users

Password:

Confirm:

☐ User must change password at next logon

☐ User cannot change password

☒ Password never expires

☐ Account is disabled

< Back Next > Cancel

Section 3: Implement Azure Virtual Desktop Host pool

- Enter Password which we Created for Root Domain
- User is Created

New Object - User

Create in: AllinOneService.world/Users

When you click Finish, the following object will be created:

Full name: AVDDomain
User login name: AVDDomain@AllinOneService.world
The password never expires.

< Back Finish Cancel

- After Create AVDDomain, we need to assign Admin
- So, click to AVDDomain, Select Member of
- Click to ADD
- Click to Member of
- Click to Add

AVDDomain

↓ Click to Member of

Member Of Dial-in Environment Sessions
Remote control Remote Desktop Services Profile COM+
General Address Account Profile Telephones Organization

AVDDomain

First name: AVDDomain Initials:
Last name:
Display name: AVDDomain
Description:
Office:
Telephone number: Other...
E-mail:
Web page: Other...

OK Cancel Apply Help

AVDDomain Properties

Remote control Remote Desktop Services Profile COM+
General Address Account Profile Telephones Organization
Member Of Dial-in Environment Sessions

Member of:

Name	Active Directory Domain Services Folder
Domain Users	AllinOneService.world/Users

Add... Remove

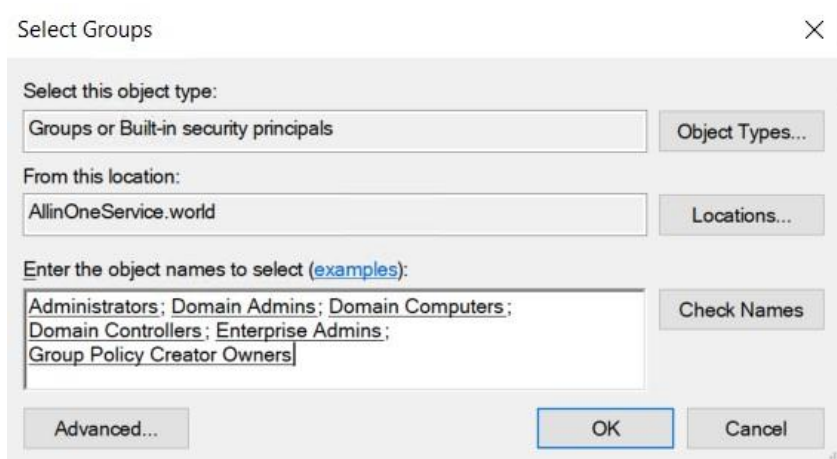
Primary group: Domain Users

Set Primary Group There is no need to change Primary group unless you have Macintosh clients or POSIX-compliant applications.

OK Cancel Apply Help

- Assign all this Rules

Section 3: Implement Azure Virtual Desktop Host pool



Select Groups

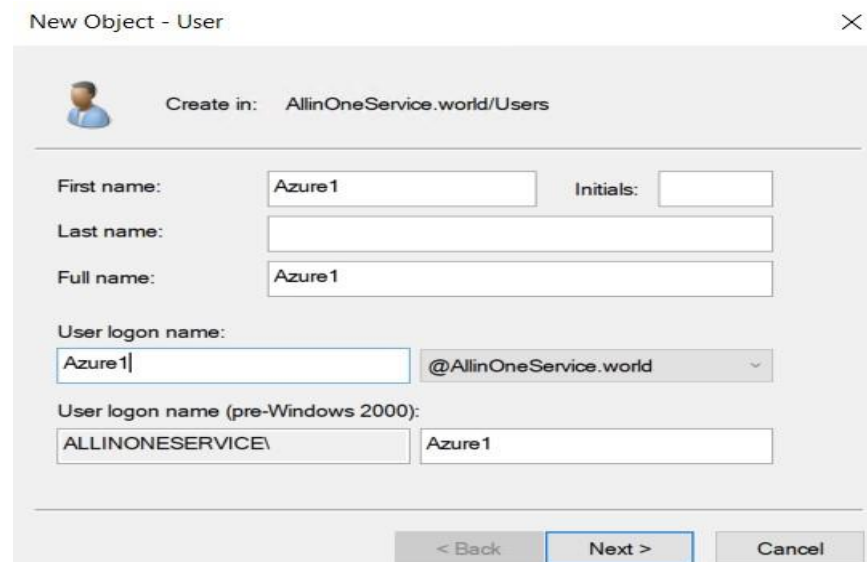
Select this object type:
Groups or Built-in security principals

From this location:
AllinOneService.world

Enter the object names to select (examples):
Administrators; Domain Admins; Domain Computers;
Domain Controllers; Enterprise Admins;
Group Policy Creator Owners

Advanced... OK Cancel

- Same Create two more user Azure1 and AWS



New Object - User

Create in: AllinOneService.world/Users

First name: Azure1 Initials:

Last name:

Full name: Azure1

User logon name: Azure1 @AllinOneService.world

User logon name (pre-Windows 2000): ALLINONESERVICE\ Azure1

< Back Next > Cancel

- we can see, we Created user are now Available

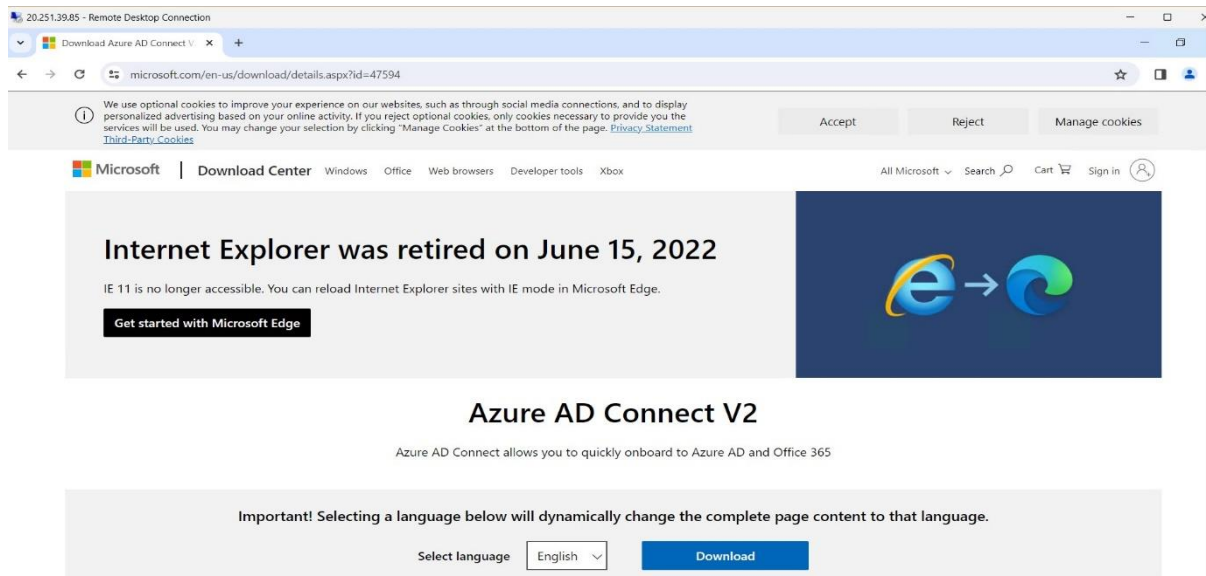
3. Install AD connect to sync users to AAD

- Now to sync user to Azure AAD
- Need to install AD Connect
- So, Go to Chrome → Search AD Connect Download

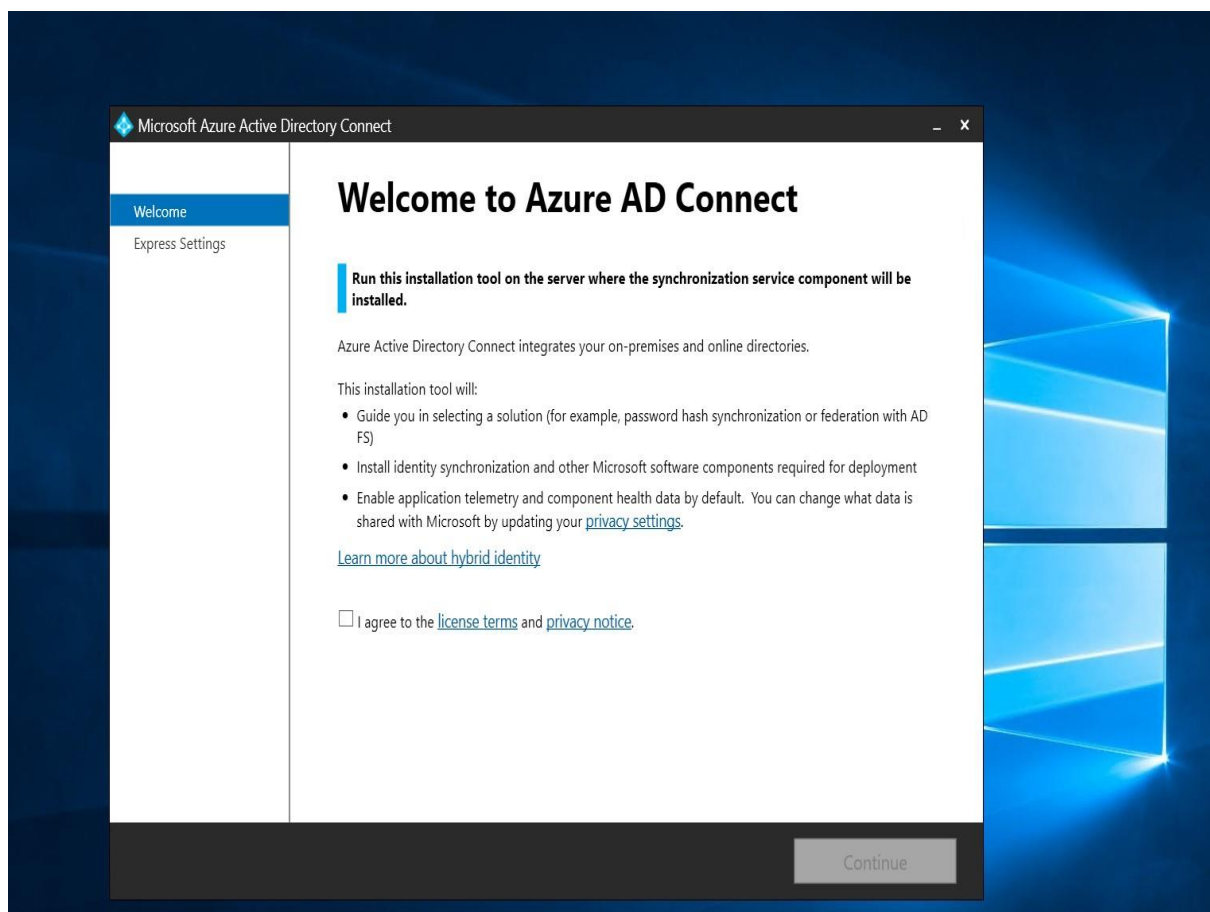
<https://www.microsoft.com/en-us/download/details.aspx?id=47594>

Section 3: Implement Azure Virtual Desktop Host pool

- Click the first link in browser

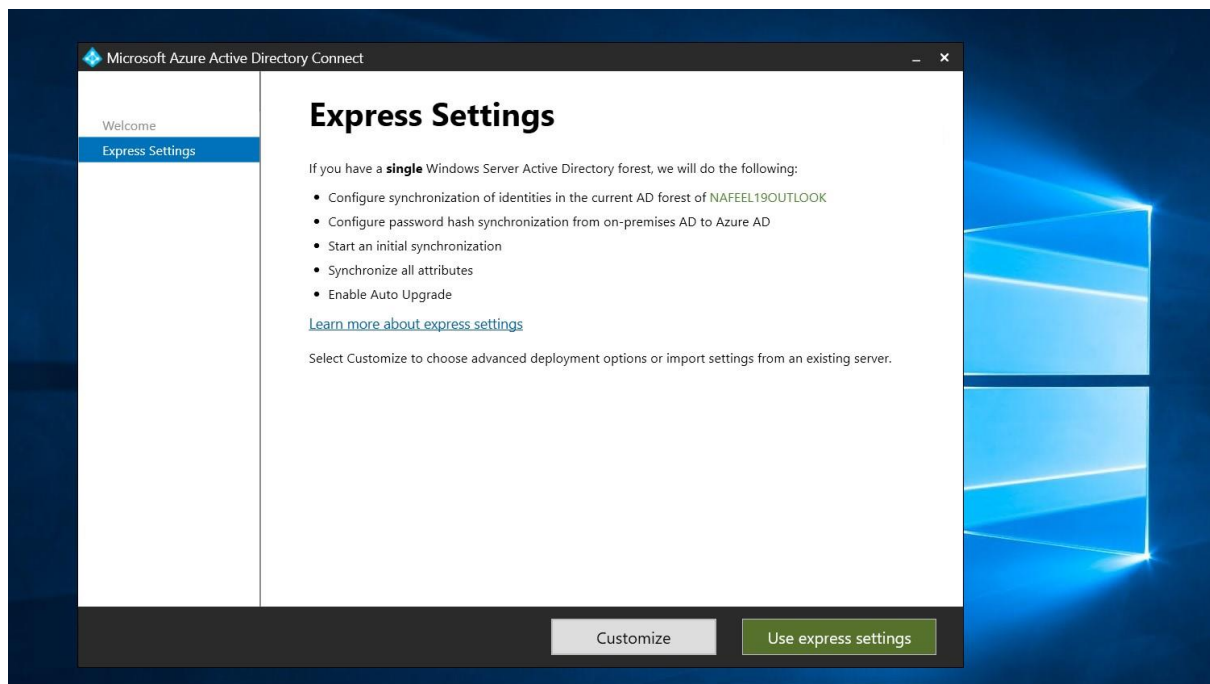


- Click to Download and Install
- Select I agree option

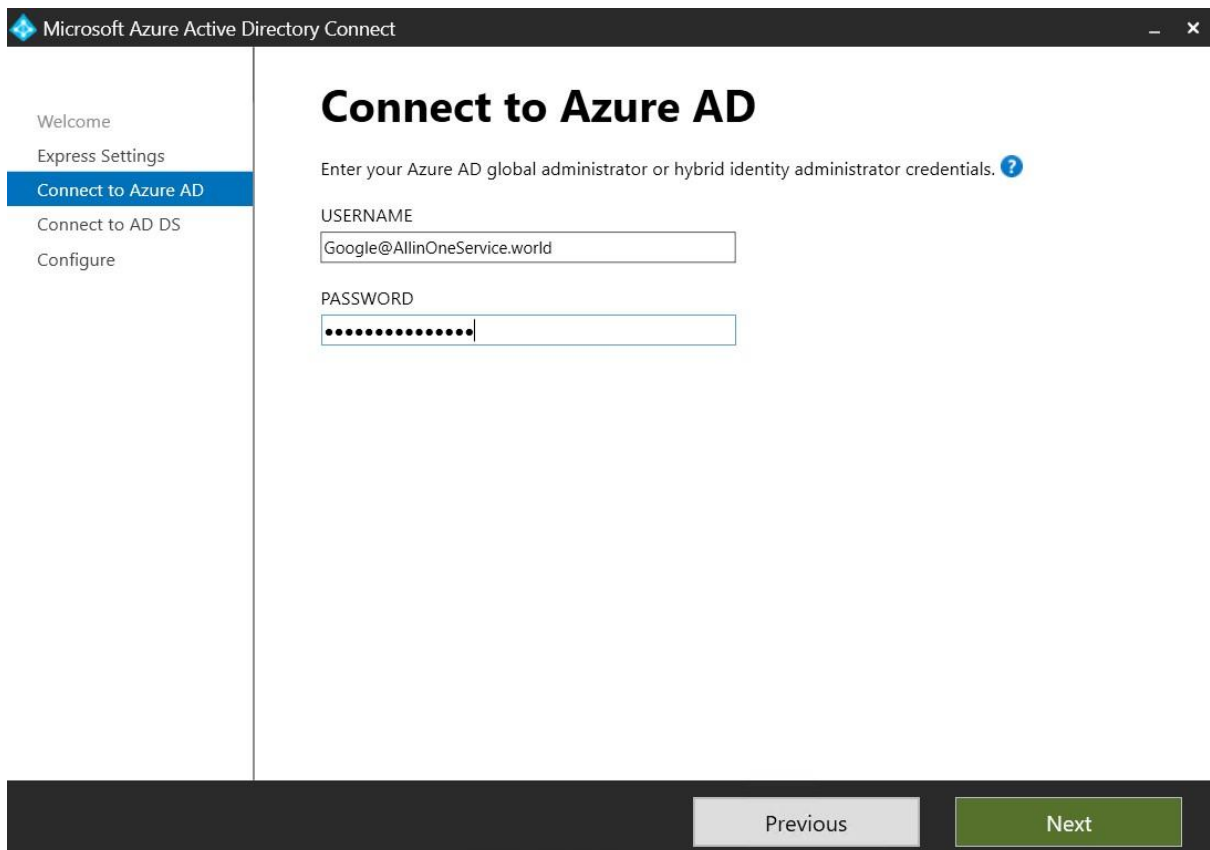


Section 3: Implement Azure Virtual Desktop Host pool

- Click to Use express setting



- Enter your Azure Id username and password



Section 3: Implement Azure Virtual Desktop Host pool

- In Connect to ADDS
- We Created Admin to user AVDDomain

New Object - User ×

Create in: AllinOneService.world/Users

First name: Initials:

Last name:

Full name:

User logon name: @AllinOneService.world

User logon name (pre-Windows 2000):

< Back **Next >** Cancel

User logon name= ALLINONESERVICE\Piyush_01

Password which we Created for Root Domain

Microsoft Azure Active Directory Connect — ×

Welcome

Express Settings

Connect to Azure AD

Connect to AD DS

Azure AD sign-in

Configure

Connect to AD DS

Enter the Active Directory Domain Services enterprise administrator credentials: ?

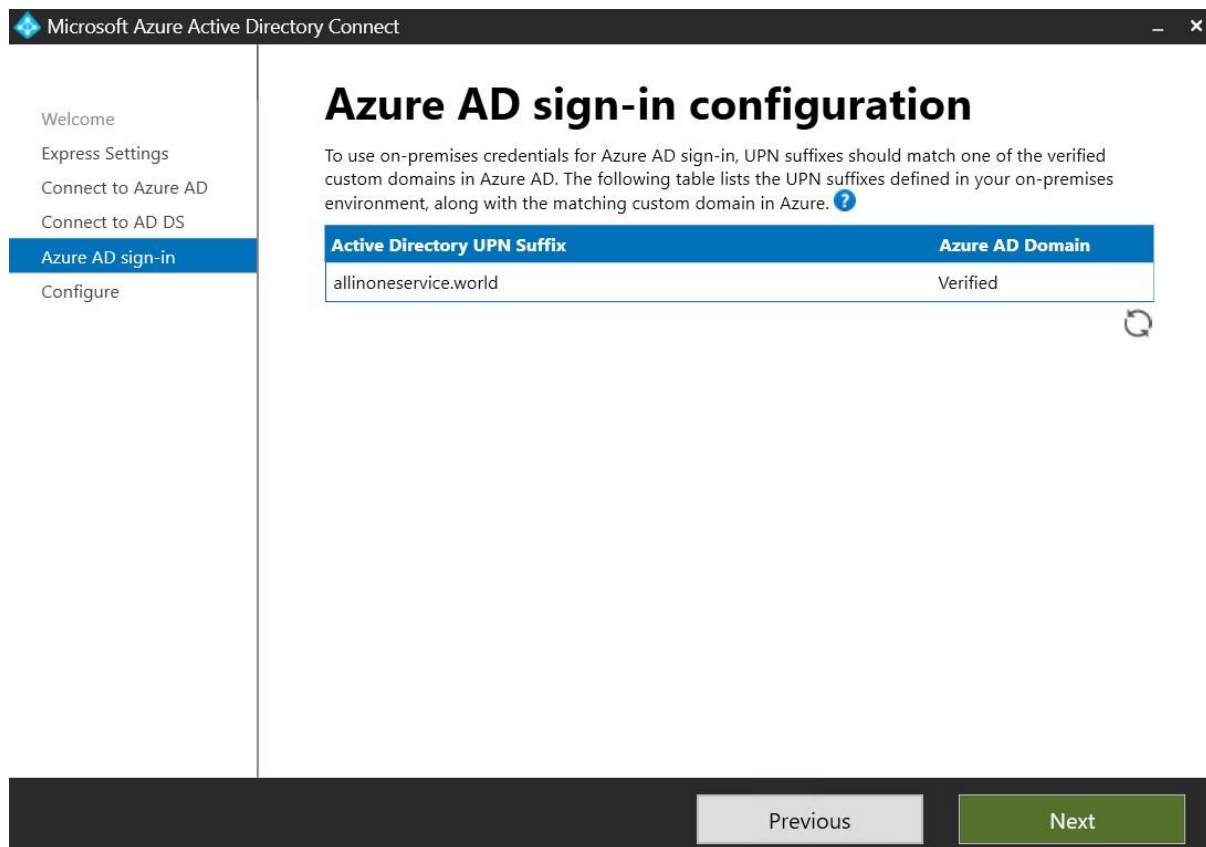
USERNAME

PASSWORD

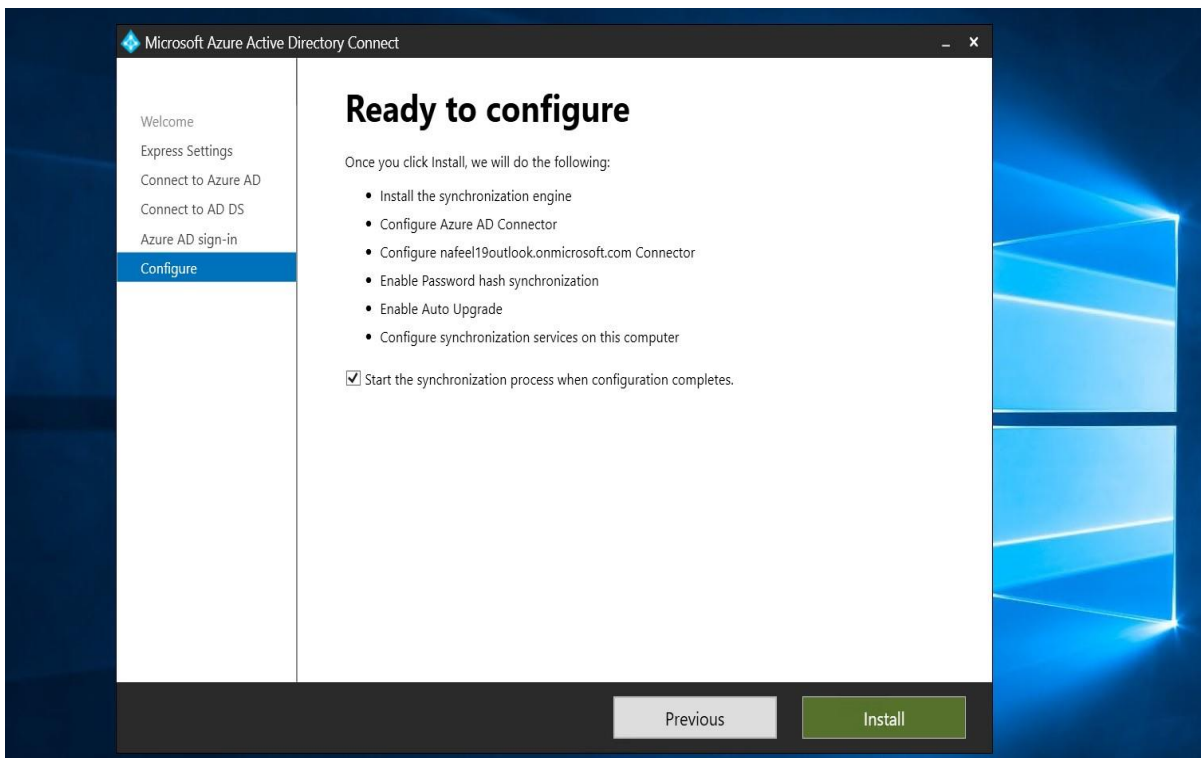
Previous **Next**

Section 3: Implement Azure Virtual Desktop Host pool

- Click Next



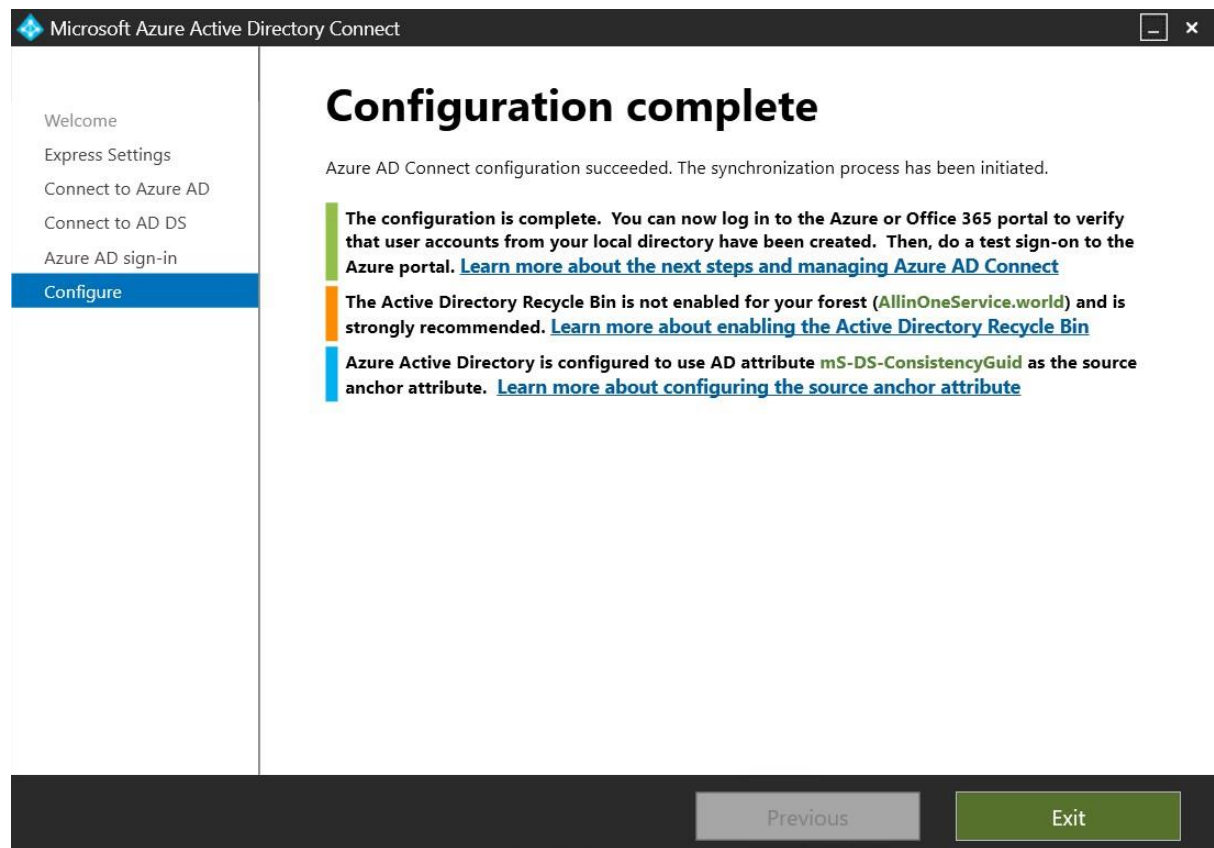
- Click to install



- After installation

Section 3: Implement Azure Virtual Desktop Host pool

- Click to Exit



- Go to Azure Portal → Search Entra ID → Click to Users
- Now we can see All user we Created in AD Server Manager are sync to Azure portal

