



PROJECT 1

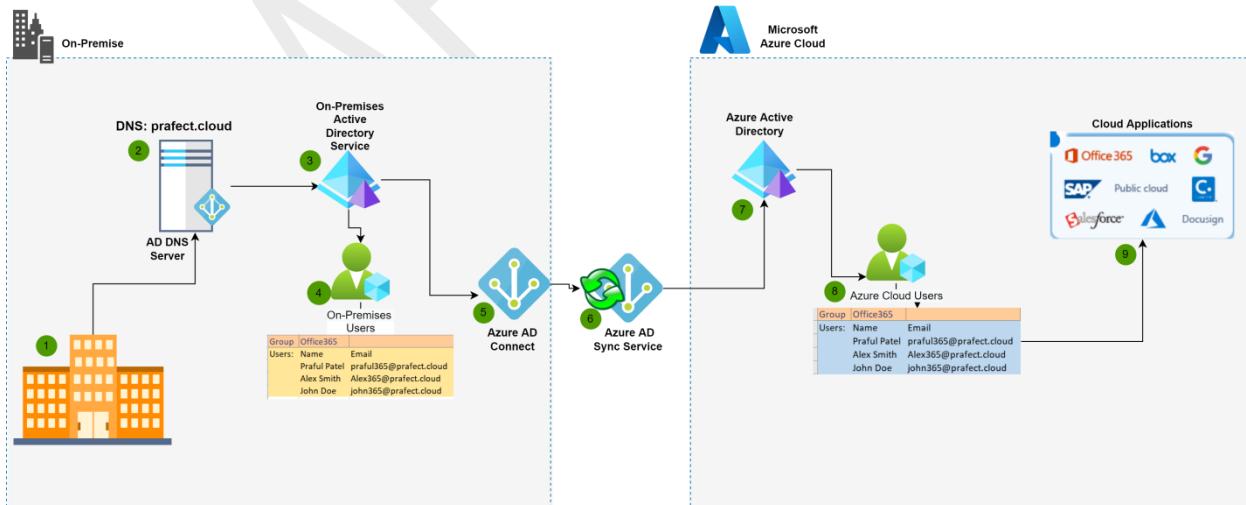
AZURE AD INTEGRATION WITH MICROSFOT AZURE AD USING AZURE AD CONNECT

(HYBRID INDENTITY MANGEMENT)

By: PRAFUL PATEL



Solution Architecture

By: Praful Patel | GitHub: <https://github.com/prafulpatel16>



➤ Project

An IT services Provider Company **PRAfect Systems Inc.** is engaged into providing software development solutions. Currently, they are working on Hybrid model so some of the legacy applications are running on On-Premises and some workload running on Azure Cloud.

There are numerous applications which are trying to access few of the services from SaaS which is part of Hybrid infrastructure model and, hence the IAM plays an essential role here to grant access and do integration.

At the present, management is struggling to find a **Hybrid IAM access management** solution which allows and sync an On-Premises identity with Microsoft Azure Cloud and that's where the **Azure AD Connect** comes to rescue.

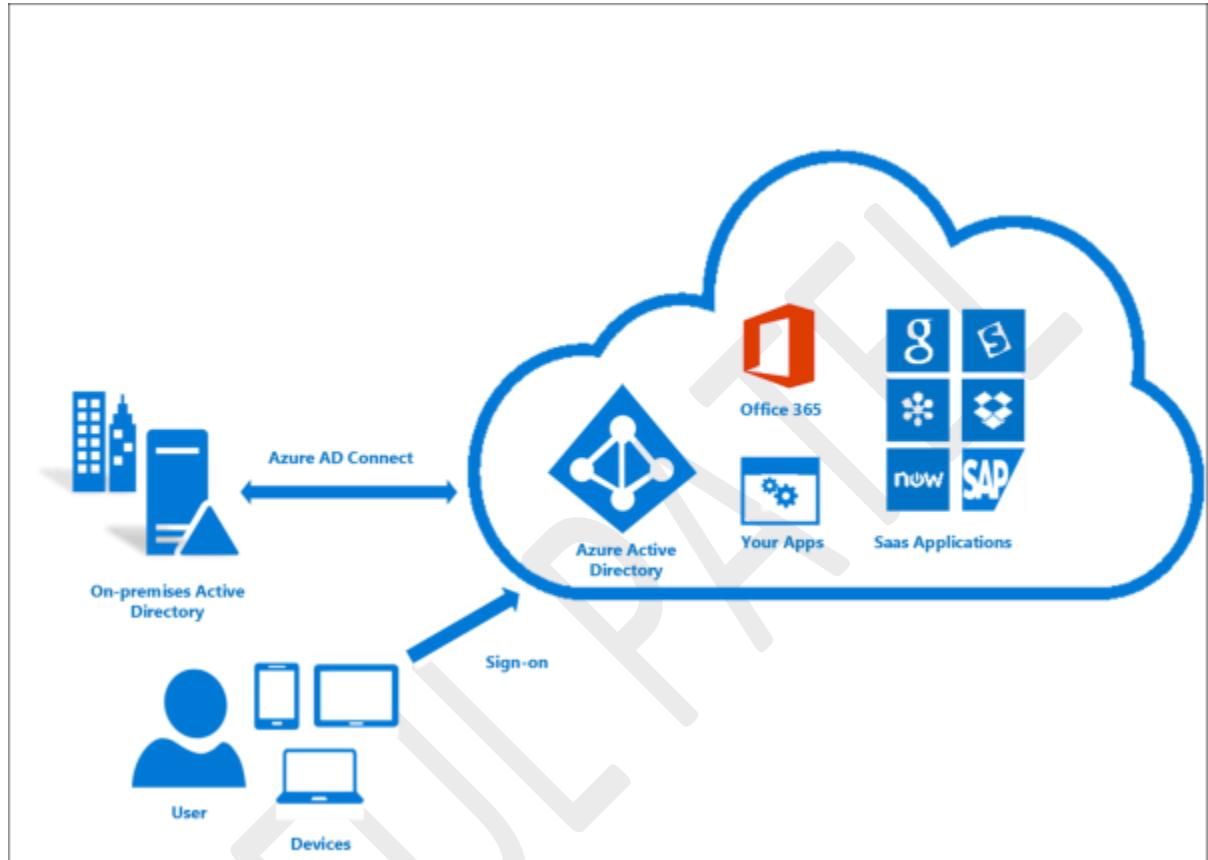
➤ Solution:

What is Azure AD Connect?

Azure AD Connect is an on-premises Microsoft application that's designed to meet and accomplish your hybrid identity goals. If you're evaluating how to best meet your goals, you should also consider the cloud-managed solution Azure AD Connect cloud sync.

Azure AD Connect Features:

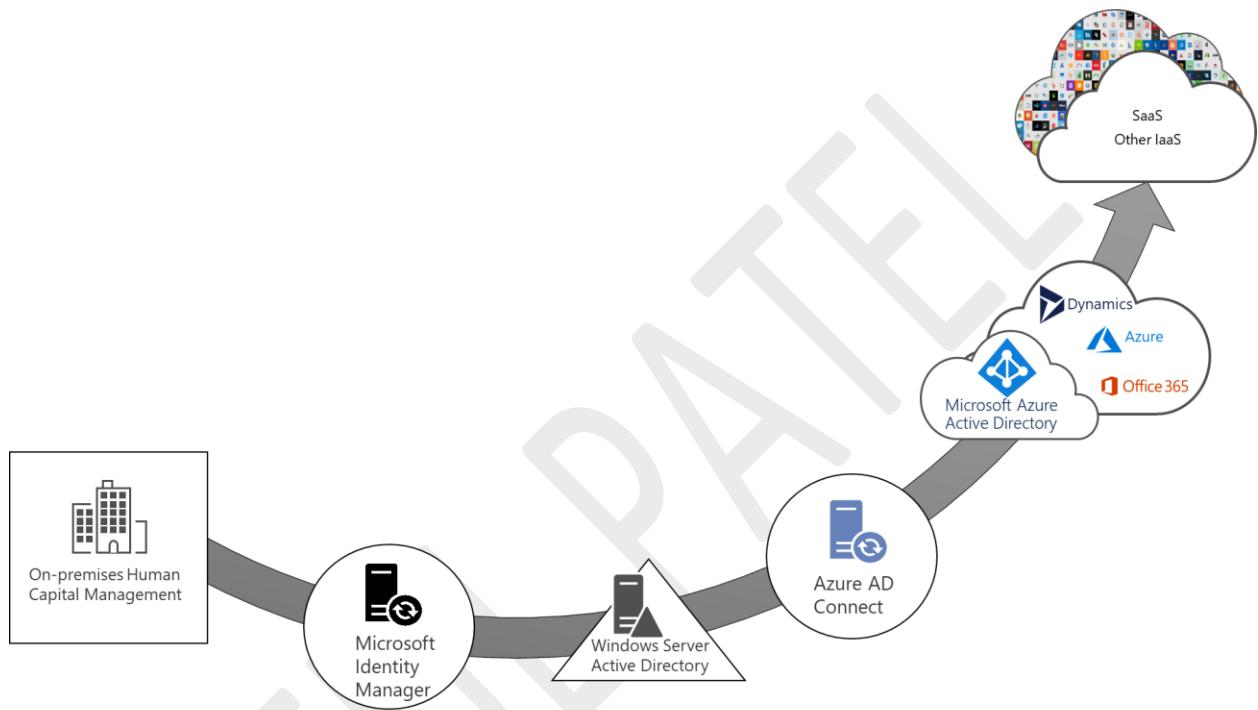
- ✓ Password hash synchronization
- ✓ Pass-through authentication
- ✓ Federation integration
- ✓ Synchronization
- ✓ Health Monitoring



Azure Active Directory (Azure AD) is a cloud-based multi-tenant directory and identity service. This reference architecture shows best practices for integrating on-premises Active Directory domains with Azure AD to provide cloud-based identity authentication.

Organizations can use Azure AD if they are 'pure cloud,' or as a 'hybrid' deployment if they have on-premises workloads. A hybrid deployment of Azure AD can be part of a strategy for an organization to migrate its IT assets to the cloud, or to continue to integrate existing on-premises infrastructure alongside new cloud services.

Historically, 'hybrid' organizations have seen Azure AD as an extension of their existing on-premises infrastructure. In these deployments, the on-premises identity governance administration, Windows Server Active Directory or other in-house directory systems, are the control points, and users and groups are synced from those systems to a cloud directory such as Azure AD. Once those identities are in the cloud, they can be made available to Microsoft 365, Azure, and other applications.



Why use Azure AD Connect?

Integrating your on-premises directories with Azure AD makes your users more productive by providing a common identity for accessing both cloud and on-premises resources. Users and organizations can take advantage of:

- ✓ Users can use a single identity to access on-premises applications and cloud services such as Microsoft 365.
- ✓ Single tool to provide an easy deployment experience for synchronization and sign-in.

On-premises AD DS server. An on-premises directory and identity service. The AD DS directory can be synchronized with Azure AD to enable it to authenticate on-premises users.

At the present there are many groups and users are running on On-Premises Active Directory Server which needs to be allowed accessibility on the Microsoft Azure Cloud hybrid identity management

➤ **Description**

This project was a challenge project for to deploy Hybrid identity management on Azure. The task was to manage On-Premises identity to integrate with Azure Cloud using Hybrid Identity Management service using Microsoft Azure AD Connect.

Task 1: In order to deploy and configure domain controller one has to require a registered and verified domain. DNS: prefect.cloud

Task 2: Once the domain is registered needs to go to Azure Cloud Active Directory service and verify the custom domain using the appropriate service.

Task 3: There has to deploy a Windows Server 2019 Datacenter on VMware machine which would On-Premises domain controller host machine which is hosting a DNS server and managing On-Premises Active Directory services.

Task 4: Thereafter install a Roles and features using Server Manager which would be installing a AD FS service feature, and then needs to configure a Active Directory Service installation.

Task 5: Then it has to create some user group and users which would be synced from On-Premises to Azure Cloud using Azure AD Connect service.

Task 6: Once users are created it has to configure Azure AD Connect and configure a new forest using custom DNS: prefect.cloud and select a active directory service for sync, and finish the process which would start syncing the On-Premises users to Azure Cloud.

Task 7: Go to Azure Cloud and verify that the On-Premises groups and users have been synced successfully and displayed under the respective section.

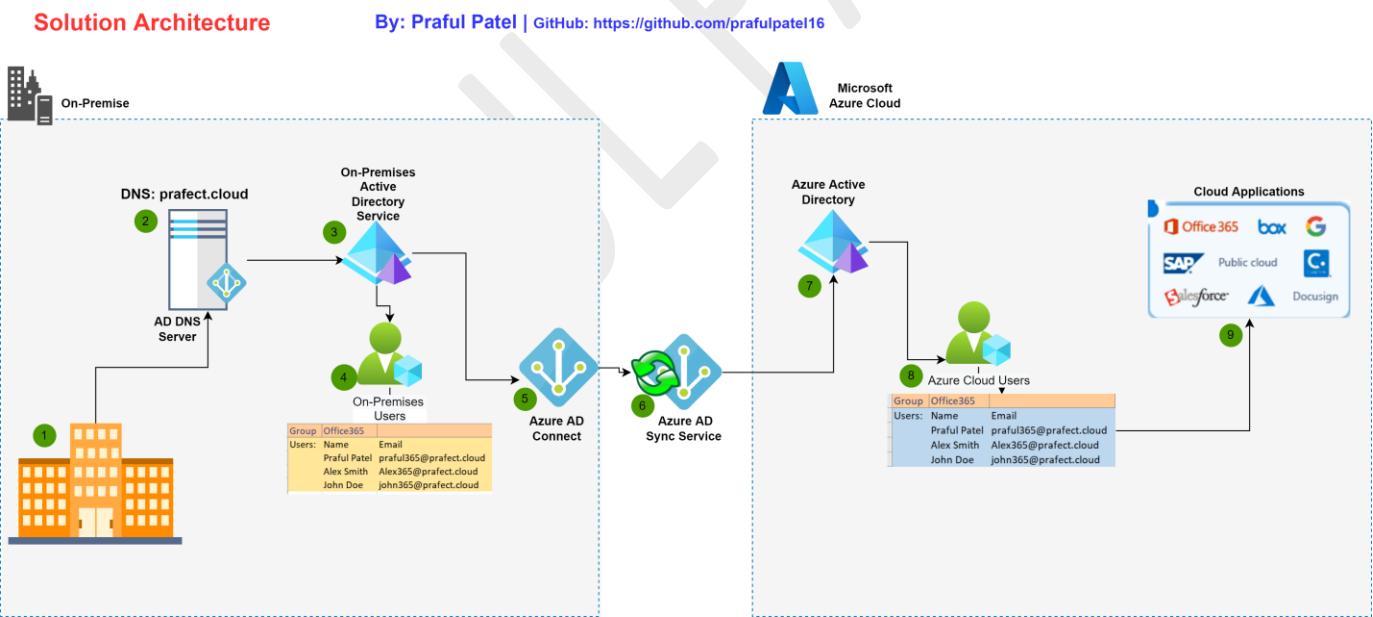
➤ **Project Cost Estimation:**

(Note: This cost is Not any actual cost, it's just an estimation based on high level requirement. Price may be vary based on adding and removing services based on requirement.)
https://docs.oracle.com/en-us/iaas/Content/Identity/federating/federating_section.htm

➤ **Tools & Technologies covered:**

- VMware Hypervisor
- Windows Server 2019 Datacenter
- Azure Cloud
- Azure AD Tenant
- Azure AD Connect
- On-Premises AD DNS Server
- On-Premises Active Directory Service
- Azure AD Connect sync server

➤ **Solution Architecture:**



This migration project will be completed in following implementation phases.

➤ **Project implementation Phase:**

- Phase 1: Verify DNS on Azure Portal
- Phase 2: Create Azure cloud test users on Azure Portal
- Phase 3: Deploy On-Premise Active Directory Service
- Phase 4: Create On-Premise groups and users
- Phase 5: Deploy Azure AD Connect on On-Premise DC

Phase 6: Verify and validate that On-Premise Group and users have synced to Azure Cloud

➤ **Pre-requisite:**

- 1) Registered domain: Prefect.cloud
- 2) On-Premise Windows Domain Controller running on the domain name
- 3) On-Premise Test users on Windows DC server
- 4) Azure portal account
 - o Active Directory Admin user: Global Administrator

➤ **Implementation:**

⊕ **Phase 1: Verify DNS on Azure Portal**

1. Go to Azure Active Directory – custom domain
2. Add TXT record to Domain registrar account
3. Verify DNS from Azure Portal custom domain

⊕ **Phase 2: Create Azure cloud test users on Azure Portal**

1. Create Global Admin active directory user
2. Create few azure cloud test users

⊕ **Phase 3: Deploy On-Premise Active Directory Service**

1. Go to Vmware and deploy window server 2019 vm
2. Go to Server Manager - Manage – Add Roles and Features
3. Add Feature - Select 'Active Directory Domain Services'
4. Verify that AD DS service is installed
5. Add New forest - prefect.cloud and finish the installation

⊕ **Phase 4: Create On-Premise groups and users**

1. Go to Tools – Active Directory Users and Computers
2. Create a new group name: office365
3. Create a new users
 - a. Praful Patel
 - b. Alex Smith
 - c. John Doe
4. Assign users to group: office365

⊕ **Phase 5: Deploy Azure AD Connect on On-Premise DC**

1. Go to On-Premise Windows 2019 DC server
2. Using Browser - Login to Azure Portal
3. Go to Active Directory service- Default domain name – Download Azure AD Connect
4. Install Azure AD Connect
5. Connect to Azure AD using Azure Admin user – Global administrator
6. Connect to Active Directory using existing AD Account user
7. Finish the Azure AD Connect sync process

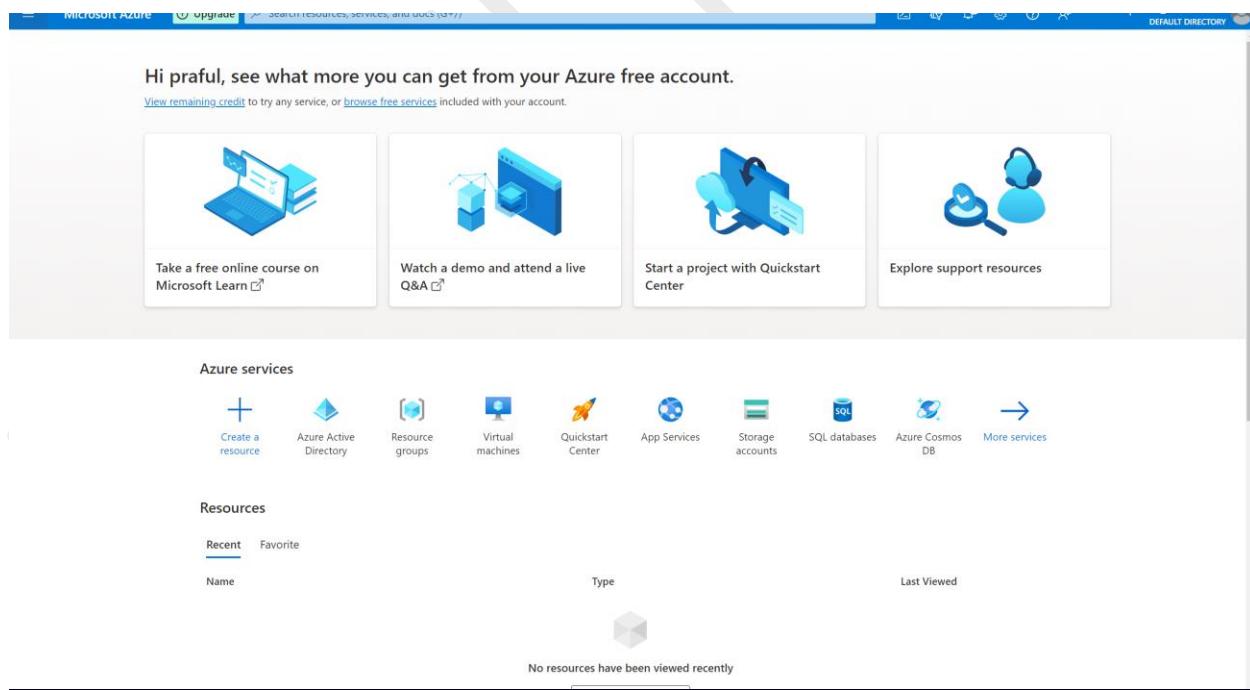
➤ **Phase 6: Verify and validate that On-Premise Group and users have synced to Azure Cloud**

1. Go to On-Premise Windows 2019 DC server
2. Go to My PC – Properties – validate that custom domain displayed
3. Go to Azure Portal – Active Directory service
4. Validate that new Group: office365 synced from On-Premise to Azure cloud
5. Validate that new users synced from On-Premise to Azure Cloud
 - a. Praful Patel
 - b. Alex Smith
 - c. John Doe

➤ **Implementation in an Action:**

➤ **Phase 1: Verify DNS on Azure Portal**

4. Go to Azure Active Directory – custom domain
5. Add TXT record to Domain registrar account
6. Verify DNS from Azure Portal custom domain



The screenshot shows the Microsoft Azure portal interface. At the top, it greets the user: "Hi praful, see what more you can get from your Azure free account." Below this, there are four service tiles: "Take a free online course on Microsoft Learn", "Watch a demo and attend a live Q&A", "Start a project with Quickstart Center", and "Explore support resources". Under the heading "Azure services", there is a row of icons for "Create a resource", "Azure Active Directory", "Resource groups", "Virtual machines", "Quickstart Center", "App Services", "Storage accounts", "SQL databases", "Azure Cosmos DB", and "More services". Below this, there is a section titled "Resources" with tabs for "Recent" and "Favorite". A message at the bottom of this section states: "No resources have been viewed recently". At the bottom of the page, there is a search bar with the placeholder text "Search for Azure Active Directory".

Search for Azure Active Directory

The screenshot shows the Microsoft Azure portal's Services blade. At the top, there are tabs for All, Services (11), Marketplace (20), Documentation (27), Azure Active Directory (1), and Resources (0). Below these tabs, under the 'Services' section, 'Azure Active Directory' is listed with a red arrow pointing to it. Other services listed include Azure AD Privileged Identity Management, Activity log, Admin units, Automanage - Azure machine best practices, B2C Tenants, Guest Usages, and Security.

The screenshot shows the 'Default Directory | Overview' page within the Azure Active Directory blade. The left sidebar lists various management options like Overview, Preview features, and Manage (Users, Groups, External Identities, etc.). Under the 'Custom domain names' option in the Manage section, a red arrow points to it. The main content area displays basic information about the directory, including Name (Default Directory), Tenant ID (176f74d3-50fe-4e39-864b-a1dd77480d57), Primary domain (Cloudprafuloutlook.onmicrosoft.com), and License (Azure AD Free). It also includes an alert about Upcoming TLS 1.0, 1.1 and 3DES deprecation and a My feed section.

Go to option: Custom domain names

The screenshot shows the 'Default Directory | Overview' page within the Azure Active Directory blade. The left sidebar lists various management options like Overview, Preview features, and Manage (Roles and administrators, Administrative units, Enterprise applications, Devices, App registrations, Identity Governance, Application proxy, etc.). Under the 'Custom domain names' option in the Manage section, a red arrow points to it. The main content area displays basic information about the directory, including Name (Default Directory), Tenant ID (176f74d3-50fe-4e39-864b-a1dd77480d57), Primary domain (Cloudprafuloutlook.onmicrosoft.com), and License (Azure AD Free). It also includes an alert about Upcoming TLS 1.0, 1.1 and 3DES deprecation and a My feed section.

Go to Domain Registrar where your domain is registered

Click to Add custom domain

Default Directory | Custom domain names

Add custom domain

Cloudprafuloutlook.onmicrosoft.com

Custom domain names

Custom domain name * praefect.cloud 2

Add domain 3

Microsoft Azure [Upgrade](#) [Search resources, services, and docs \(G+\)](#)

Dashboard > Default Directory | Custom domain names >

prafef.cloud ...

Custom domain name

[Delete](#) | [Got feedback?](#)

To use prafef.cloud with your Azure AD, create a new TXT record with your domain name registrar using the info below.

Record type [TXT](#) [MX](#)

Alias or host name [@](#) [Copy to clipboard](#)

Destination or points to address [MS=ms19131879](#) [2](#)

TTL [3600](#)

Share these settings via email

Verification will not succeed until you have configured your domain with your registrar as described above.

[Verify](#) ←

Go to DNS hosted zone account and add TXT record

namecheap

Domains [Hosting](#) [WordPress](#) [Email](#) [Apps](#) [Security](#) [TRY ME](#) Transfer to Us Help Center Account

Dashboard Expiring / Expired Domain List Hosting List Private Email SSL Certificates Apps Profile

Domains → Details

prafef.cloud ←

Domain Products Sharing & Transfer Advanced DNS

DNS TEMPLATES Choose DNS Template

HOST RECORDS

Actions Filters Search

Type	Host	Value	TTL
CNAME Record	www	parkingpage.namecheap.com.	30 min
URL Redirect Record	@	http://www.prafef.cloud/	Unmasked

[ADD NEW RECORD](#)

Domains → Details

prefect.cloud

Type	Host	Value	TTL
CNAME Record	www	parkingpage.namecheap.com.	30 min
URL Redirect Record	@	http://www.praefect.cloud/	Unmasked
2 TXT Record	@	3 MS=ms19131879	4 Automatic

ADD NEW RECORD **SAVE ALL CHANGES**

Domains → Details

prefect.cloud

Type	Host	Value	TTL
CNAME Record	www	parkingpage.namecheap.com.	30 min
URL Redirect Record	@	http://www.praefect.cloud/	Unmasked
TXT Record	@	MS=ms19131879	Automatic

ADD NEW RECORD

Verify Domain from Azure

The screenshot shows the Microsoft Azure portal interface. At the top, there's a navigation bar with 'Microsoft Azure', 'Upgrade', and a search bar. Below it, the main content area shows a 'Custom domain names' section for 'Default Directory'. A domain named 'prefect.cloud' is listed with a status of 'Verified'. A red arrow points to the 'Verified' status. To the right, a success message box is displayed: 'Verify domain name' with a green checkmark and the text 'Successfully verified domain name prefect.cloud for use within Default Directory'. Other details shown include 'Type: Custom', 'Status: Verified', 'Federated: No', 'Primary domain: No', and 'In use: No'.

This screenshot shows the 'Custom domain names' page within the 'Default Directory' section of the Azure Active Directory. The left sidebar includes options like 'Overview', 'Preview features', 'Diagnose and solve problems', 'Manage' (with 'Users', 'Groups', 'External identities', and 'Roles and administrators'), and 'Administrative center'. The main pane lists domains with columns for 'Name', 'Status', 'Federated', and 'Primary'. The domain 'prefect.cloud' is listed with a status of 'Verified' (indicated by a red arrow). Another domain, 'Cloud.prafuloutlook.onmicrosoft.com', is listed with a status of 'Available'.

Phase 2: Create Azure cloud test users on Azure Portal

Create Global Admin active directory user

The screenshot shows the 'Users' list page in the Azure Active Directory. The left sidebar has sections for 'All users (preview)', 'Audit logs', 'Sign-in logs', 'Diagnose and solve problems', 'Manage' (with 'Deleted users (preview)', 'Password reset', 'User settings', and 'Bulk operation results'), and 'Troubleshooting + Support'. The main area displays a table of users. One user, 'praful.patel' (display name), is listed with a status of 'Member', 'On-premises sync': 'No', and 'Identities': 'MicrosoftAccount'. A red arrow points to the 'New user' button at the top left of the user list.

User name: adadmin

Pass: test@123456

Select template

- Create user
Create a new user in your organization.
- Invite user
Invite a new guest user to collaborate with your organization. The user will be emailed an invitation they can accept in order to begin collaborating.
- [Help me decide](#)

Identity

User name * ② @ ③ [The domain name I need isn't shown here](#)

Name * ④

First name

Last name

Password

Auto-generate password

Let me create the password

Initial password * ⑤ ⑥

Create ⑦

Click to – Group: Global Administrator

New user ...

Default Directory

Got feedback?

Password

Auto-generate password

Let me create the password

Initial password * ①

Groups and roles

Groups Global selected ②

Roles User

Settings

Block sign in Yes No

Usage location

Job info

Job title

Department

Company name

Manager

Create ③

Directory roles

To assign custom roles to a user, your organization needs Azure AD Premium P1 or P2.

Choose admin roles that you want to assign to this user. [Learn more](#)

Sort Add filters

Role	Description
<input checked="" type="checkbox"/> Global administrator ②	Can manage all aspects of Azure AD and Microsoft services that use Azure AD identities.
<input type="checkbox"/> Global reader	Can read everything that a global administrator can, but not update anything.

Click to Create

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Dashboard > Default Directory | Users > Users

All users (preview) Add filter

Want to switch back to the legacy users list experience? Click here to leave the preview.

Search Add filter

2 users found

Display name	User principal name	User type	On-premises sync	Identities	Company name	Creation type
Global Administrator	adadmin@prefect.cloud	Member	No	Cloudprefectoutlook.onmicrosoft		
praful patel	Cloudpraful_outlook.com#EXT#@Clo...	Member	No	MicrosoftAccount		

Manage

- Deleted users (preview)
- Password reset
- User settings
- Bulk operation results

Troubleshooting + Support

New support request

Create Global Admin active directory user

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Dashboard > Default Directory | Users > Users > New user

Bulk invite and create are now located under the 'Bulk operations' menu item on the 'All users' view. [View all users](#)

Select template

Create user
Create a new user in your organization.

Invite user
Invite a new guest user to collaborate with your organization. The user will be emailed an invitation they can accept in order to begin collaborating.

[Help me decide](#)

Identity

User name * @ Cloud
The domain name I need isn't shown here

Name *

First name

Last name

Password

Auto-generate password
 Let me create the password

Initial password *

Create

Select template

Create user
Create a new user in your organization.

Invite user
Invite a new guest user to collaborate with your organization. The user will be emailed an invitation they can accept in order to begin collaborating.

[Help me decide](#)

Identity

User name * @

Name *

First name

Last name

Password

Auto-generate password
 Let me create the password

Initial password *

Create

Users created

New user Download users Bulk operations Refresh Manage view Delete Per-user MFA Preview features Got feedback?

All users (preview)

Audit logs

Sign-in logs

Diagnose and solve problems

Manage

Deleted users (preview)

Password reset

User settings

Bulk operation results

Troubleshooting + Support

New support request

Want to switch back to the legacy users list experience? Click here to leave the preview.

Search Add Filter

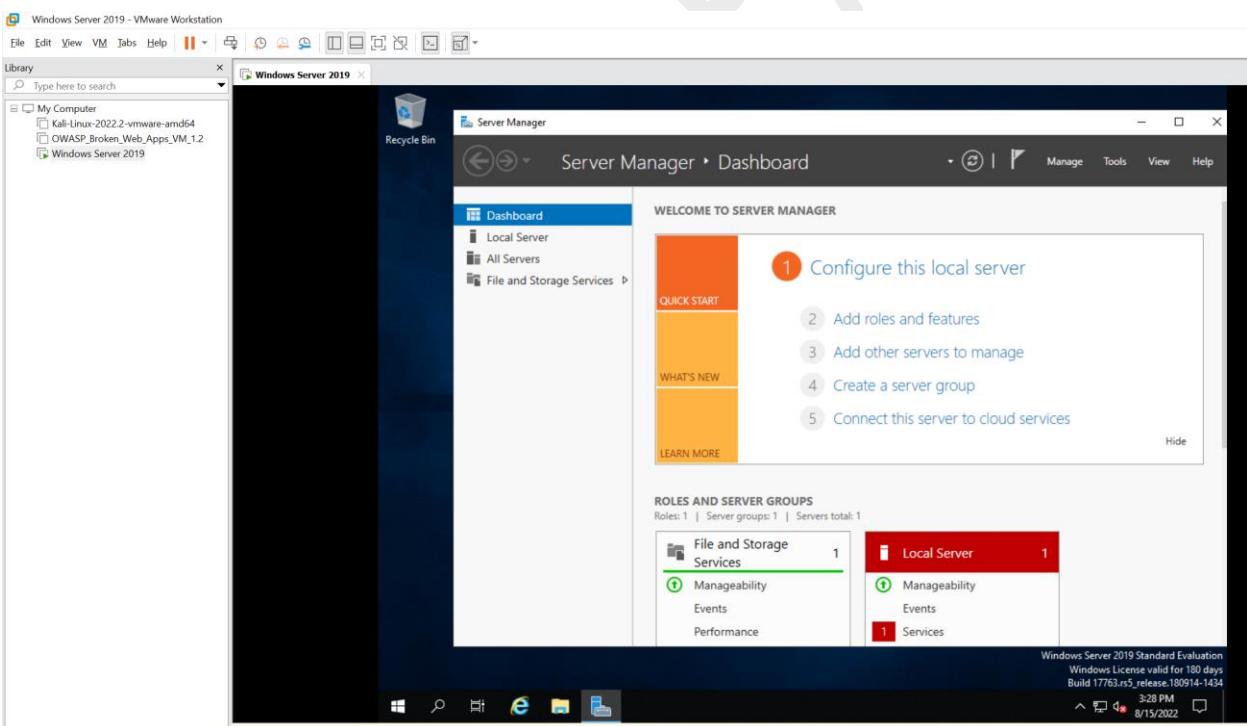
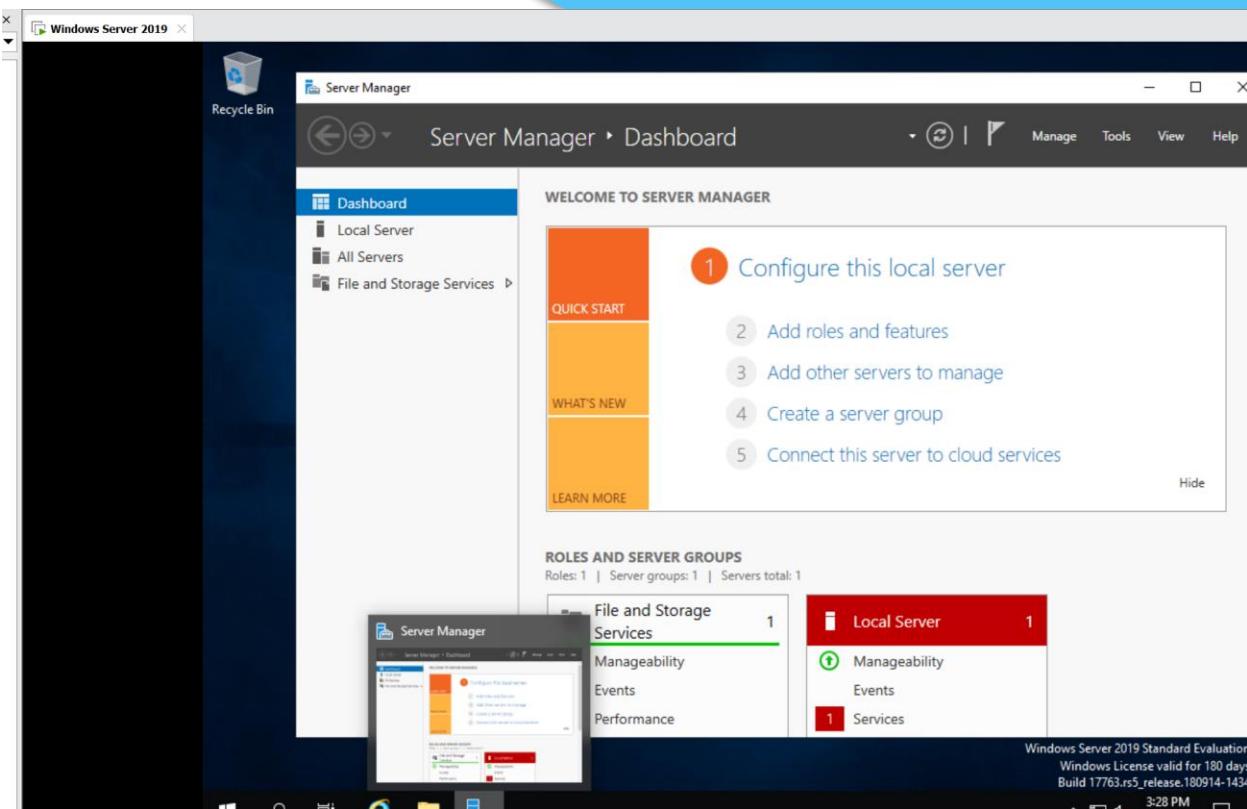
4 users found

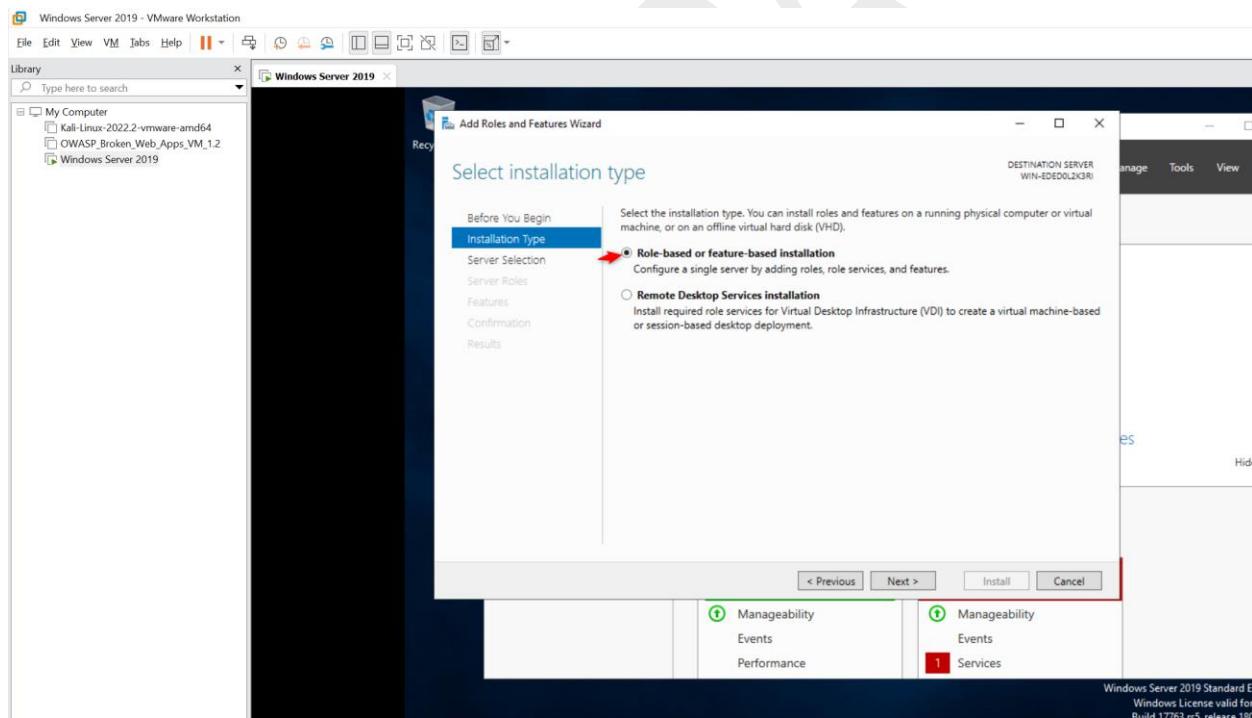
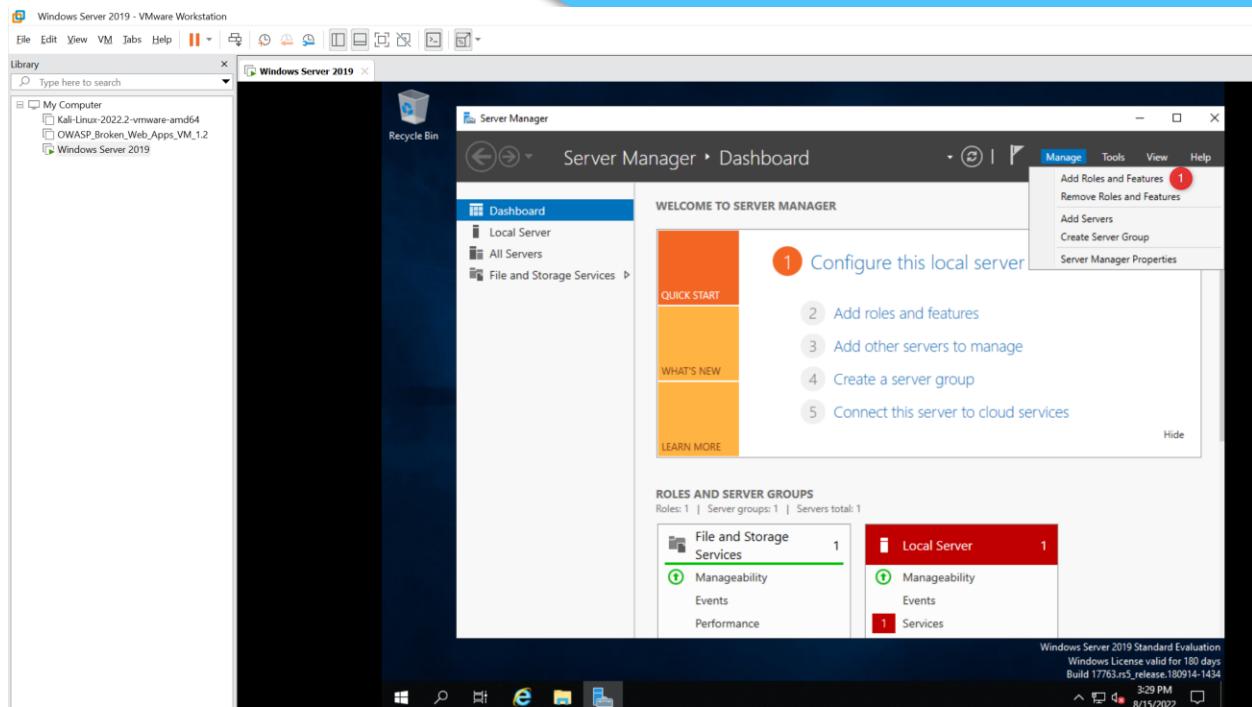
Display name	User principal name	User type	On-premises sy...	Identities	Company name	Creation type
user1@prefect.cloud	user1@prefect.cloud	Member	No	Cloudpraful@outlook.onmicrosoft		
user2@prefect.cloud	user2@prefect.cloud	Member	No	Cloudpraful@outlook.onmicrosoft		
Global Administrator	adadmin@prefect.cloud	Member	No	Cloudpraful@outlook.onmicrosoft		
praful.patel	Cloudpraful_outlook.com#EXT#@Cloud	Member	No	MicrosoftAccount		

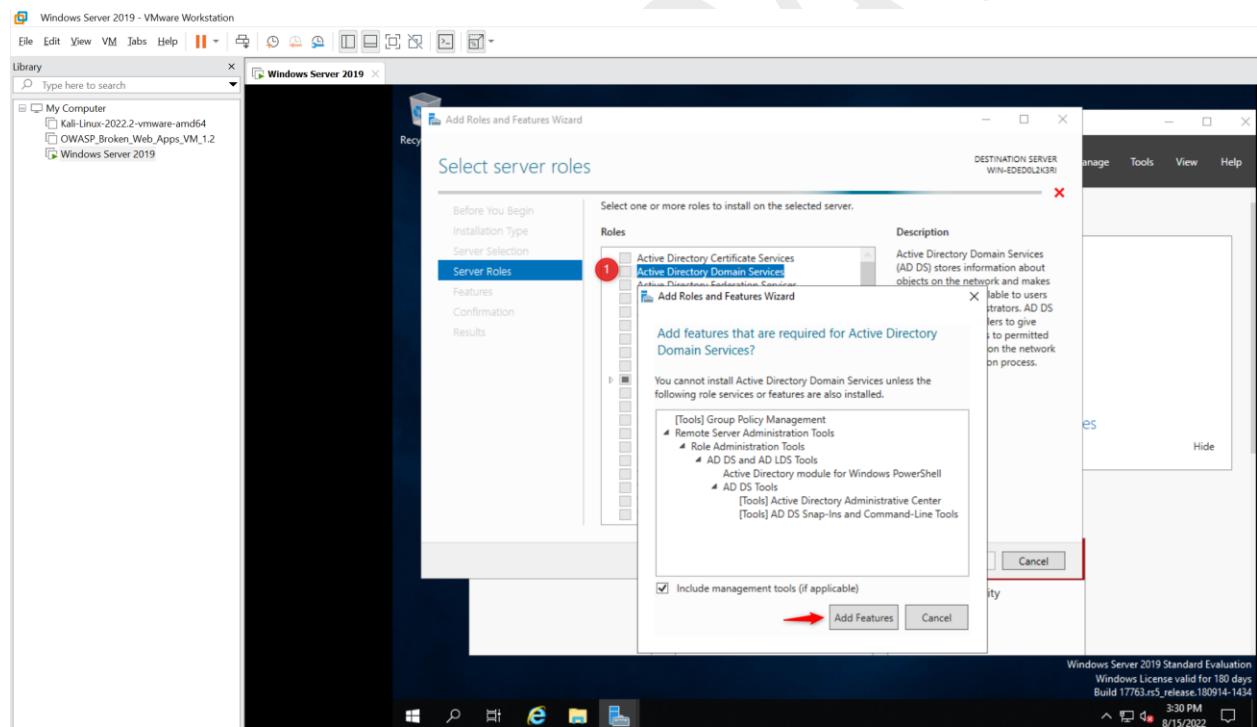
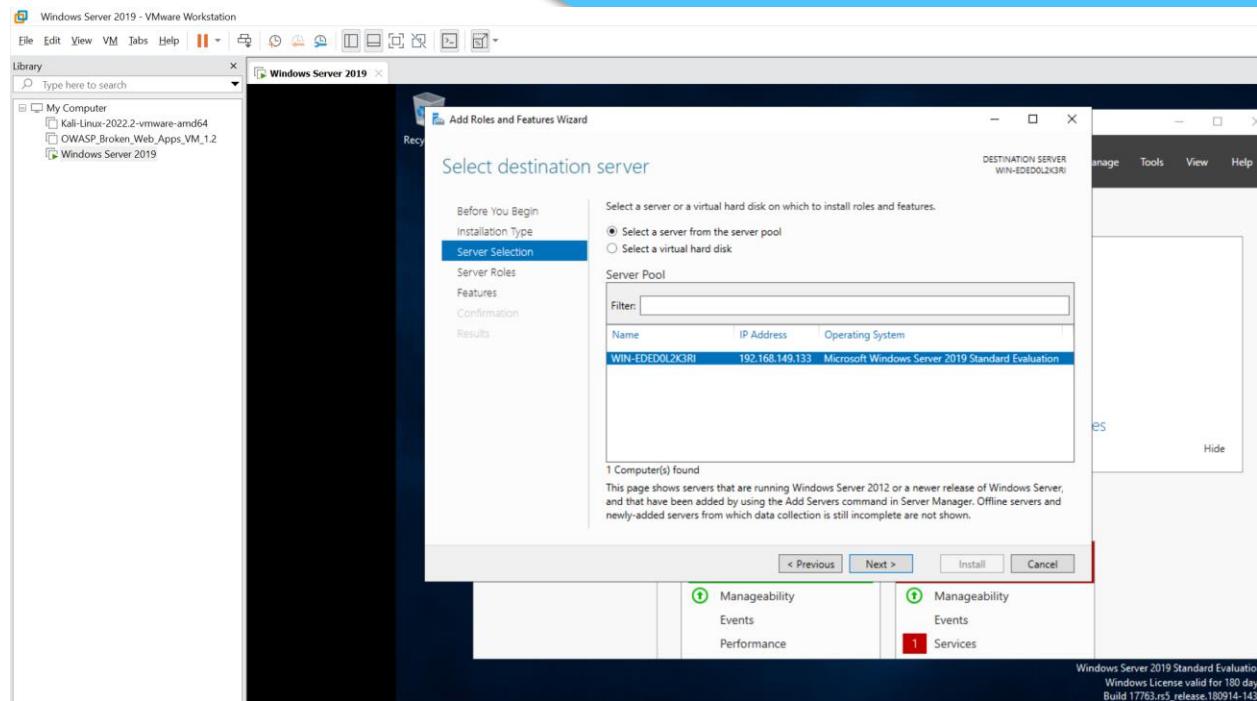
Phase 3: Deploy On-Premise Active Directory Service

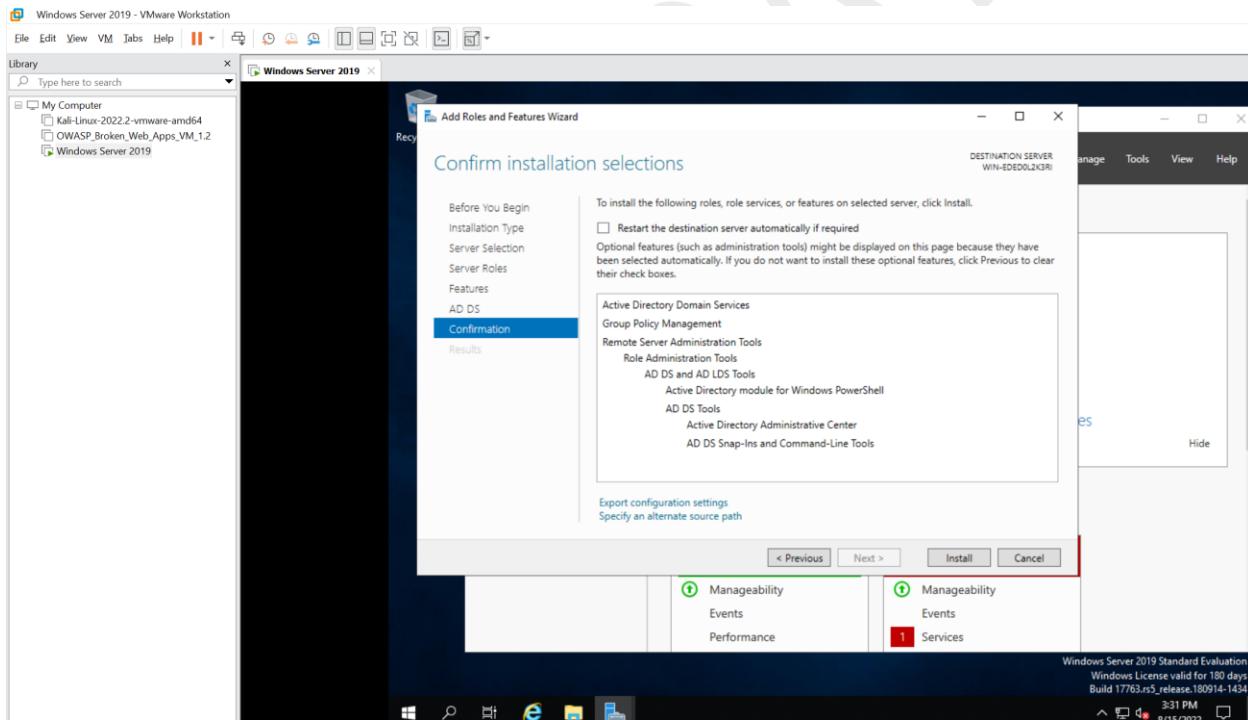
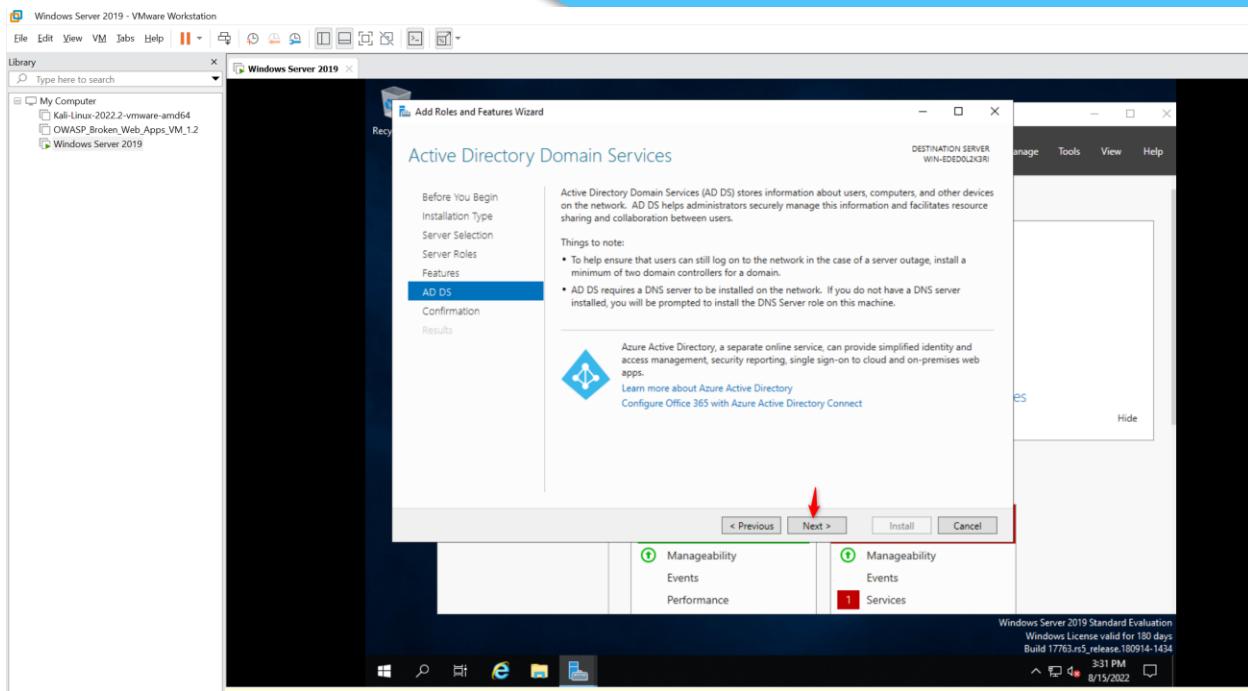
6. Go to Vmware and deploy window server 2019 vm
7. Go to Server Manager - Manage – Add Roles and Features
8. Add Feature - Select 'Active Directory Domain Services'
9. Verify that AD DS service is installed
10. Add New forest - prefect.cloud and finish the installation

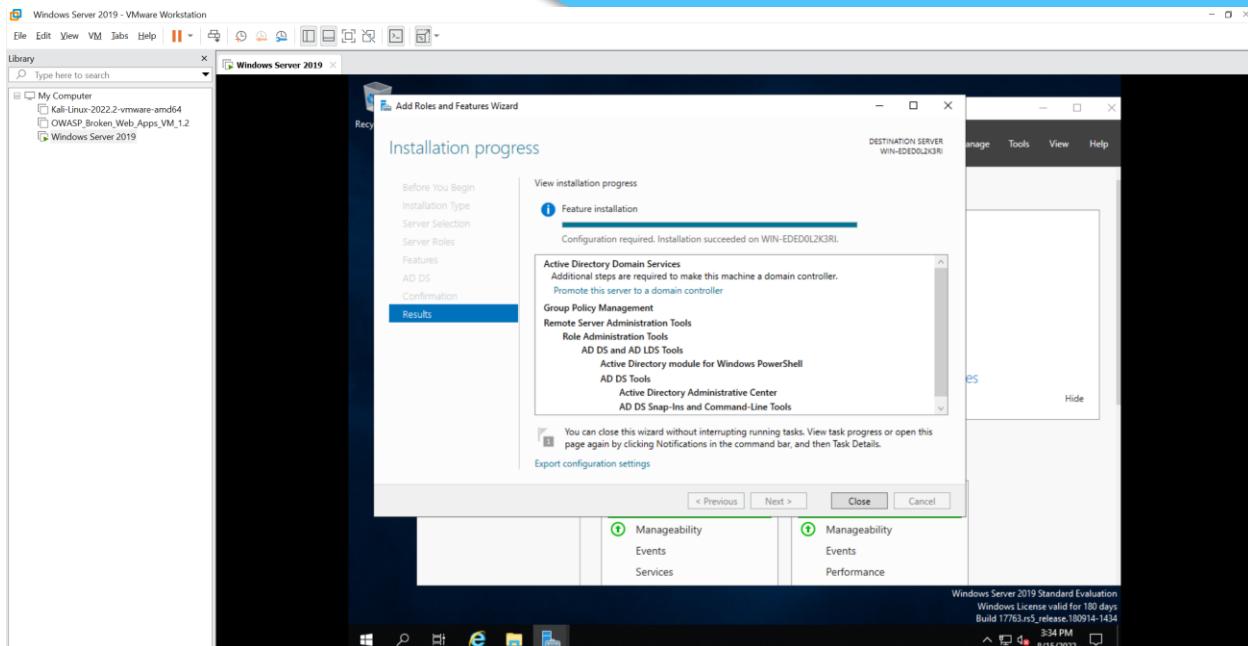
On-Prem Domain Controller



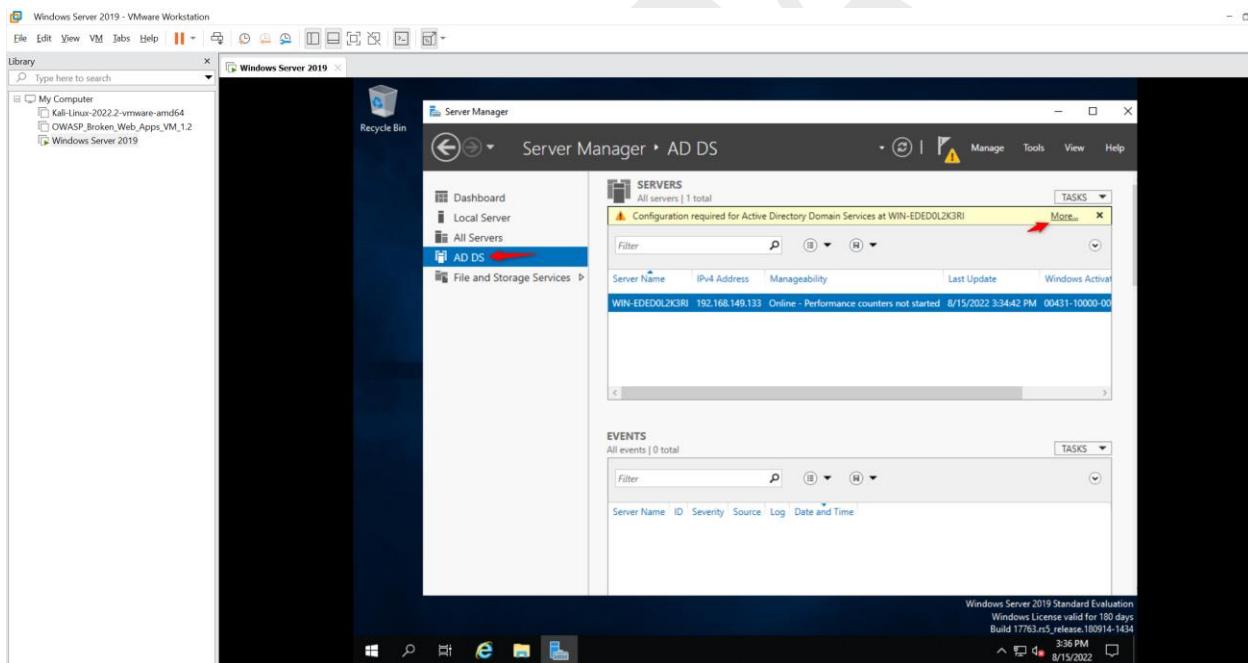




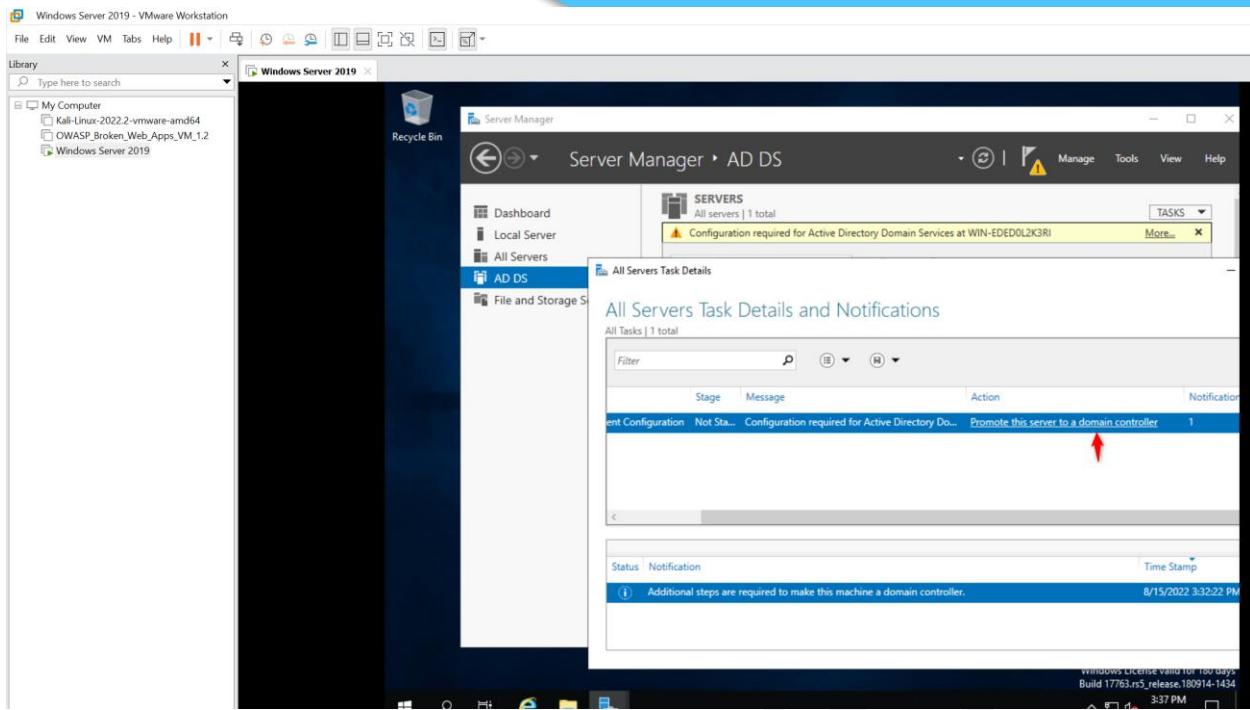




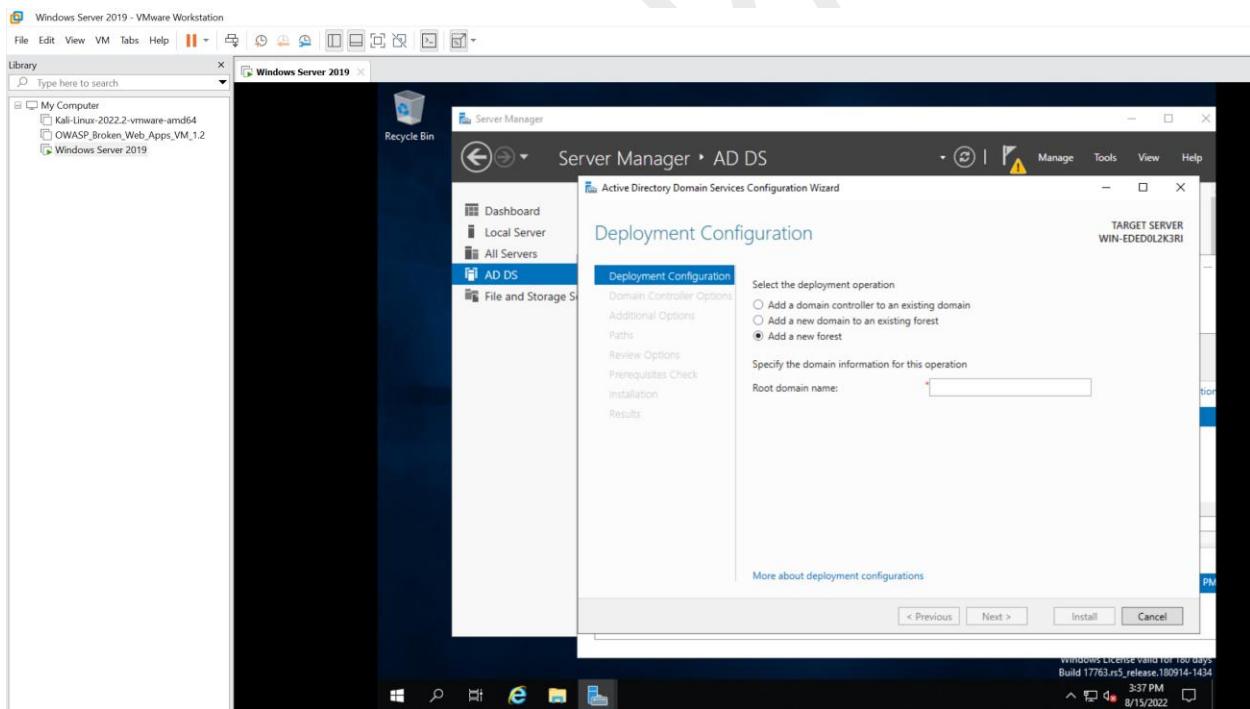
Verify that AD DS service is installed

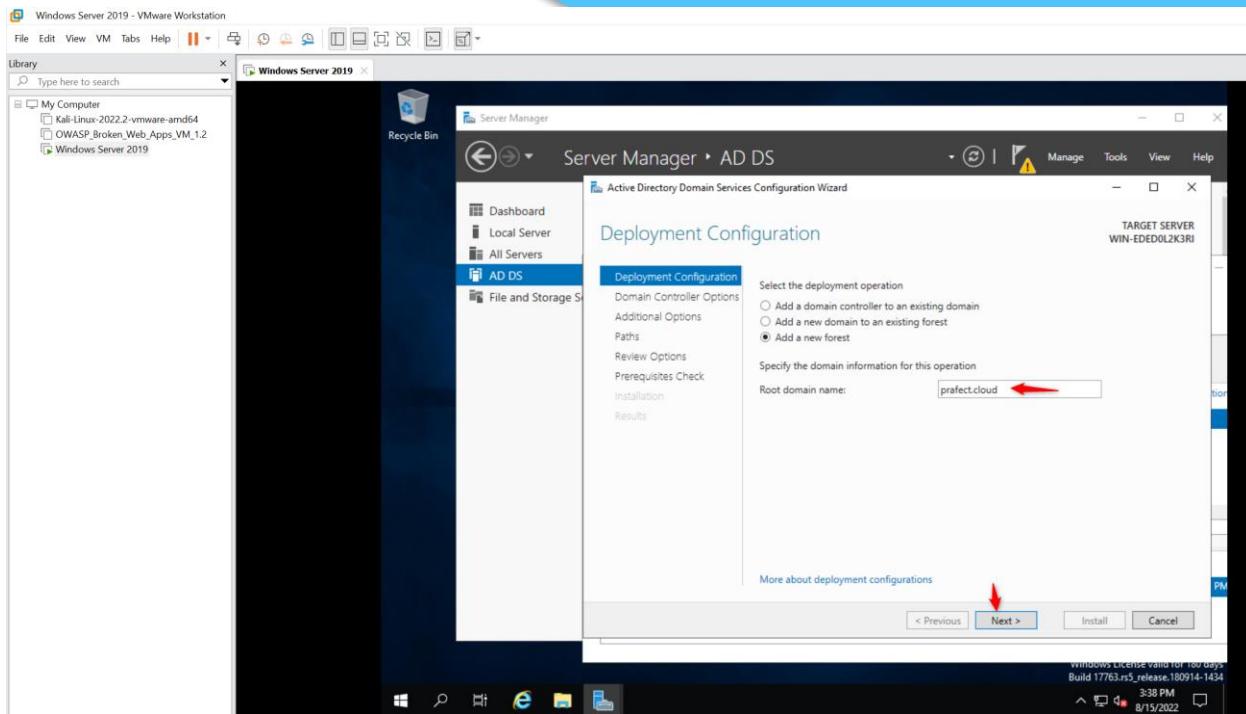


Click to



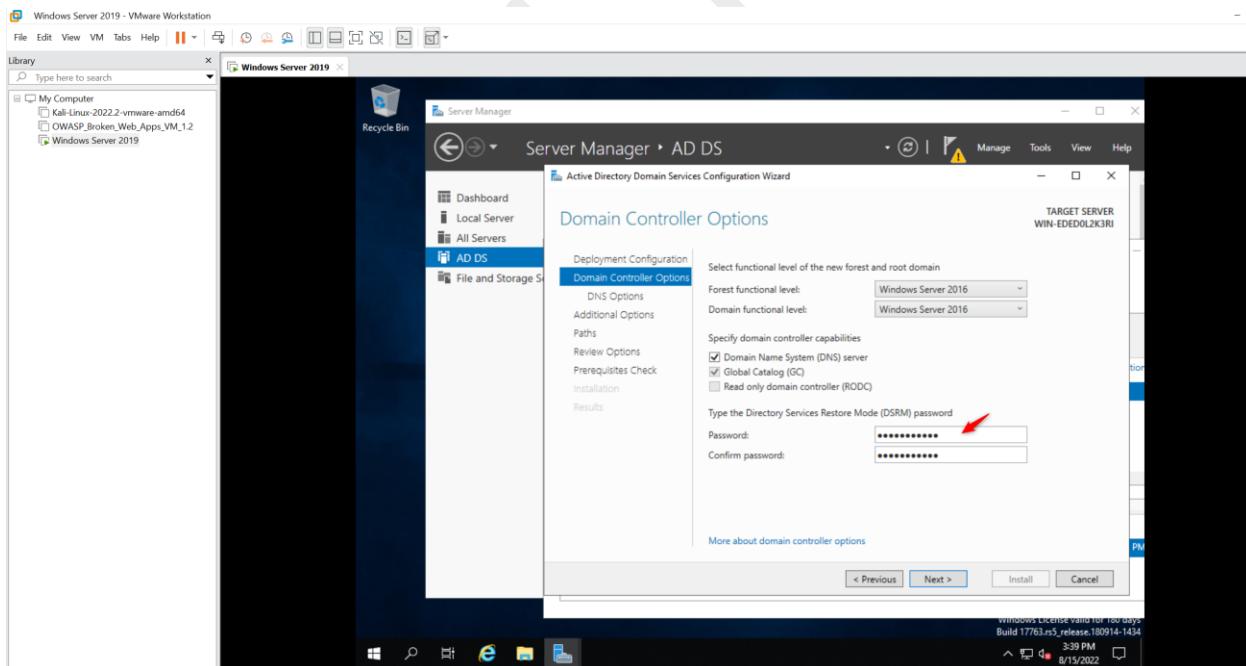
Add a New Forest : prefect.cloud

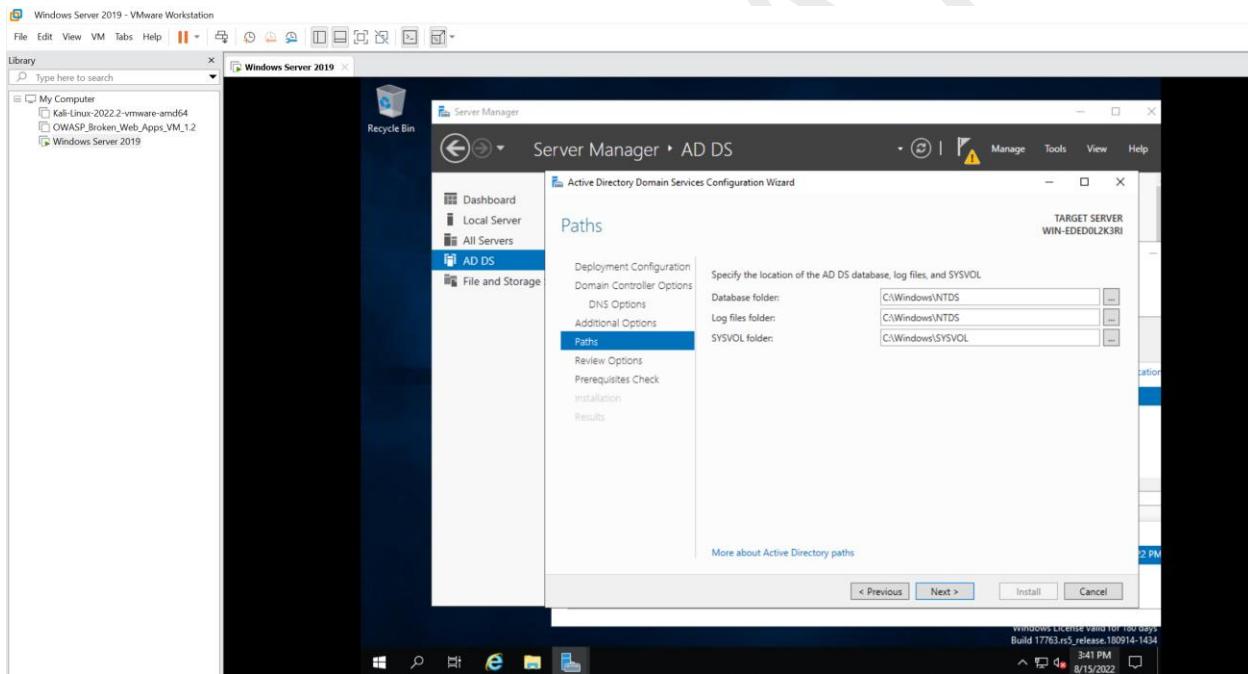
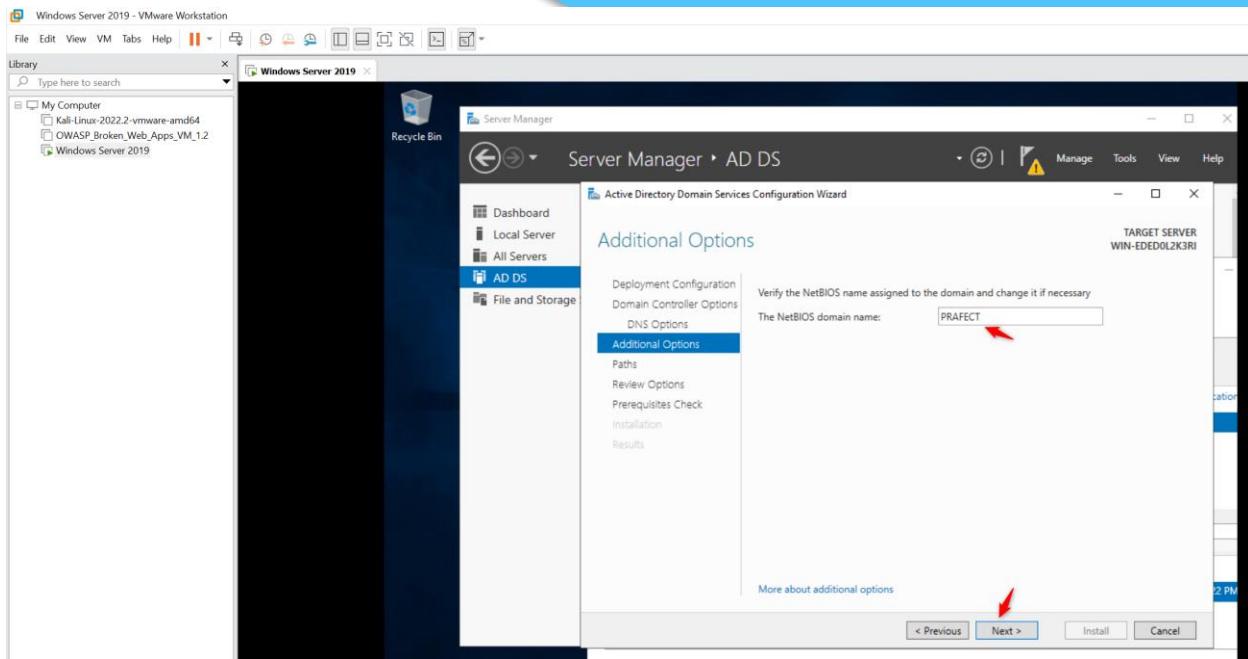


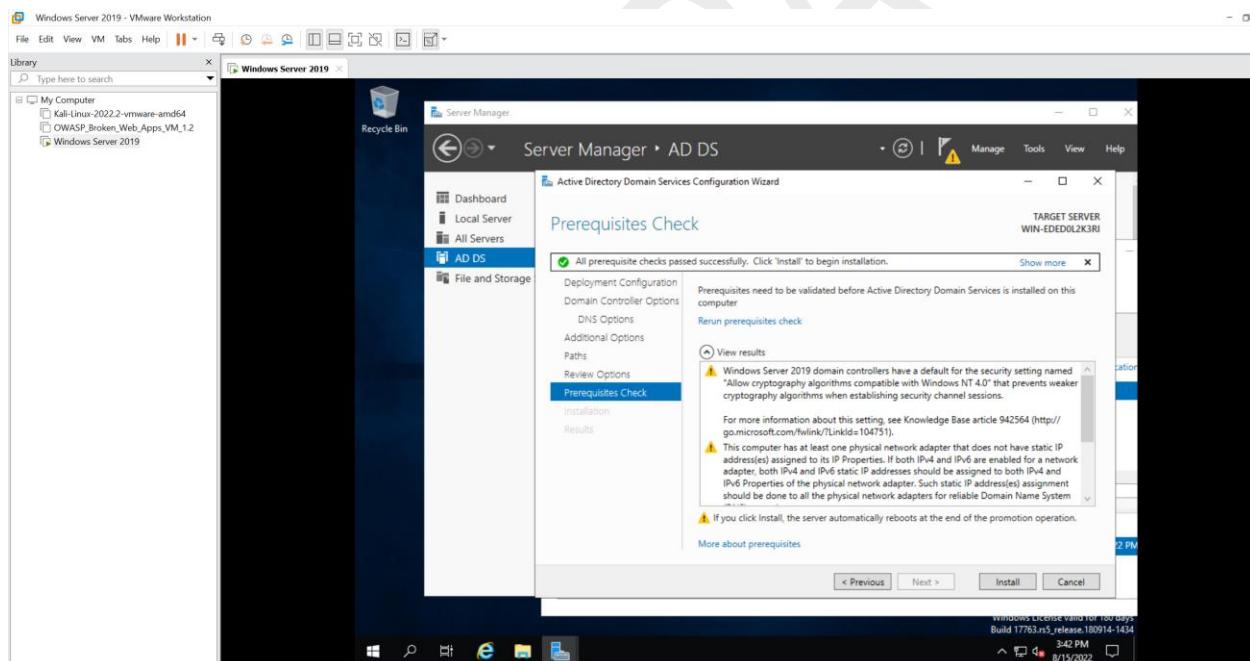
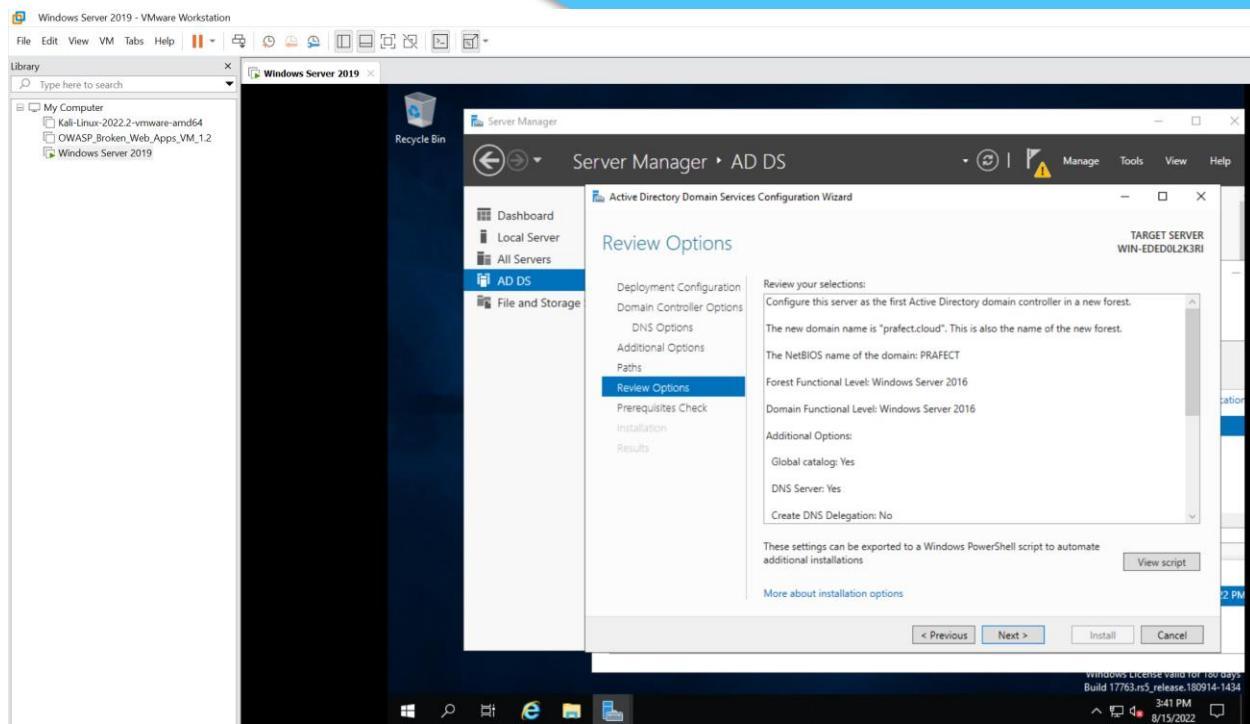


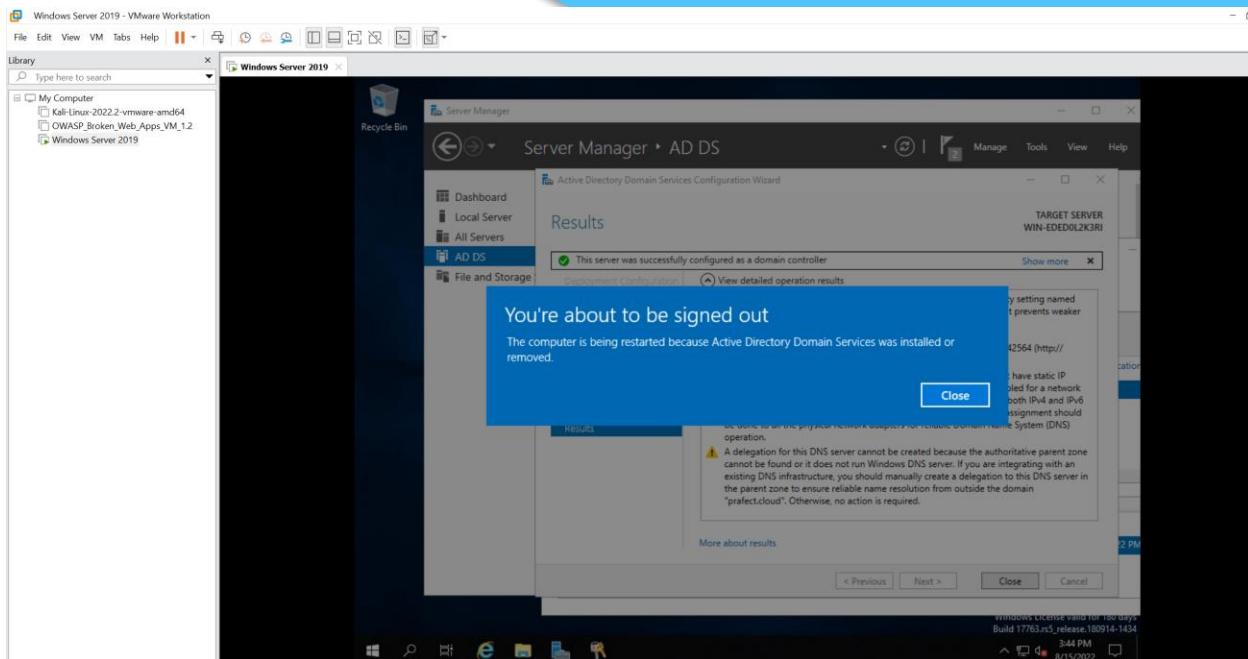
Provide password

test@123456





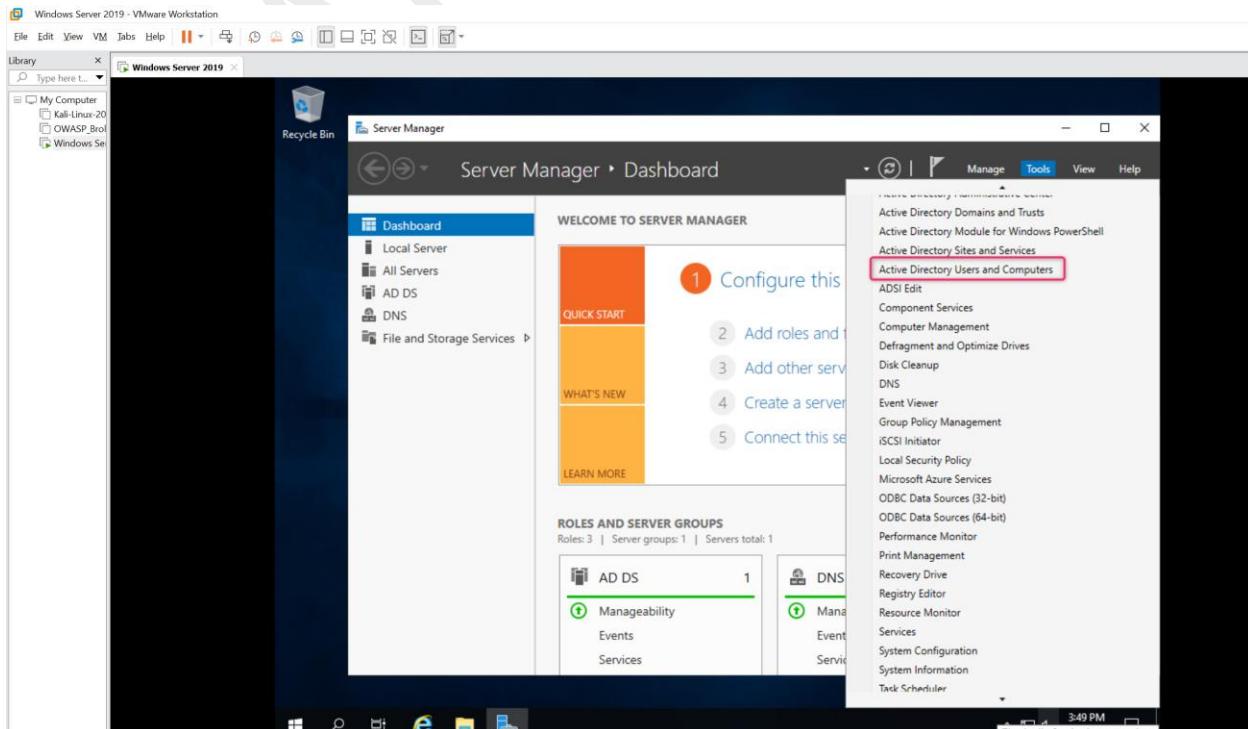




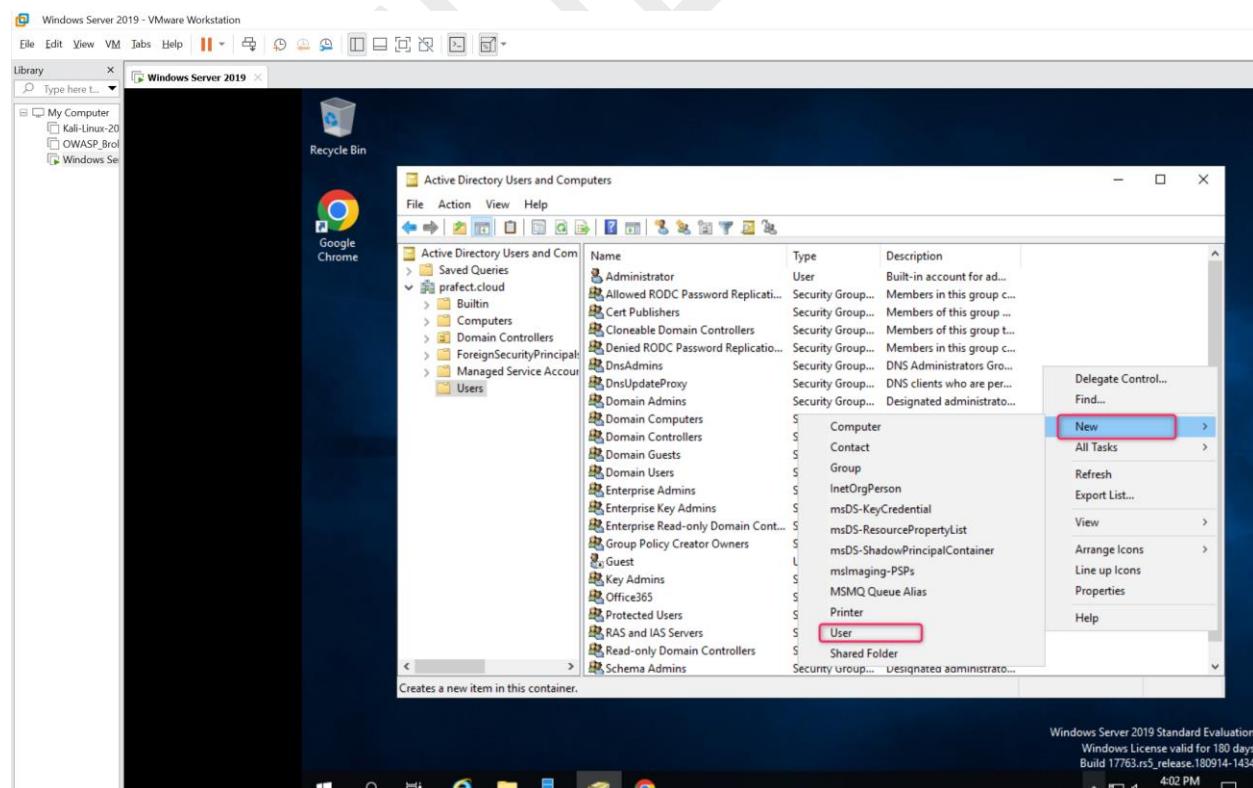
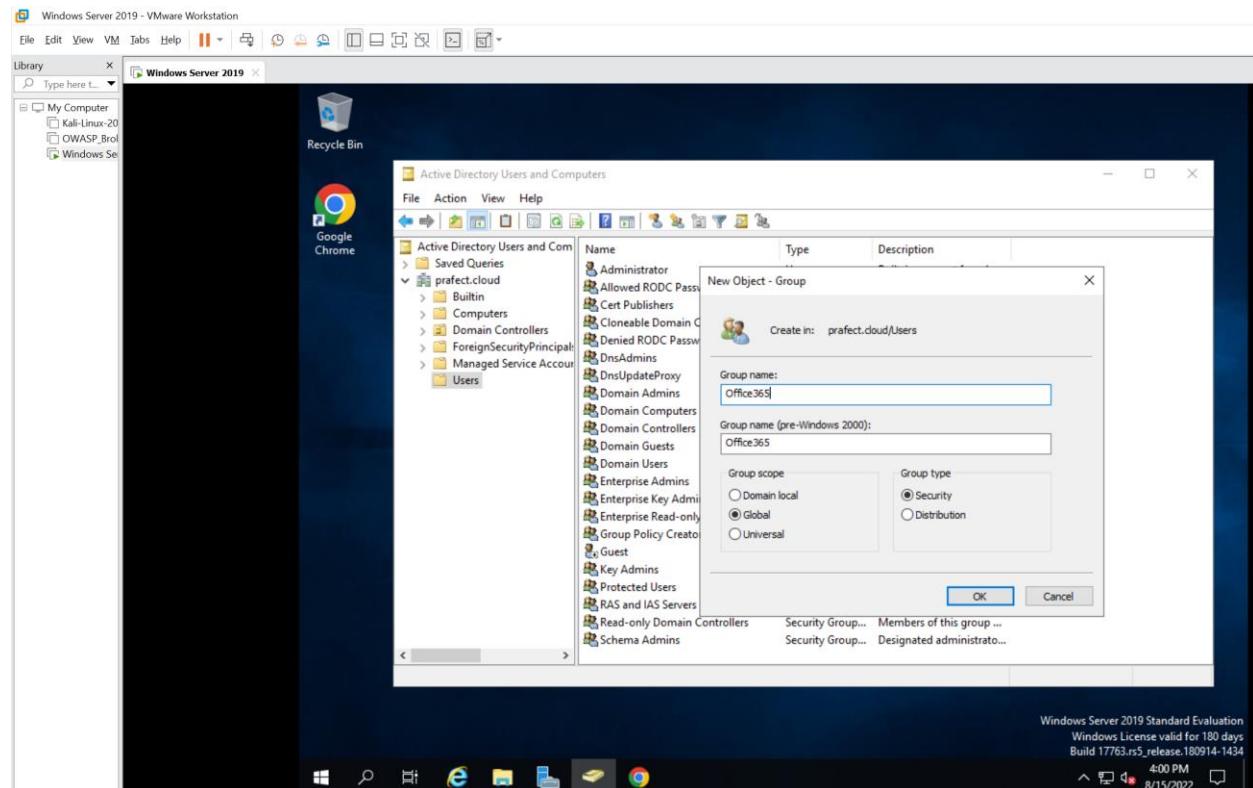
Phase 4: Create On-Premise groups and users

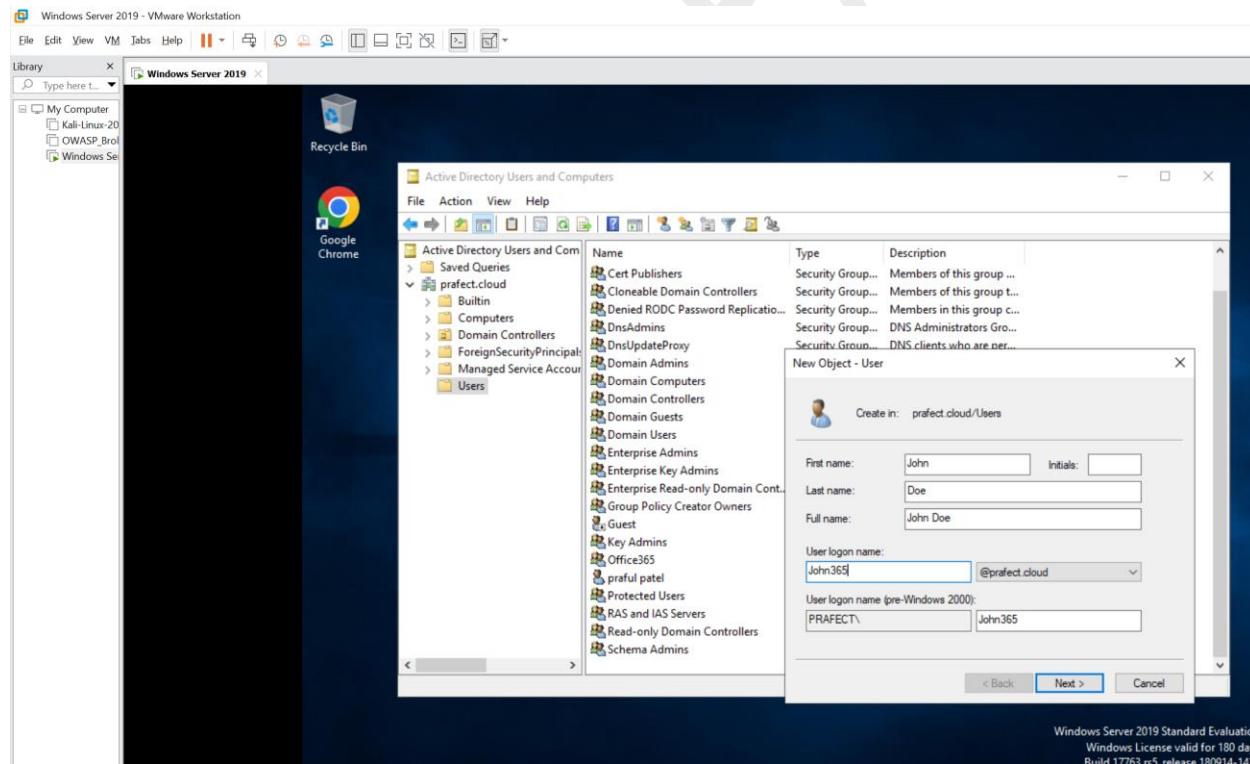
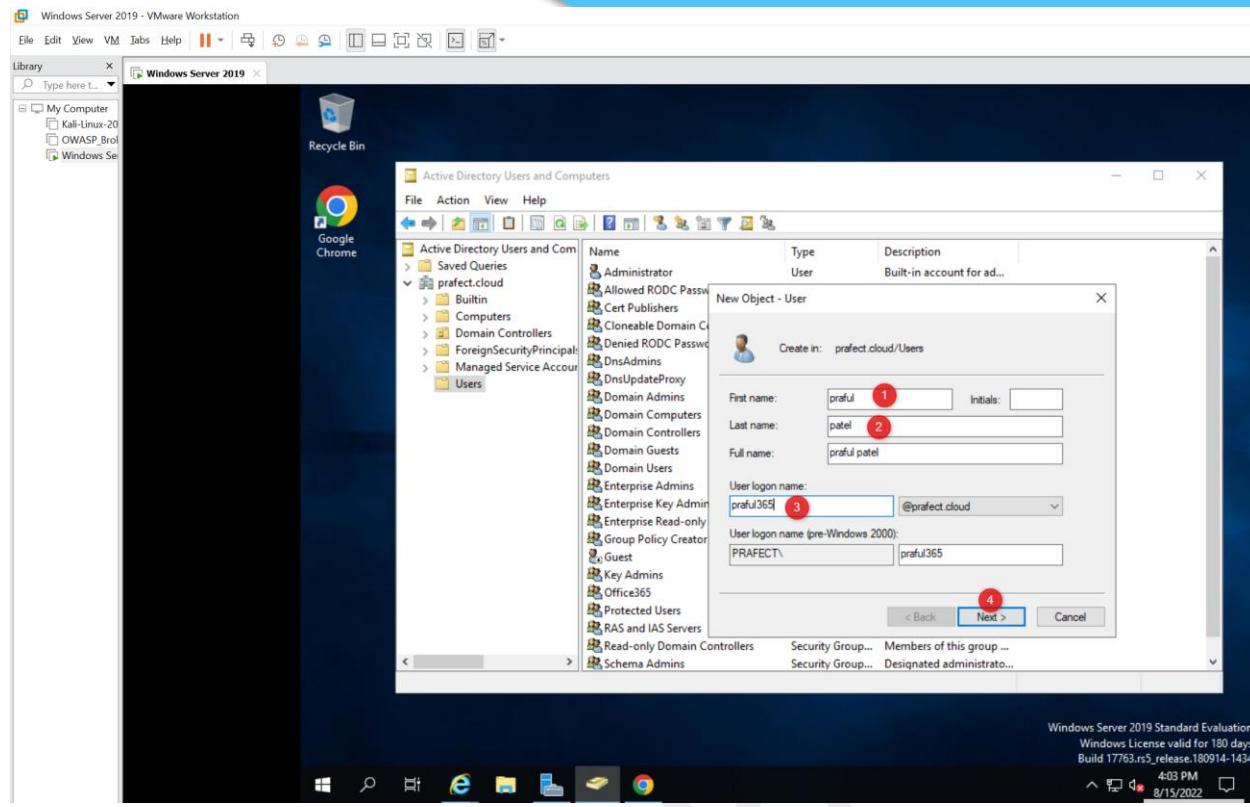
5. Go to Tools – Active Directory Users and Computers
6. Create a new group name: office365
7. Create a new users
 - a. Praful Patel
 - b. Alex Smith
 - c. John Doe
8. Assign users to group: office365

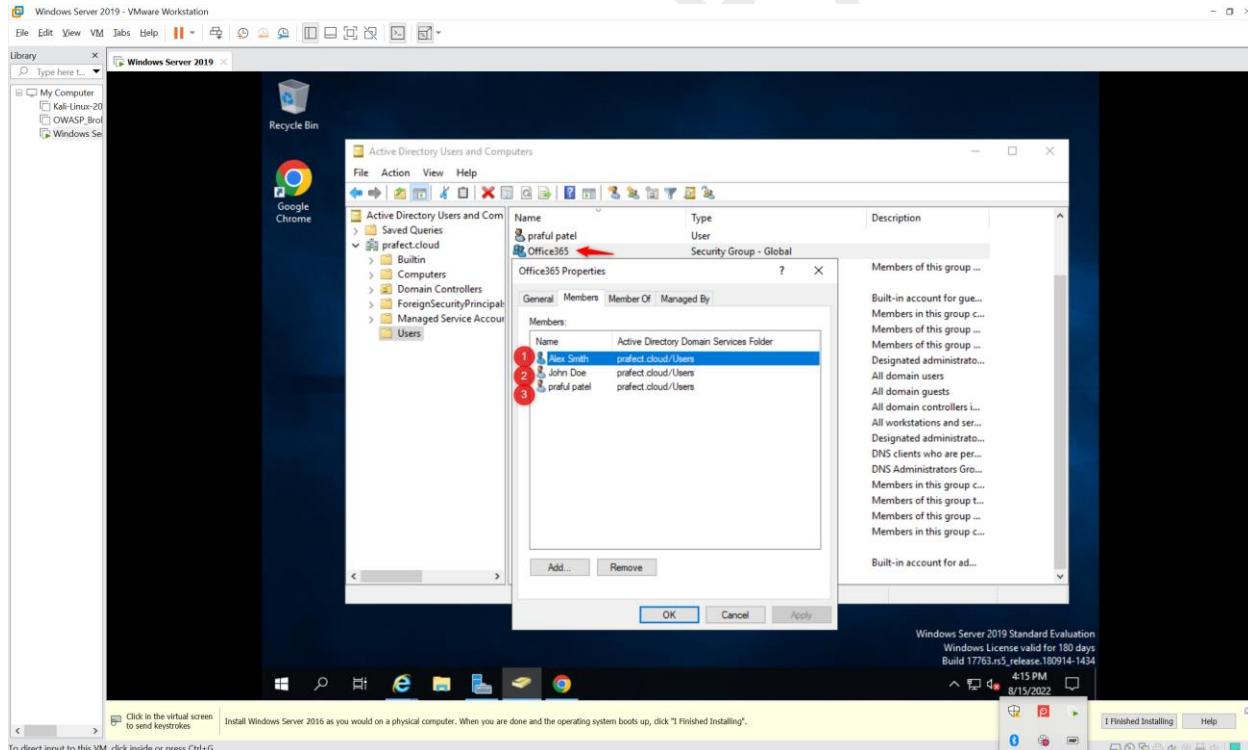
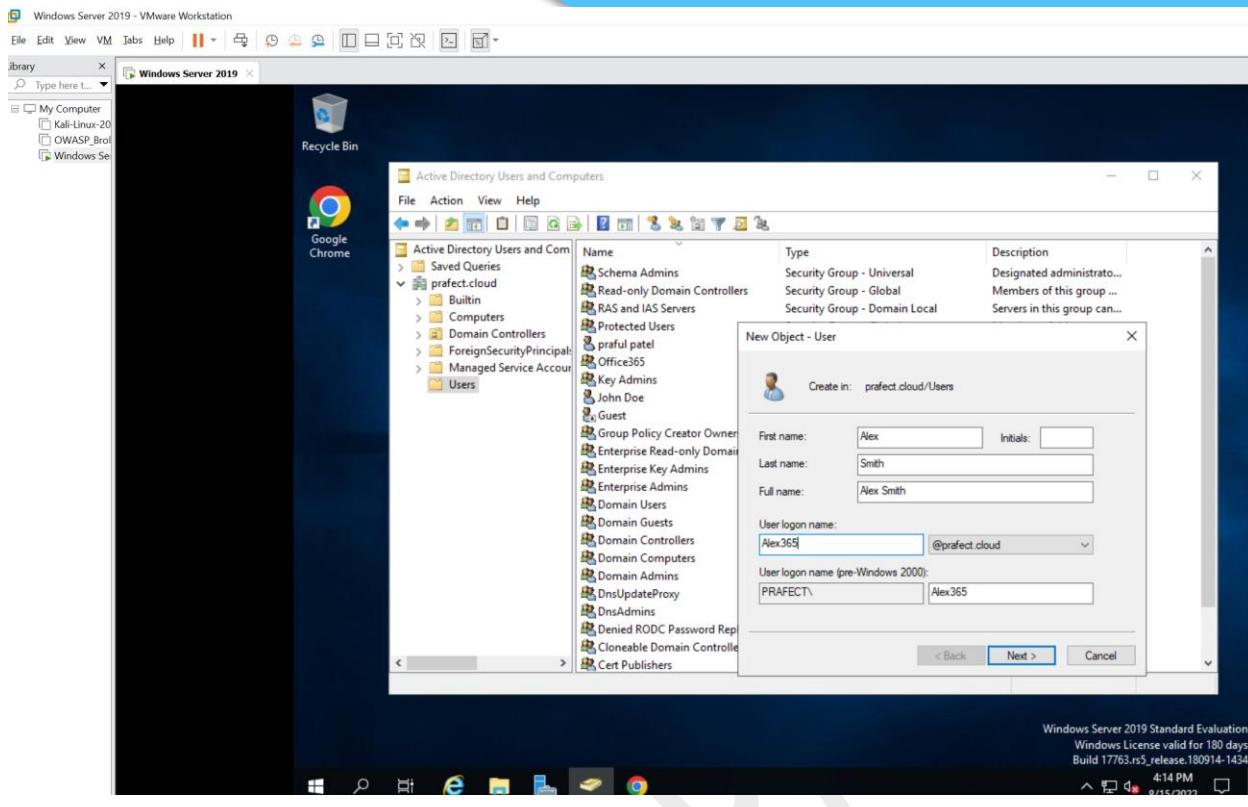
Click to add – Active Directory Users and Computers



Create Groups and Users







Phase 5: Deploy Azure AD Connect on On-Premise DC

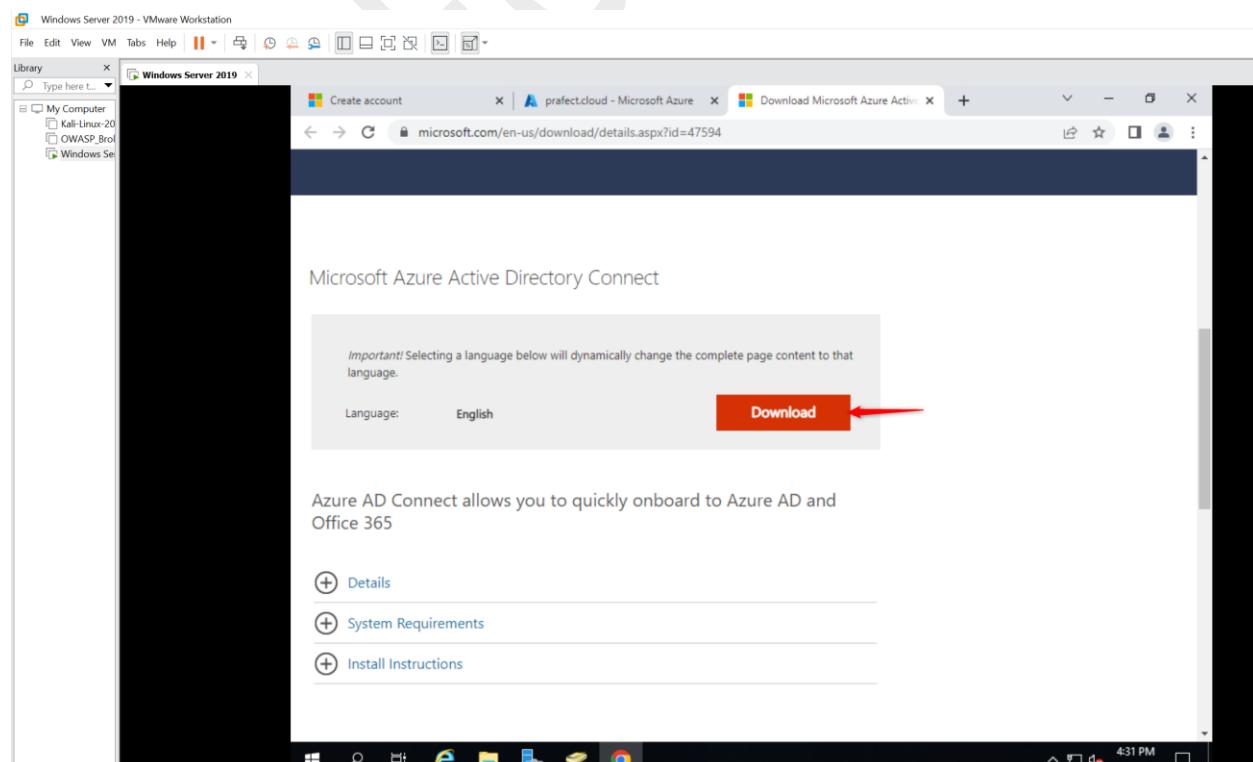
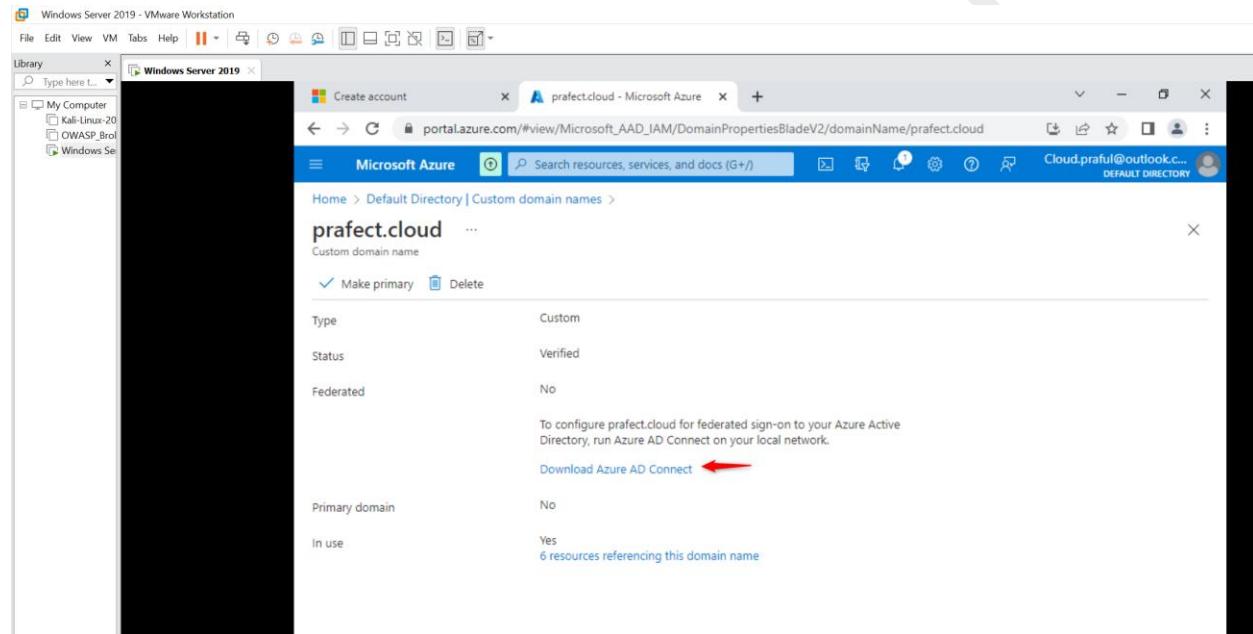
8. Go to On-Premise Windows 2019 DC server
9. Using Browser - Login to Azure Portal
10. Go to Active Directory service- Default domain name – Download Azure AD Connect
11. Install Azure AD Connect

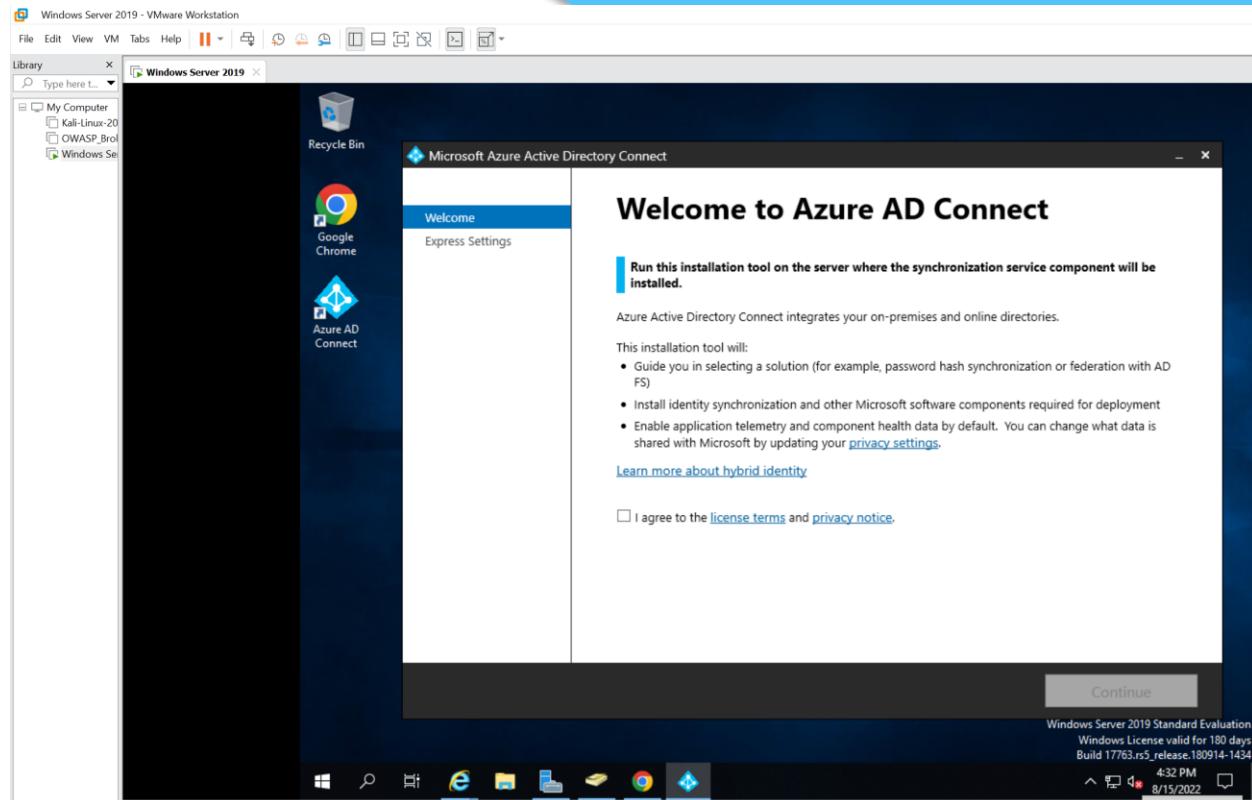
12. Connect to Azure AD using Azure Admin user – Global administrator
13. Connect to Active Directory using existing AD Account user
14. Finish the Azure AD Connect sync process

Go to Azure Portal

Download Azure AD Connect

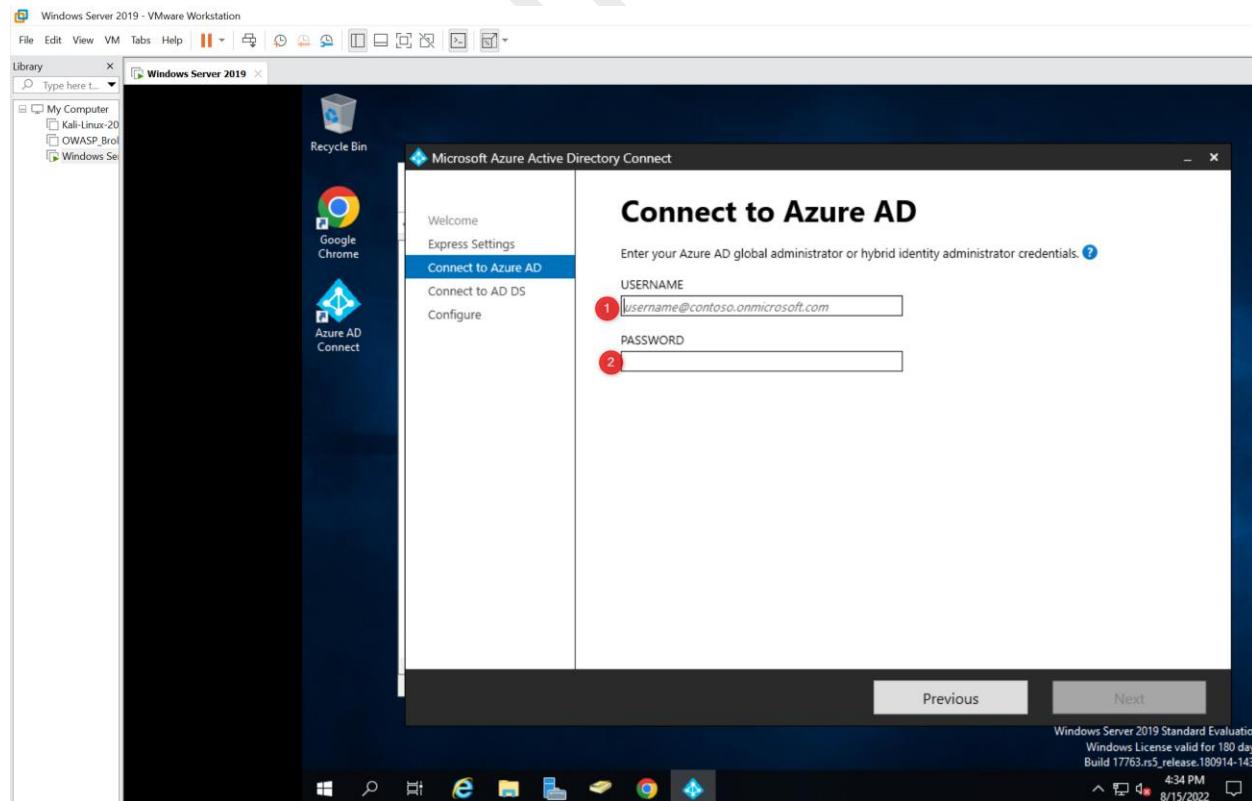
<https://www.microsoft.com/en-us/download/details.aspx?id=47594>

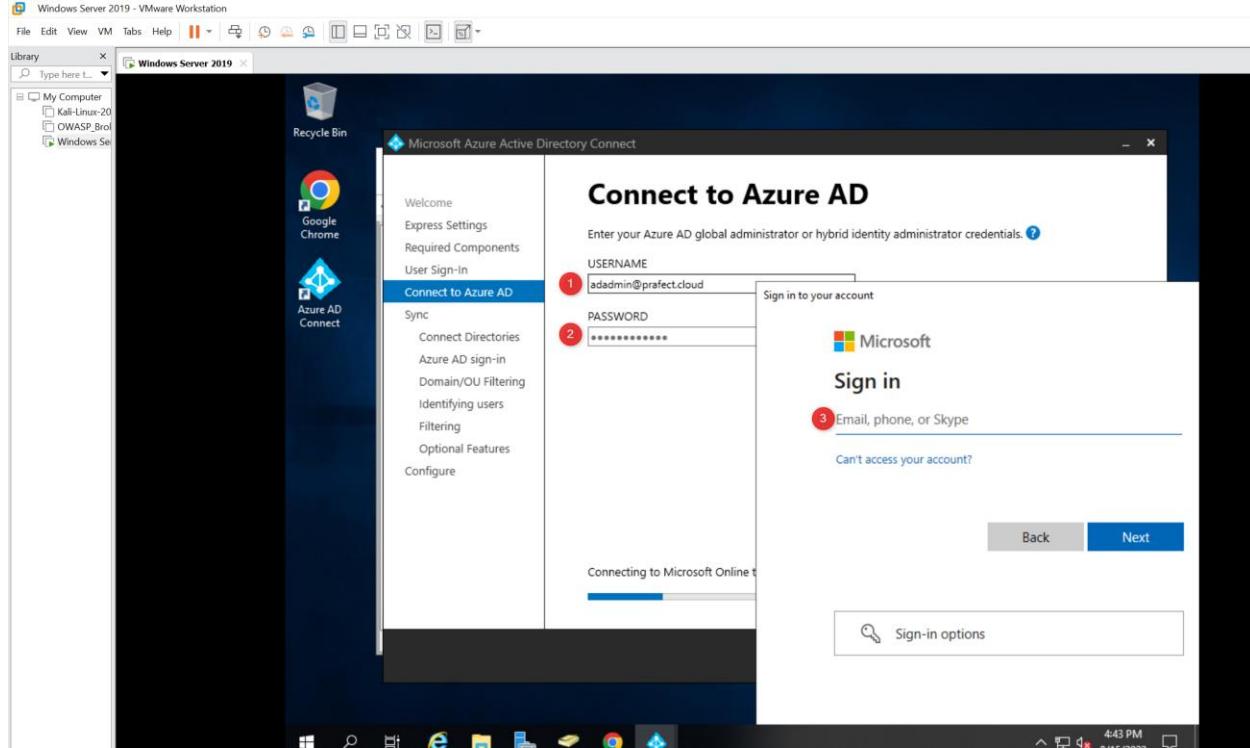
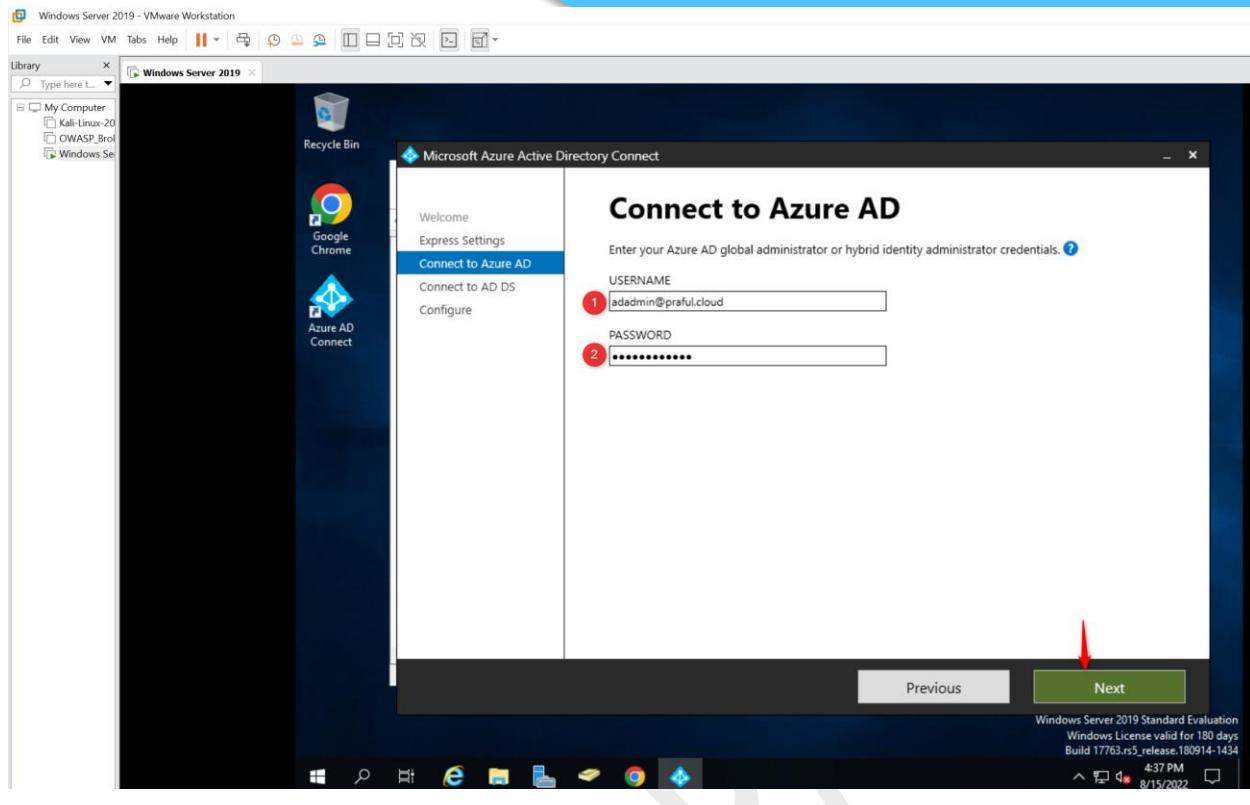


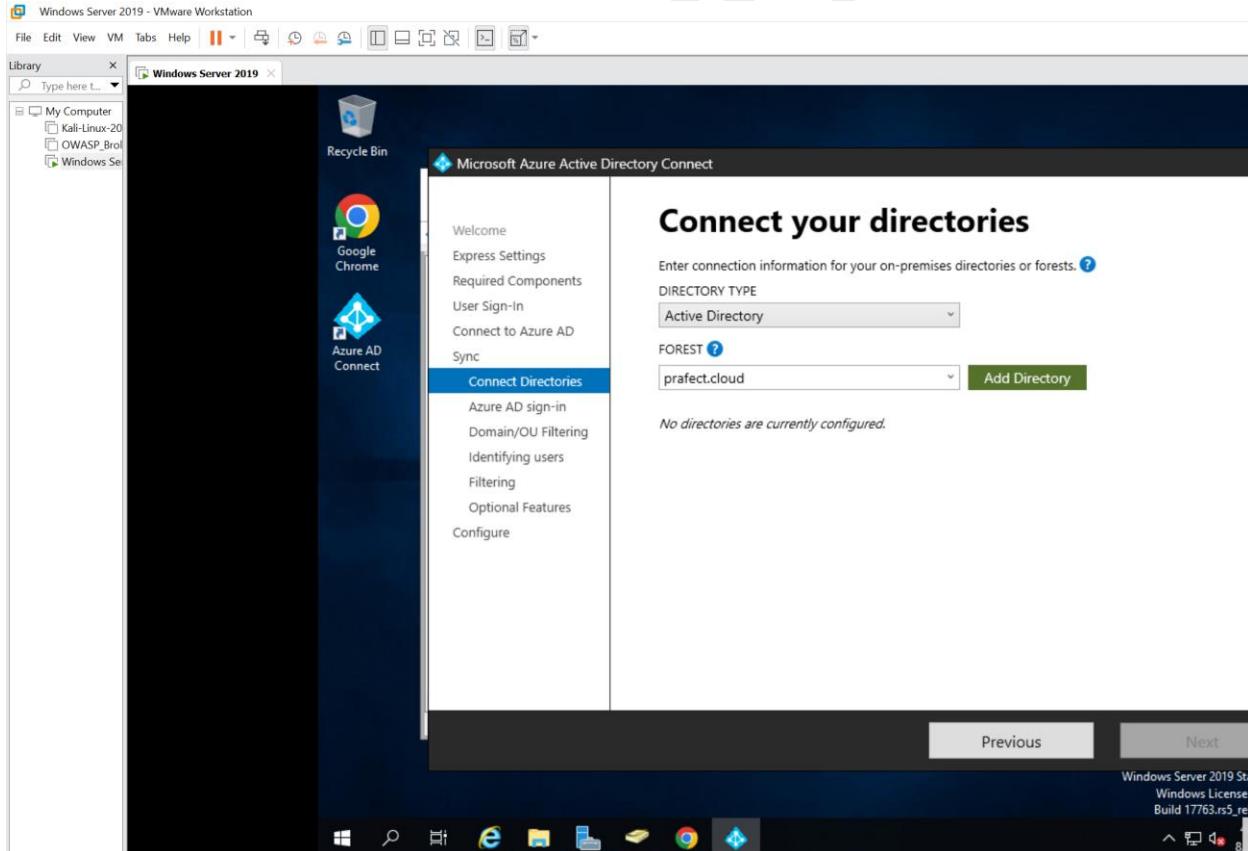
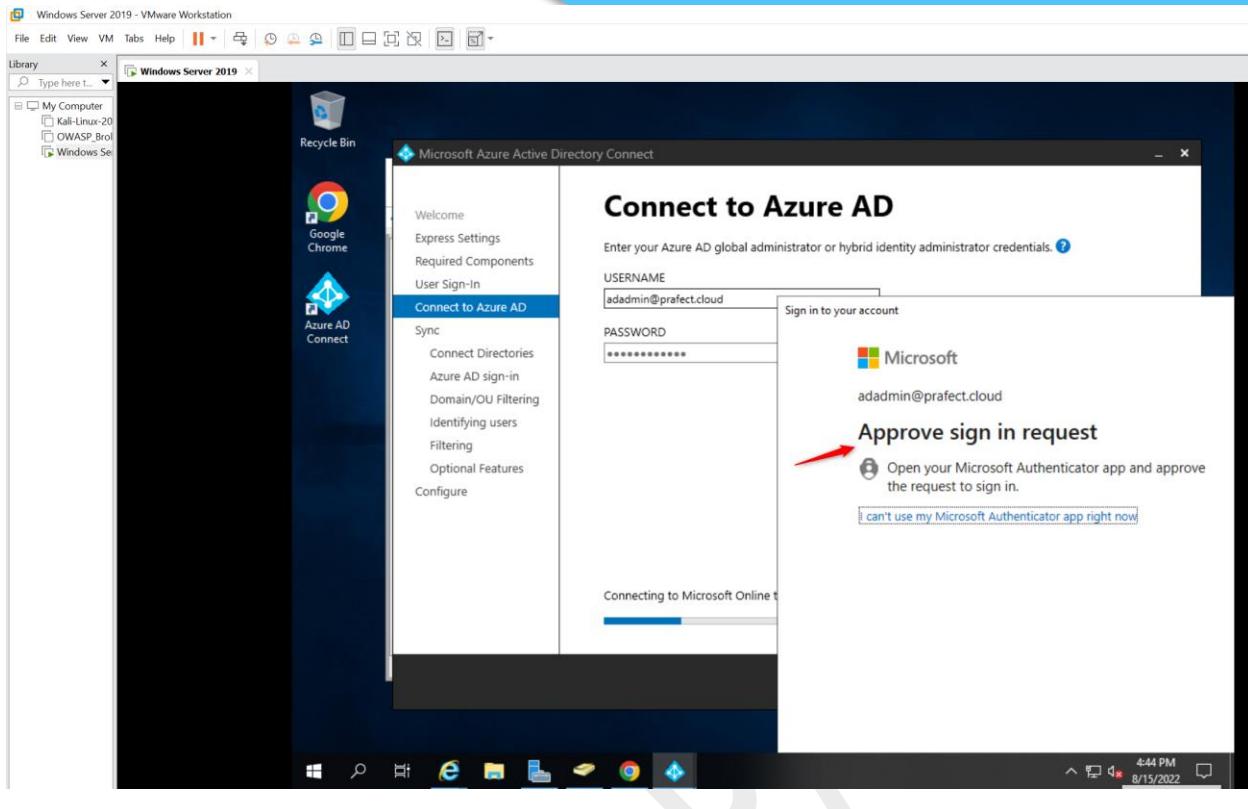


User: adadmin@prefect.cloud

Pass: cloud@123456



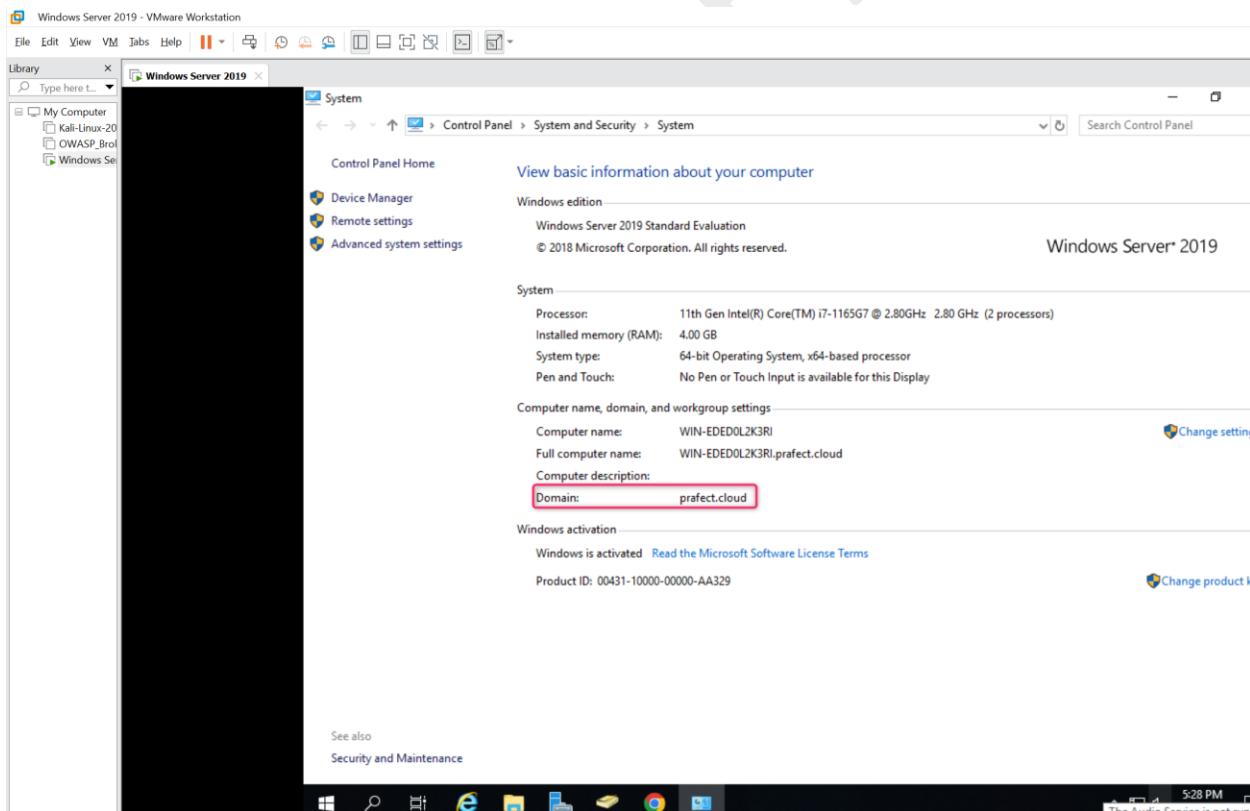
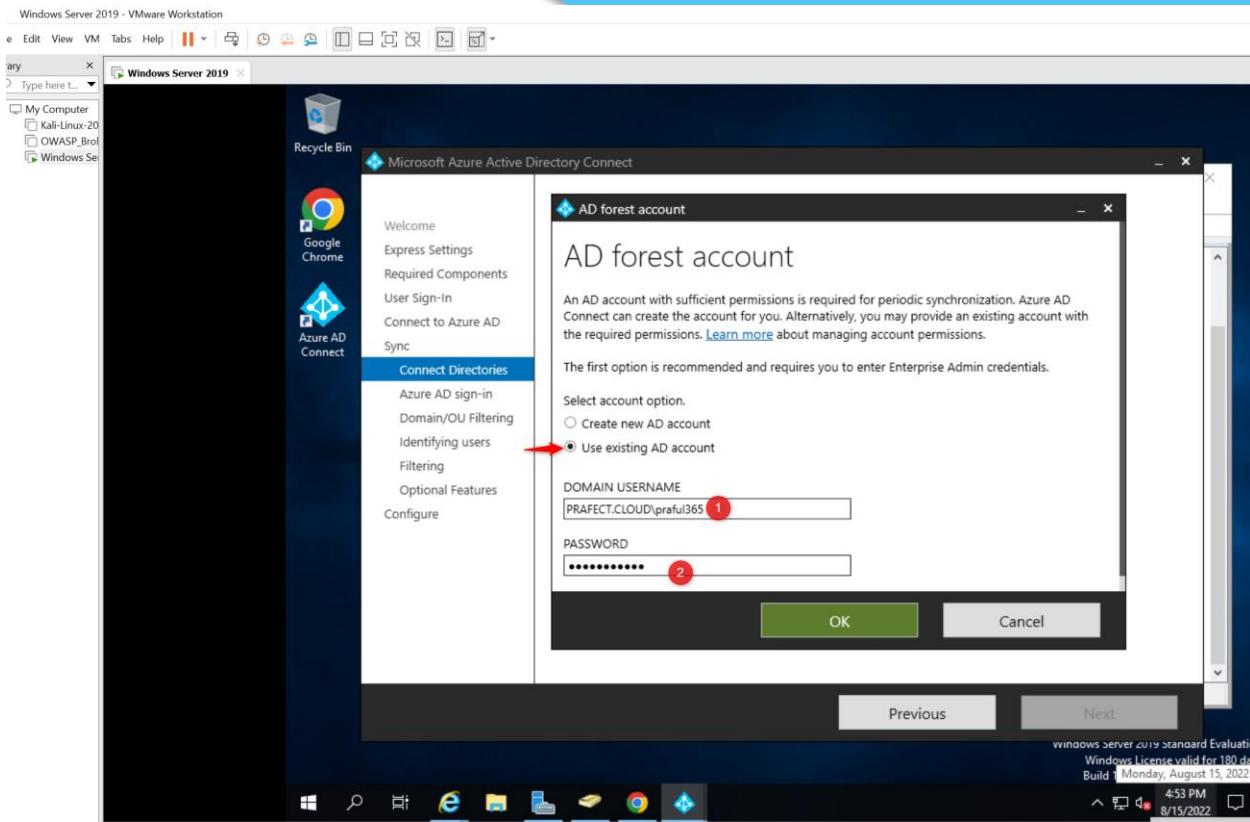




On Premises Active Directory user name

User: praful365

Pass:test@123456



Azure users

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Default Directory | Users > Users

All users (preview)

Want to switch back to the legacy users list experience? Click here to leave the preview.

Search Add filter

8 users found

Display name	User principal name	User type	On-premises sy...	Identities	Company name	Creation t
Global Administrator	admin@prefect.cloud	Member	No	Cloudprafuloutlook.onmicrosoft		
On-Premises Directory Synchronization Service ...	Sync_prafulcloudserv_138ac8e17dd3@...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
praful patel	Cloud.praful_outlook.com#EXT#@clo...	Member	No	MicrosoftAccount		
user1	user1@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft		
user1cloud	user1@prefect.cloud	Member	No	Cloudprafuloutlook.onmicrosoft		
user2	user2@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft		
user2cloud	user2@prefect.cloud	Member	No	Cloudprafuloutlook.onmicrosoft		
user3	user3@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft		

Azure Groups

Microsoft Azure Upgrade Search resources, services, and docs (G+)

Home > Default Directory | Groups (arrow)

Groups | All groups

Default Directory - Azure Active Directory

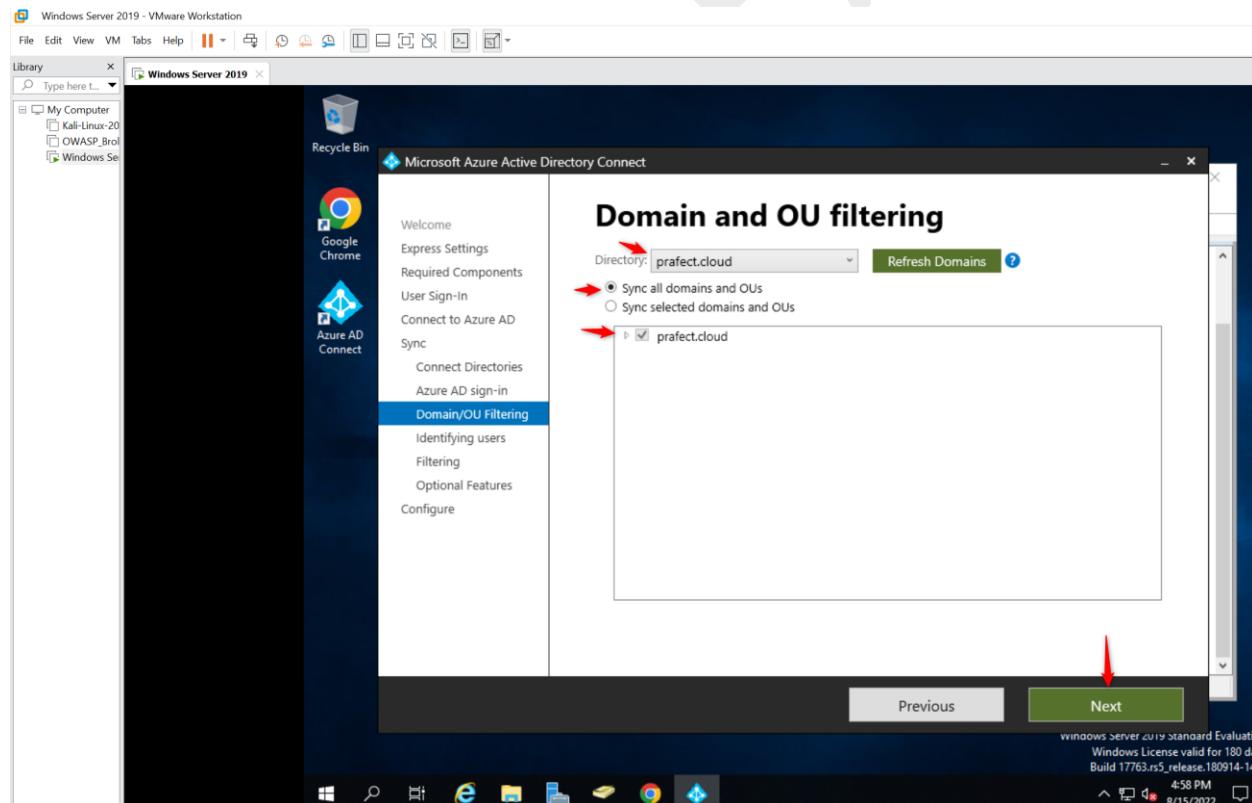
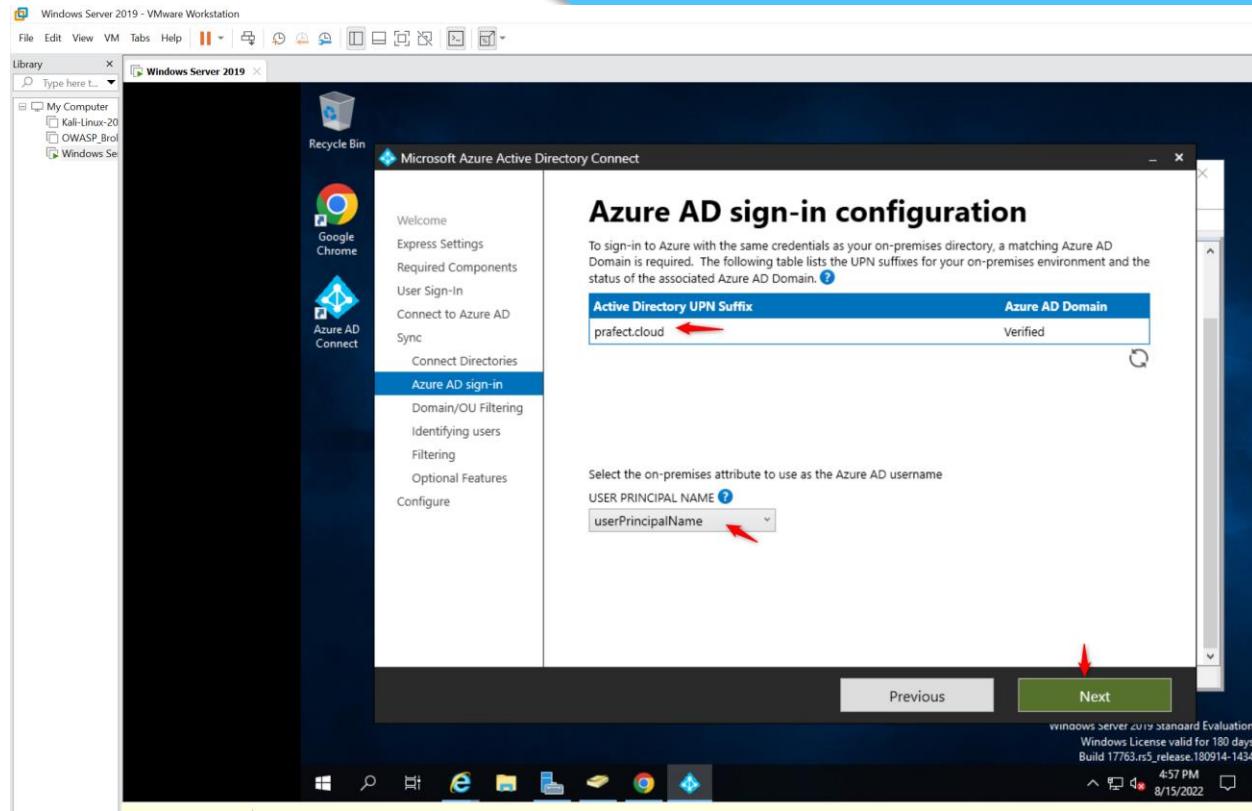
All groups

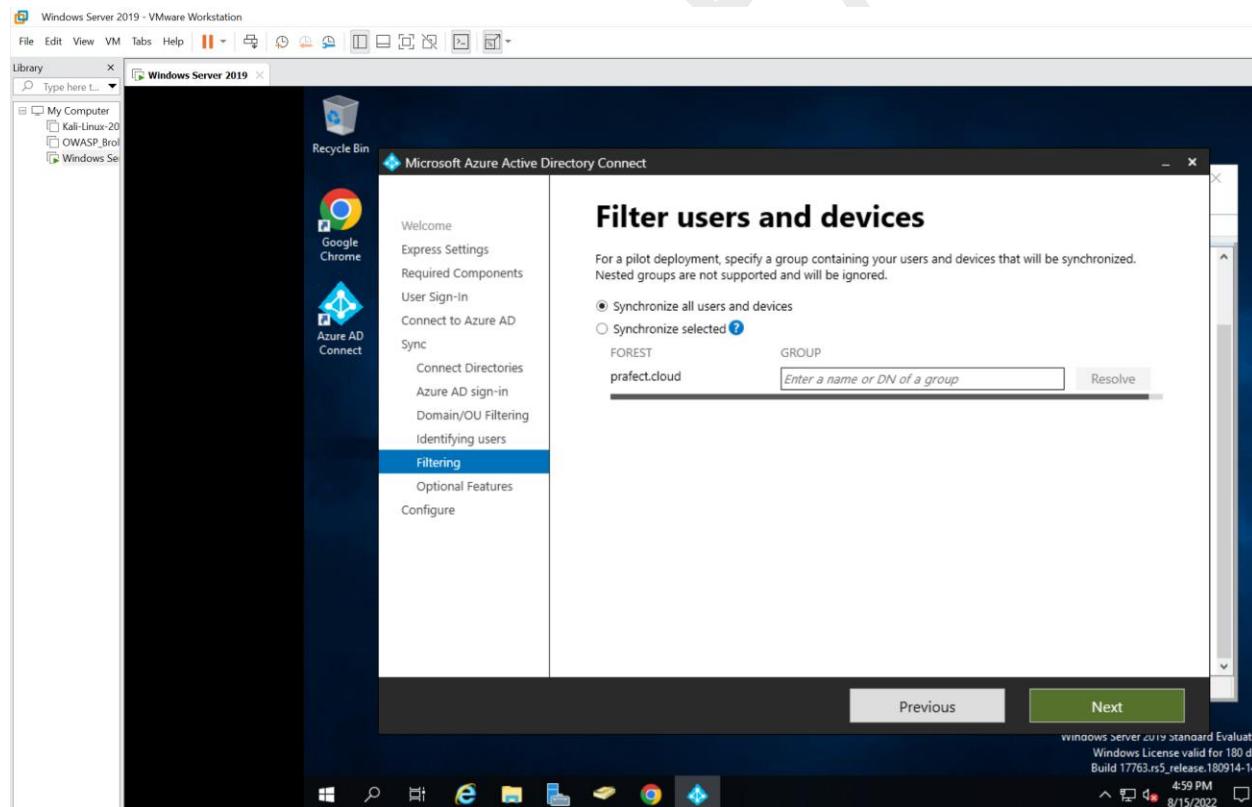
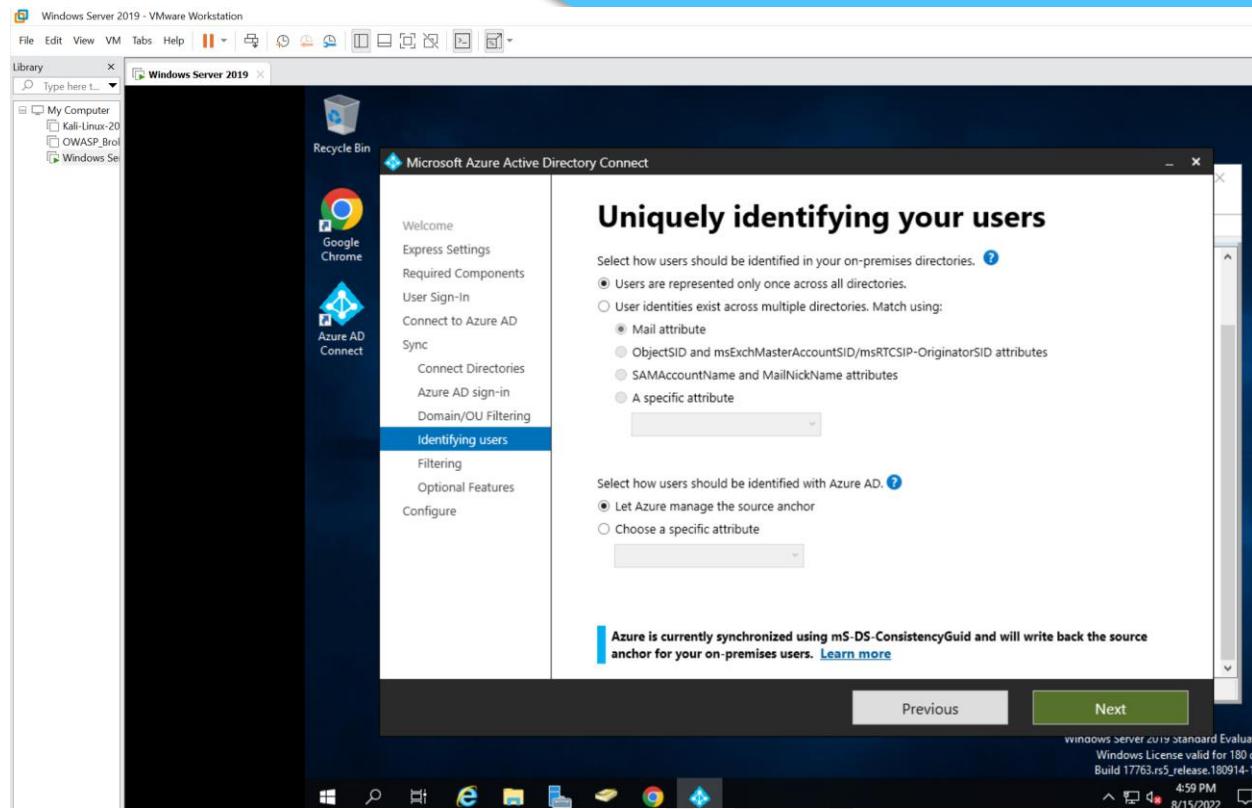
New group Download groups Refresh Manage view Delete Got feedback?

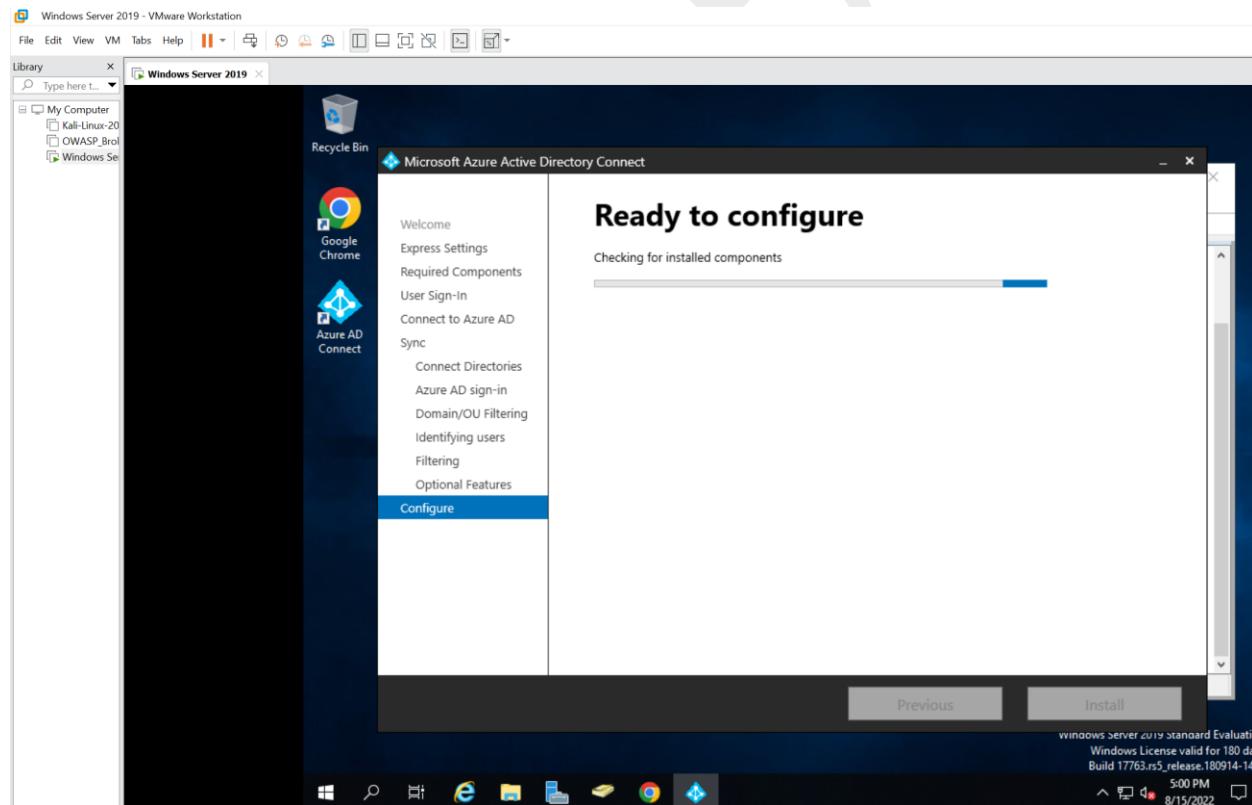
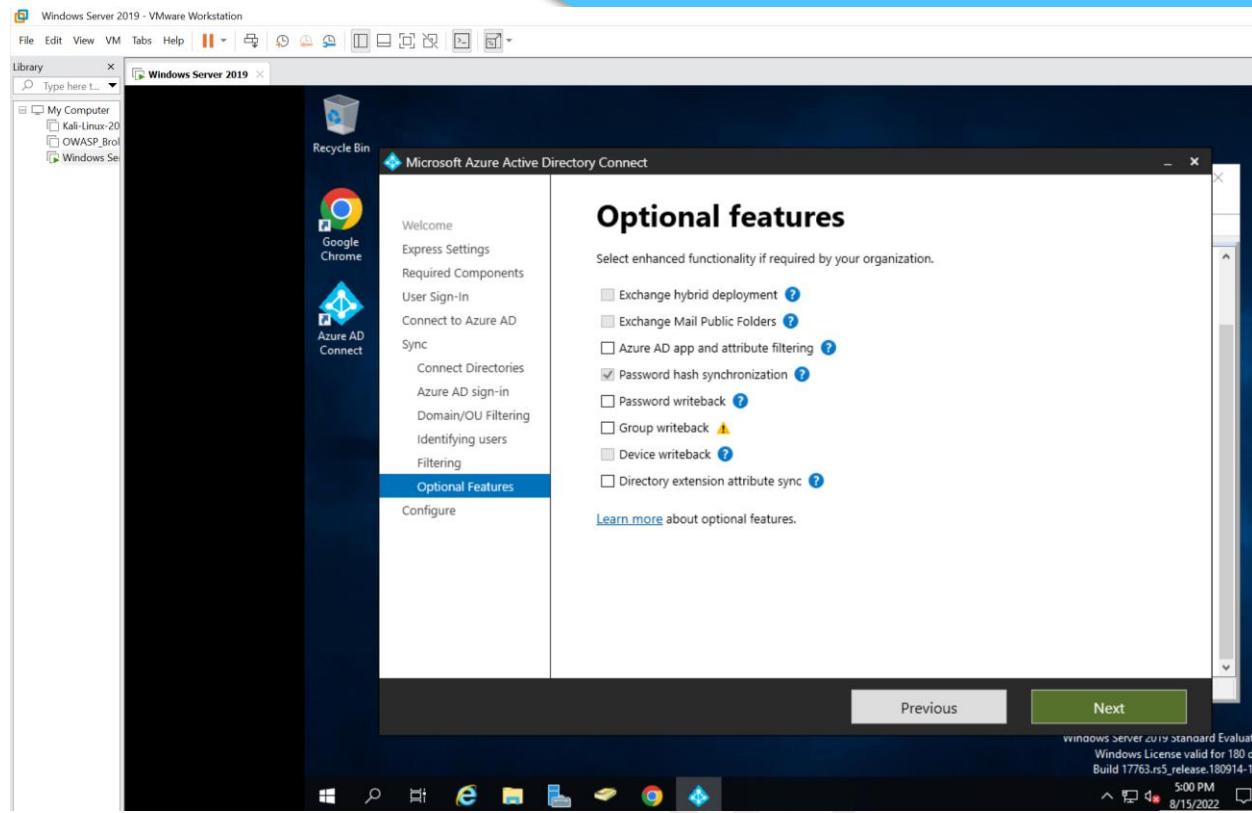
Search mode Contains

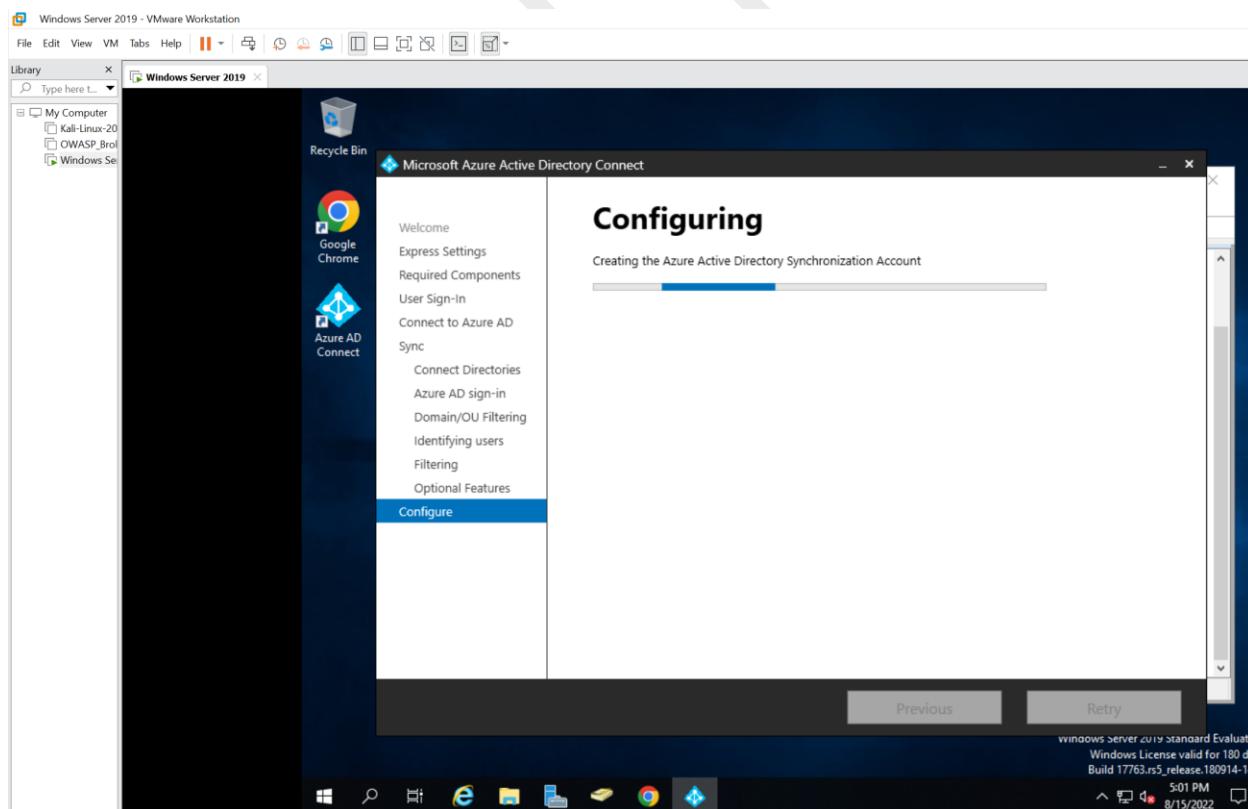
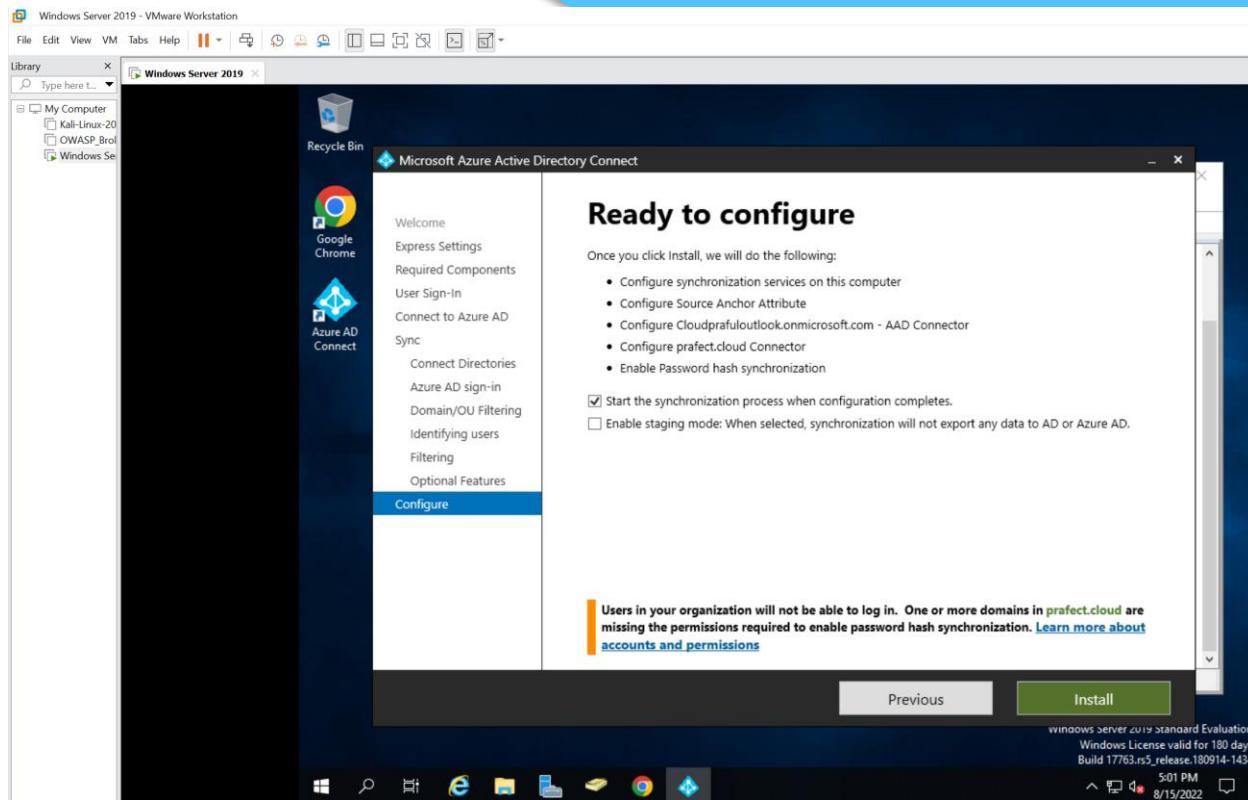
6 groups found

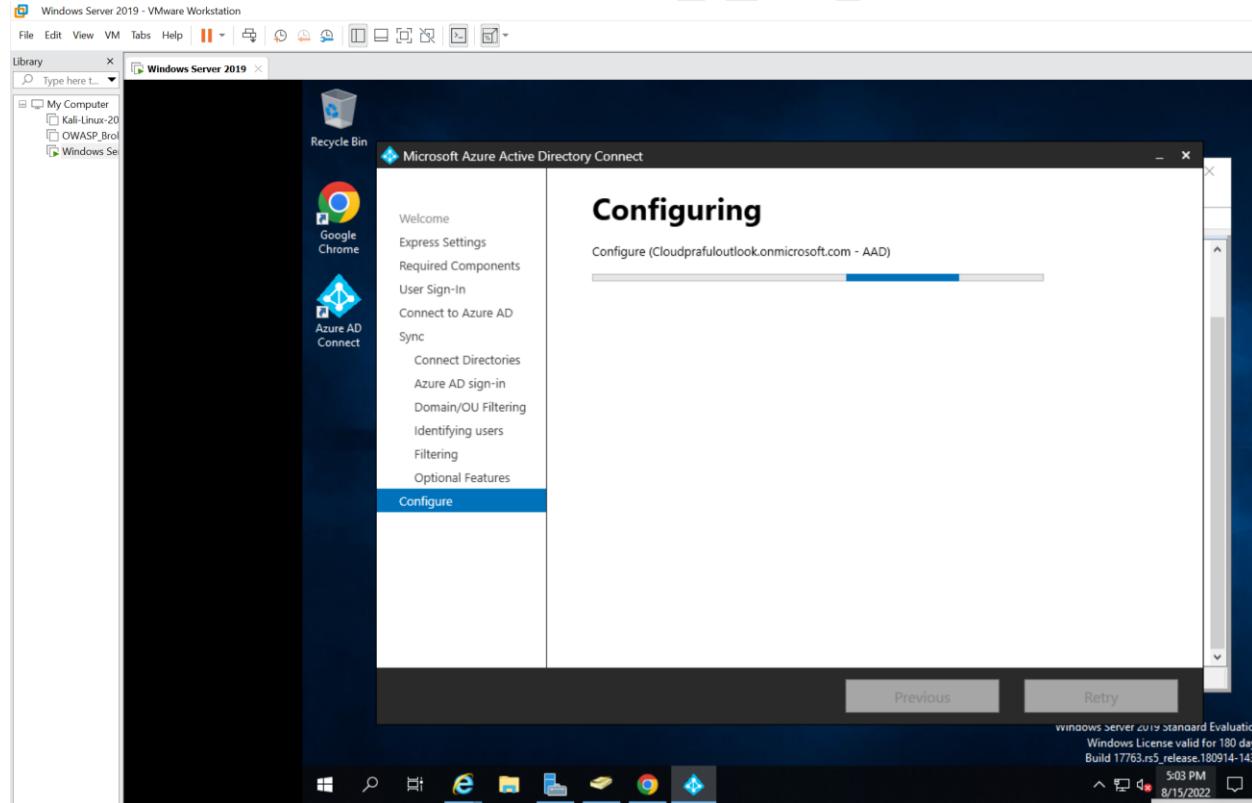
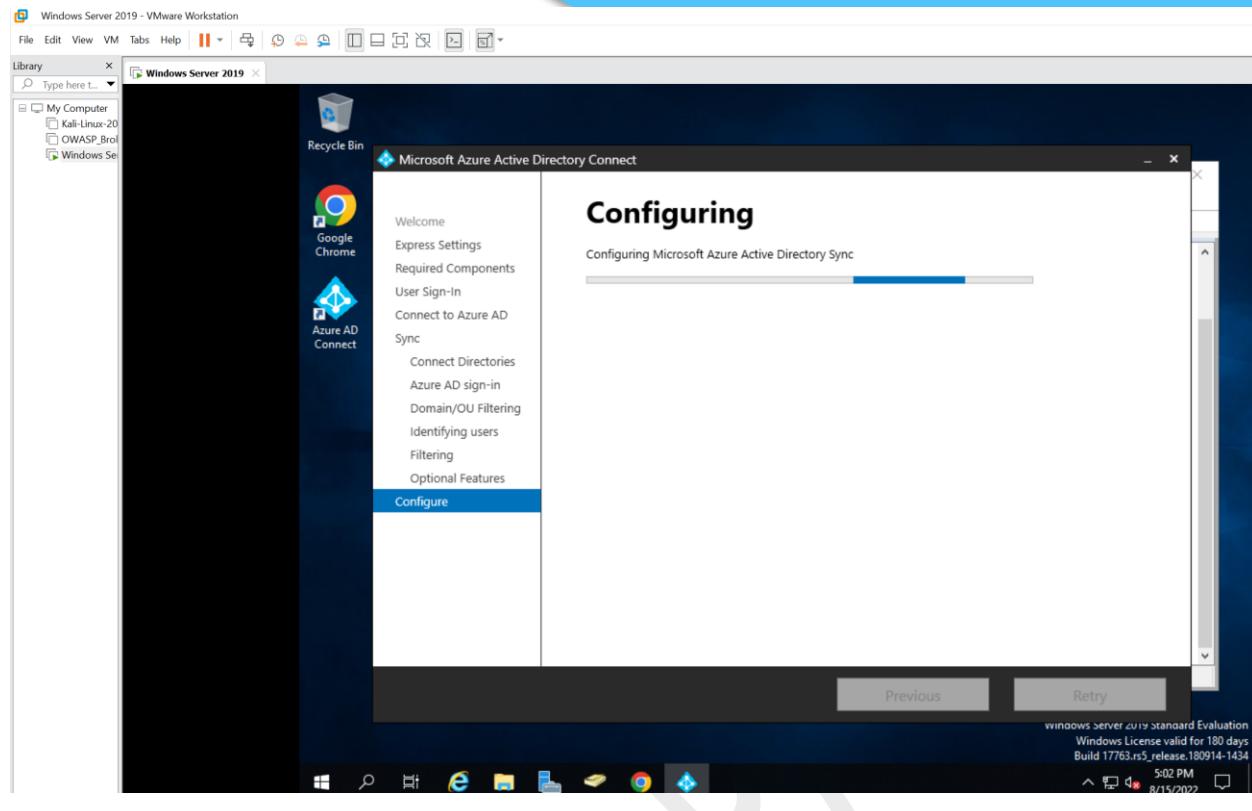
Name	Object Id	Group type	Membership type	Email
ADSyncAdmins	d0012a35-6272-4b2f-a4be-897b29de8eeb	Security	Assigned	
ADSyncBrowse	821f9d3d-47d2-436d-a25f-edec4e271e98	Security	Assigned	
ADSyncOperators	017864b6-4fb9-425f-8869-338086842539	Security	Assigned	
ADSyncPasswordSet	af464f18-e667-46a5-98a5-9eb5fdcccd59f	Security	Assigned	
DnsAdmins	758829c0-5a5d-4f0d-9516-36ae5323fea9	Security	Assigned	
DnsUpdateProxy	6709e59b-b36b-46d5-88c1-f1499d9acc1	Security	Assigned	

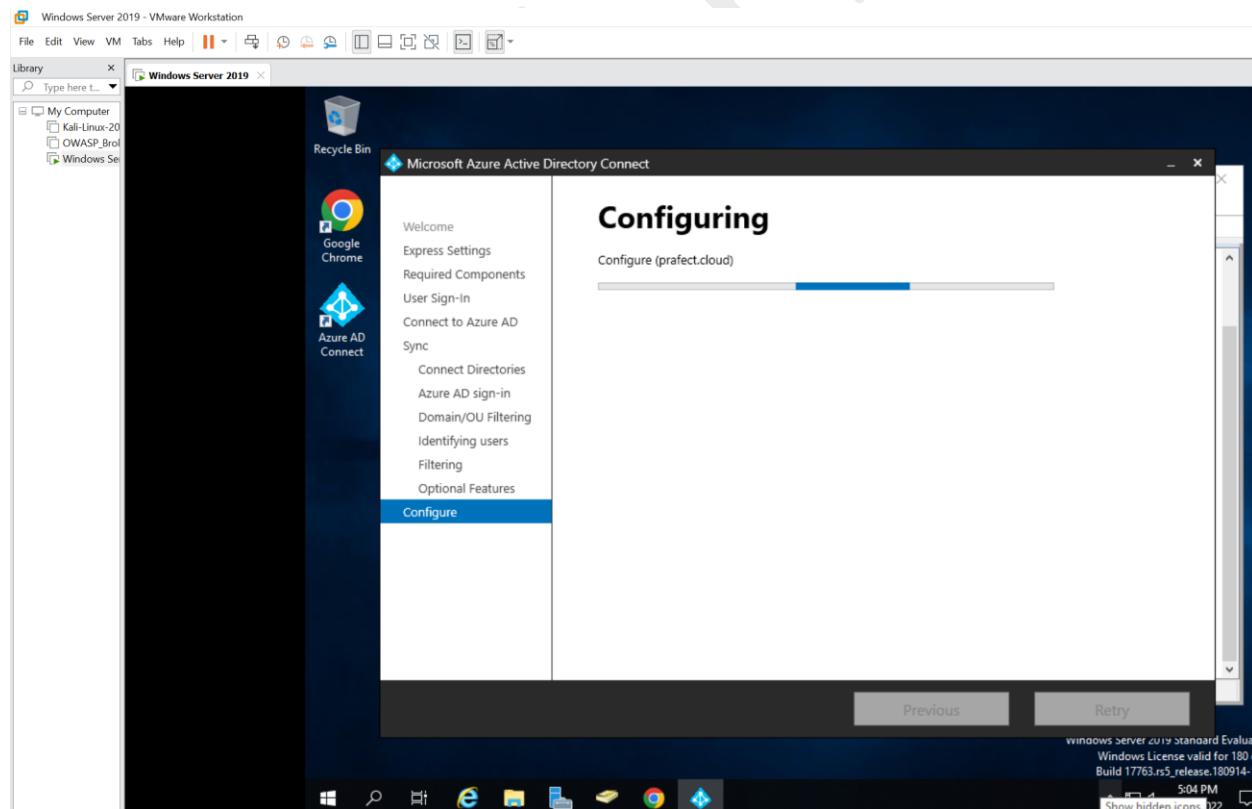
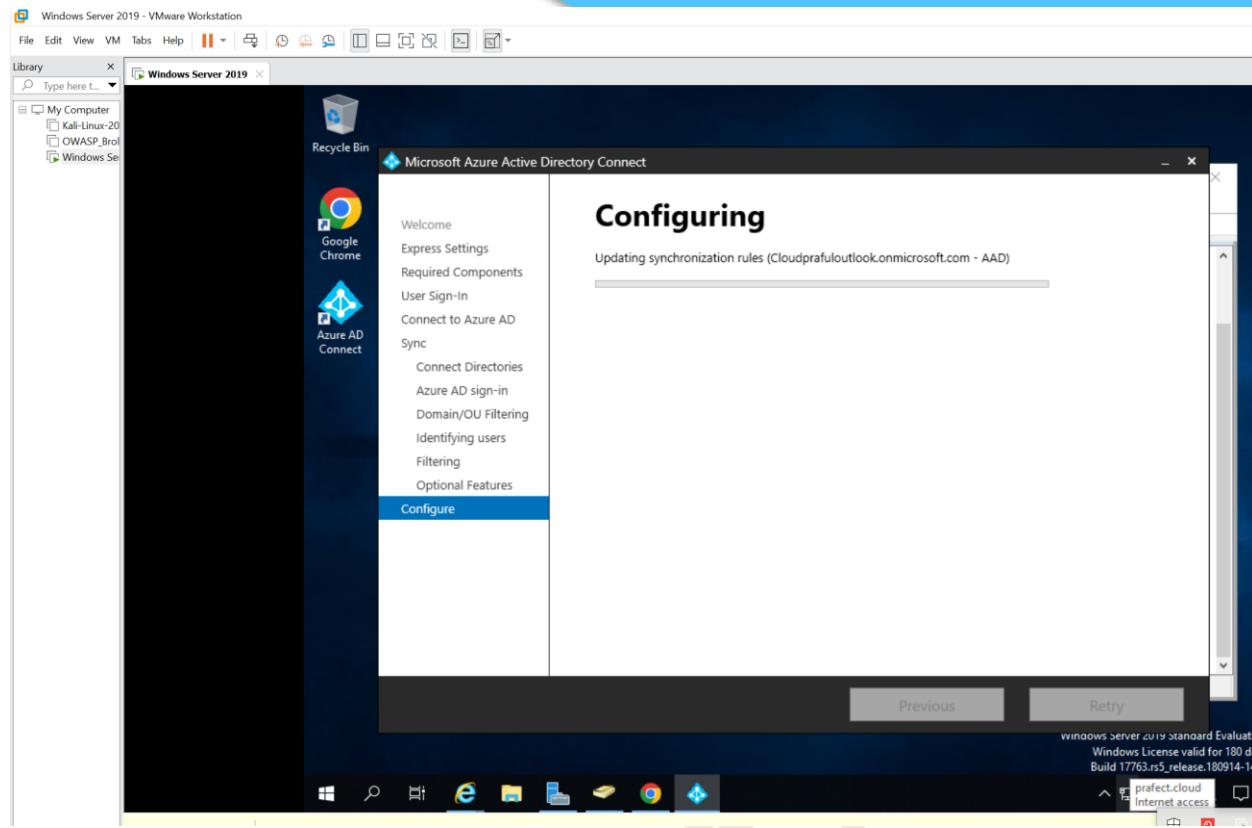


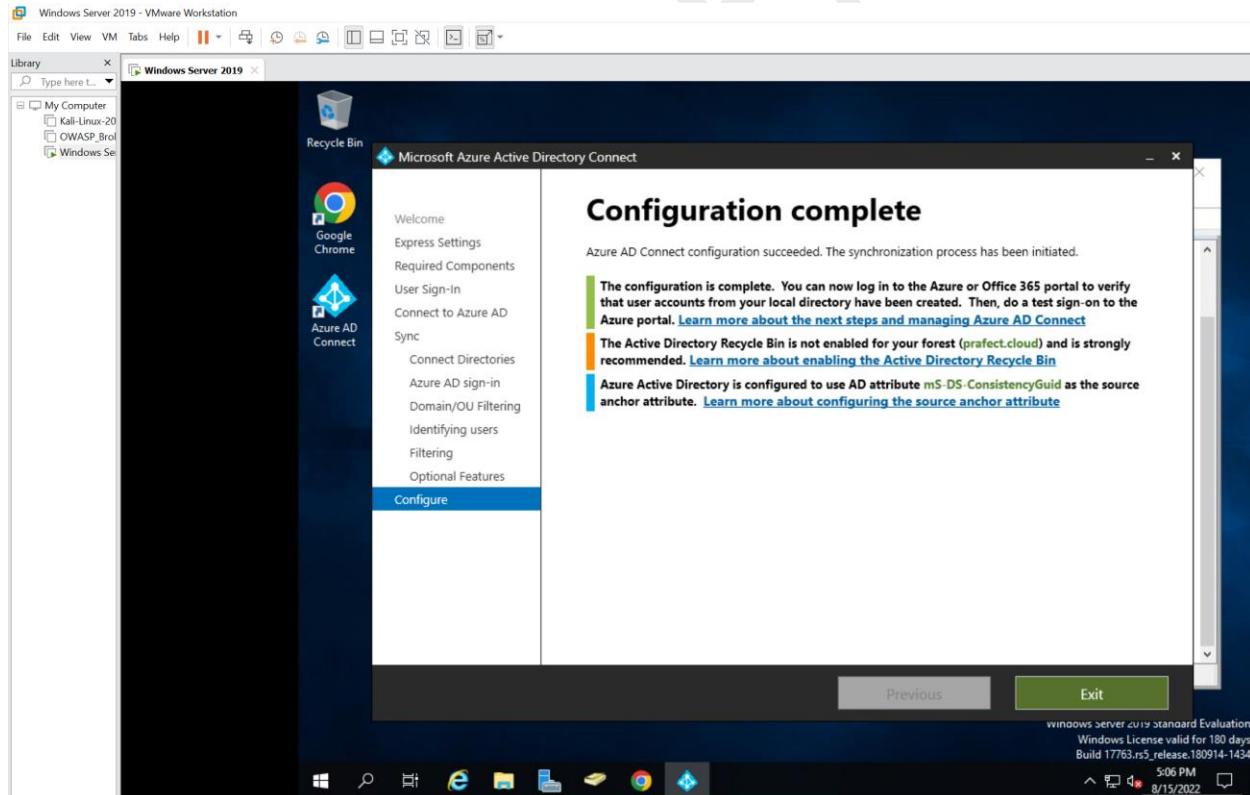
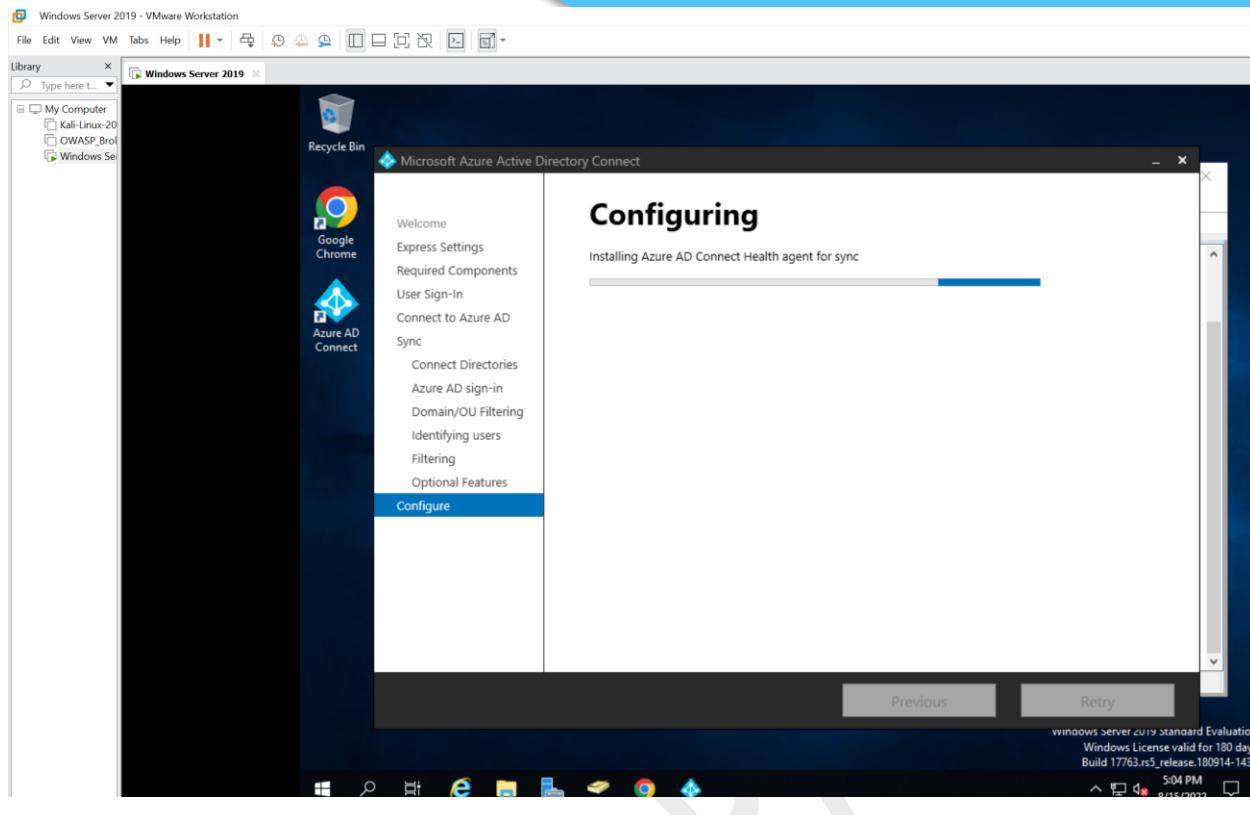










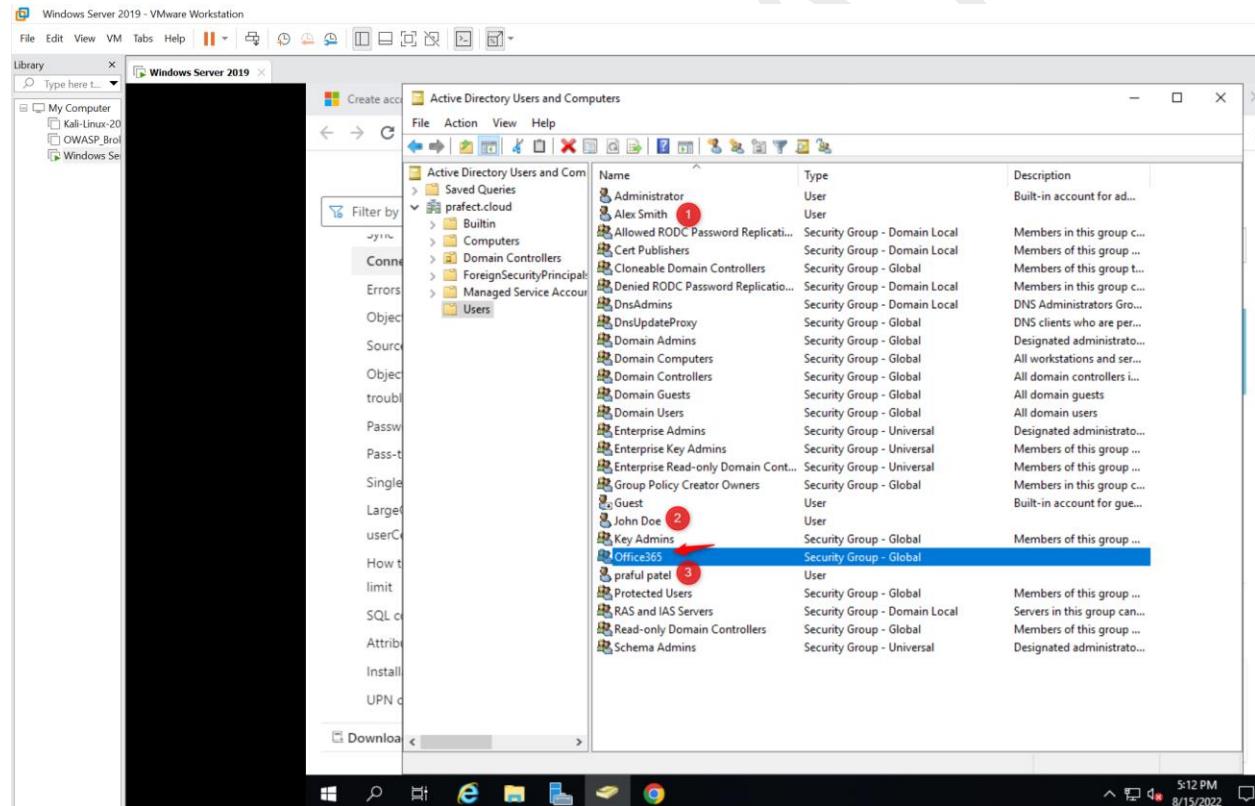


Phase 6: Verify and validate that On-Premise Group and users have synced to Azure Cloud

6. Go to On-Premise Windows 2019 DC server
7. Go to My PC – Properties – validate that custom domain displayed
8. Go to Azure Portal – Active Directory service
9. Validate that new Group: office365 synced from On-Premise to Azure cloud
10. Validate that new users synced from On-Premise to Azure Cloud
 - a. Praful Patel
 - b. Alex Smith
 - c. John Doe

Verify after Sync the users and groups have been displayed into Azure portal

On-Premises Groups and users



Name	Type	Description
Administrator	User	Built-in account for ad...
Alex Smith 1	User	Members in this group ...
Allowed RODC Password Replicati...	Security Group - Domain Local	Members of this group ...
BUILTIN	Security Group - Domain Local	Members of this group ...
Cert Publishers	Security Group - Global	Members of this group t...
Cloneable Domain Controllers	Security Group - Global	Members in this group c...
Denied RODC Password Replicatio...	Security Group - Domain Local	Members in this group c...
DnsAdmins	Security Group - Domain Local	DNS Administrators Gro...
DnsUpdateProxy	Security Group - Global	DNS clients who are pe...
Domain Admins	Security Group - Global	Designated administrato...
Domain Computers	Security Group - Global	All workstations and ser...
Domain Controllers	Security Group - Global	All domain controllers ...
Domain Guests	Security Group - Global	All domain guests
Domain Users	Security Group - Global	All domain users
Enterprise Admins	Security Group - Universal	Designated administrato...
Enterprise Key Admins	Security Group - Universal	Members of this group ...
Enterprise Read-only Domain Cont...	Security Group - Universal	Members of this group ...
Group Policy Creator Owners	Security Group - Global	Members in this group c...
Guest	User	Built-in account for gue...
John Doe 2	User	
Key Admins	Security Group - Global	Members of this group ...
Office365 3	Security Group - Global	Members of this group ...
Praful Patel 3	User	Members of this group ...
Protected Users	Security Group - Global	Servers in this group can...
RAS and IAS Servers	Security Group - Domain Local	Members of this group ...
Read-only Domain Controllers	Security Group - Global	Members of this group ...
Schema Admins	Security Group - Universal	Designated administrato...

Users synced from On-Premise to Azure Cloud

Microsoft Azure **Upgrade** **Search resources, services, and docs (G+)** **Cloud.praful@outlook.com** **DEFAULT DIRECTORY**

Home > Default Directory | Users >

Users

Search (Ctrl+)

New user Download users Bulk operations Refresh Manage view Delete Per-user MFA Preview features Got feedback?

Want to switch back to the legacy users list experience? Click here to leave the preview.

Search Add filter

12 users found

Display name	User principal name	User type	On-premises sync	Identities
user3	user3onpremi@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft.com
user2cloud	user2@prefect.cloud	Member	No	Cloudprafuloutlook.onmicrosoft.com
user2	user2onpremi@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft.com
user1cloud	user1@prefect.cloud	Member	No	Cloudprafuloutlook.onmicrosoft.com
user1	user1onpremi@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft.com
praful patel 1	praful365@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft.com
praful patel	Cloud.praful.outlook.com#EXT#@Cloudprafuloutlook.onmicrosoft.com	Member	No	MicrosoftAccount
On-Premises Directory Synchronization Service Account	Sync_WIN-DED0L2K3R1_b443786bed3a@Cloudprafuloutlook.onmicrosoft.com	Member	Yes	Cloudprafuloutlook.onmicrosoft.com
On-Premises Directory Synchronization Service Account	Sync_prafulserv_138ac8e17dd3@Cloudprafuloutlook.onmicrosoft.com	Member	Yes	Cloudprafuloutlook.onmicrosoft.com
John Doe 2	John365@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft.com
Global Administrator	admin@prefect.cloud	Member	No	Cloudprafuloutlook.onmicrosoft.com
Alex Smith 3	Alex365@prefect.cloud	Member	Yes	Cloudprafuloutlook.onmicrosoft.com

Groups synced from On-Premise to Azure Cloud

Microsoft Azure **Upgrade** **Search resources, services, and docs (G+)** **Cloud.praful@outlook.com** **DEFAULT DIRECTORY**

Home > Default Directory | Groups >

Groups | All groups

All groups Deleted groups Diagnose and solve problems

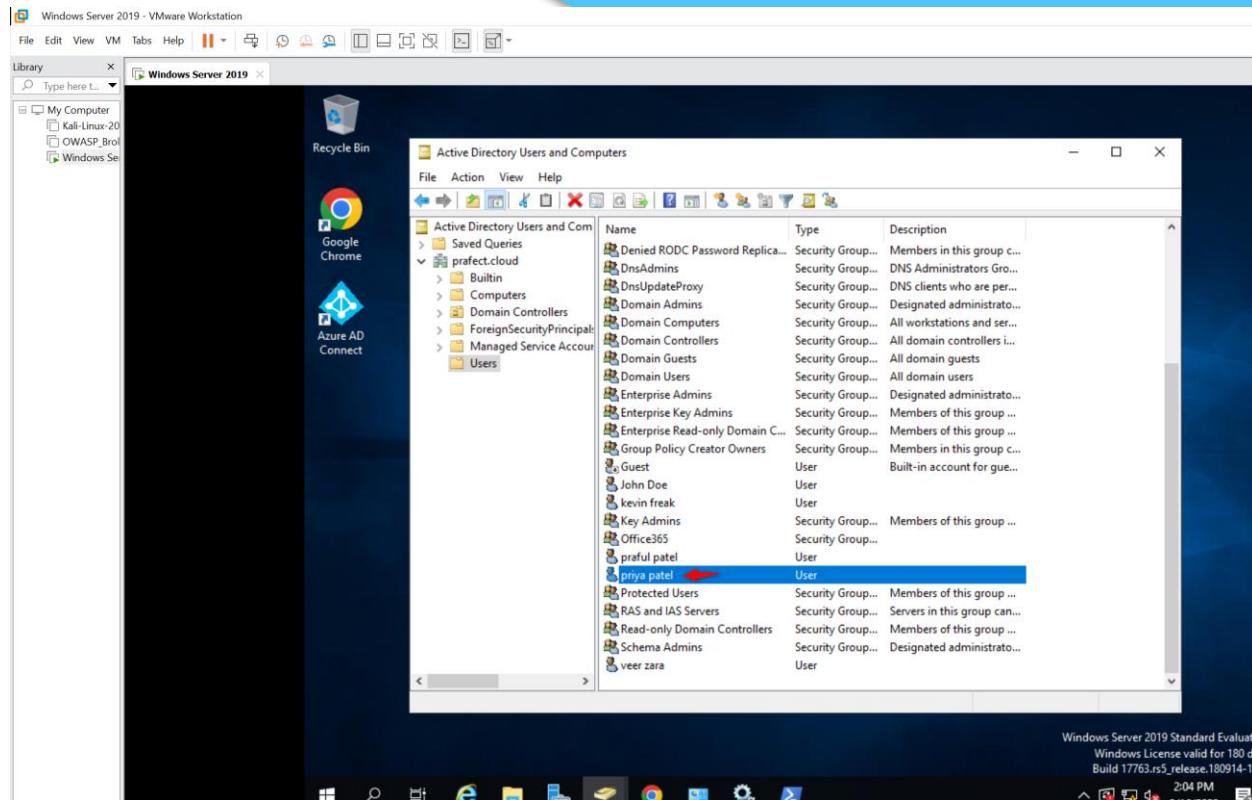
New group Download groups Refresh Manage view Delete Got feedback?

Search mode Contains

13 groups found

Name	Object Id	Group type	Membership type	Email
AD ADSyncAdmins	8e5fd8e7-d879-4ec0-82f7-c5ffab8e7454	Security	Assigned	
AD ADSyncAdmins	d0012a35-6272-4b2f-a4be-897b29deeb	Security	Assigned	
AD ADSyncBrowse	46aab535-eba5-4457-8f31-0edb88eaa2c3	Security	Assigned	
AD ADSyncBrowse	821f9d3d-47d2-436d-a25f-edec4e271e98	Security	Assigned	
AD ADSyncOperators	017864b6-4fb9-425f-8869-338086842539	Security	Assigned	
AD ADSyncOperators	de82336b-2201-4dc0-ac4b-64818b410006	Security	Assigned	
AD ADSyncPasswordSet	a64195d2-8c59-404a-9111-1ab3c7a155b5	Security	Assigned	
AD ADSyncPasswordSet	af464f18-e667-46a5-98a5-9ebdfddcd59f	Security	Assigned	
DN DnsAdmin	758829c0-5a5d-4fd9-9516-36ae5323fea9	Security	Assigned	
DN DnsAdmins	b4eb9bf8-a7e6-4c52-a0a6-89793954a54e	Security	Assigned	
DN DnsUpdateProxy	59c01564-9945-4449-baf1-f05864630538	Security	Assigned	
DN DnsUpdateProxy	6769e59b-b36b-46d5-88c1-f1499d9acc1	Security	Assigned	
OF Office365	5d944d40-1ef5-4921-8b76-a163cad4aab1	Security	Assigned	

Create a new user from On-Premise



Azure Portal before Sync

The screenshot shows the Microsoft Azure portal's 'Users' blade. The 'All users (preview)' tab is selected. The main area displays a list of users with columns for Display name, User principal name, User type, On-premises sync, Identities, Company name, and Creation type. The user 'priya patel' is listed and highlighted with a red arrow. The top navigation bar shows 'Microsoft Azure' and 'Upgrade'.

Display name	User principal name	User type	On-premises sync	Identities	Company name	Creation type
Alex Smith	Alex365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
david stalk	david365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
Global Administrator	adadmin@prefect...	Member	No	Cloudprafuloutlook.onmicrosoft		
John Doe	John365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
kevin freak	kevin365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
On-Premises Directory Syncro...	Sync_WIN-EDEDO...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
On-Premises Directory Syncro...	Sync_prafulclouds...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
priya patel	praful365@prefec...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
priya patel	Cloud.praful_outl...	Member	No	MicrosoftAccount		
veer zara	veer365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		

Monitor Sync process using PowerShell

1.Verify that sync process time.

Get-ADSyncScheduler

The screenshot shows a Windows PowerShell window titled "Administrator: Windows PowerShell". The command "Get-ADSyncScheduler" is run, resulting in an error message about the cmdlet not being found. However, the output block below shows the properties of the scheduler object, with two specific values highlighted by red arrows: "AllowedSyncCycleInterval : 00:30:00" and "CurrentlyEffectiveSyncCycleInterval : 00:30:00".

```
+ CategoryInfo          : ObjectNotFound: (Get-ADSyncScheduler:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

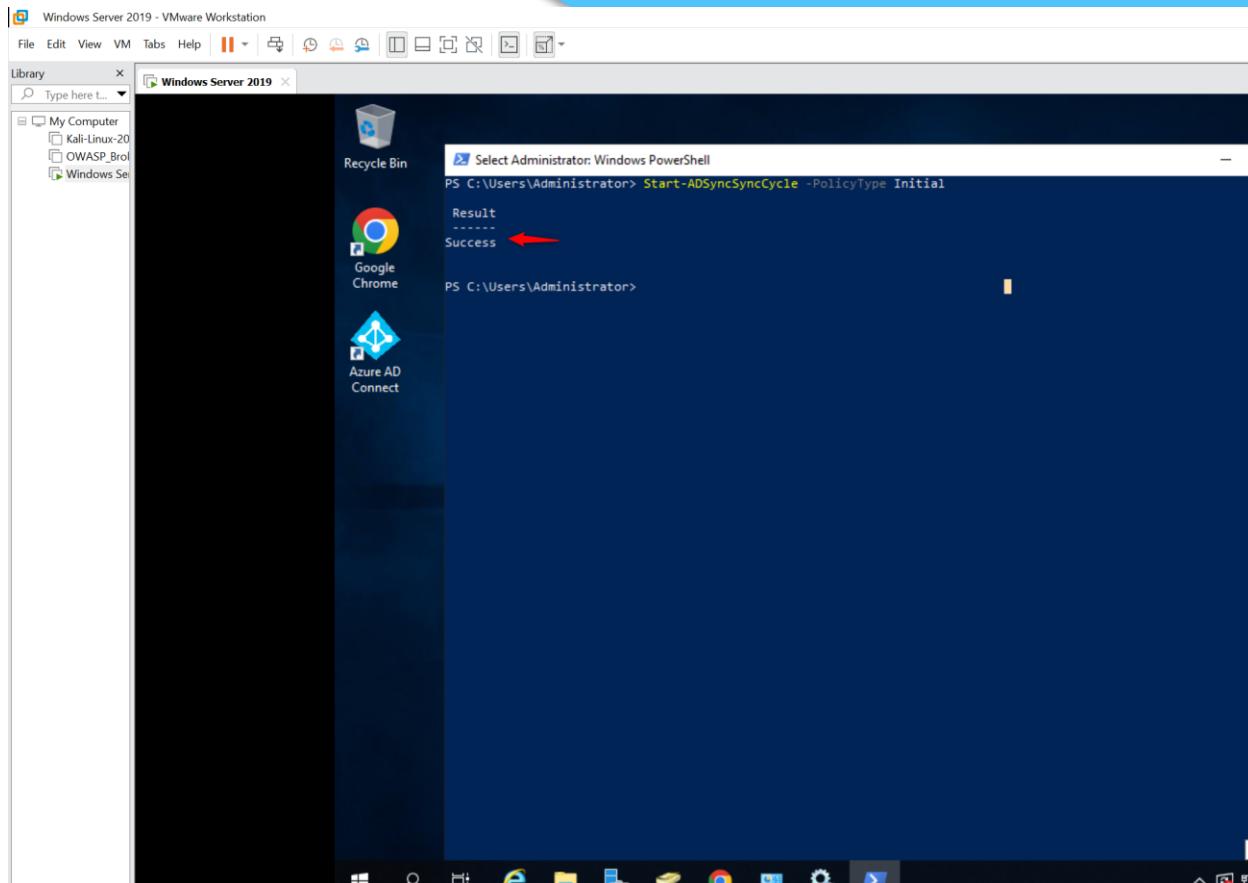
PS C:\Users\Administrator> Get-ADSyncScheduler
Get-ADSyncScheduler : The term 'Get-ADSyncScheduler' is not recognized as the name of a cmdlet, function, script file,
or operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and
try again.
At line:1 char:1
+ Get-ADSyncScheduler
+ CategoryInfo          : ObjectNotFound: (Get-ADSyncScheduler:String) [], CommandNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\Administrator> Get-ADSyncScheduler <-- Red arrow points here

AllowedSyncCycleInterval      : 00:30:00 <-- Red arrow points here
CurrentlyEffectiveSyncCycleInterval : 00:30:00
CustomizedSyncCycleInterval   :
NextSyncCyclePolicyType       : Delta
NextSyncCycleStartTimeInUTC   : 8/16/2022 9:23:30 PM
PurgeRunHistoryInterval       : 7.00:00:00
SyncCycleEnabled               : True
MaintenanceEnabled            : True
StagingModeEnabled             : False
SchedulerSuspended             : False
SyncCycleInProgress            : False

PS C:\Users\Administrator>
```

2. Manually start the synchronization To start the initial synchronization run this cmdlet: Start-ADSyncSyncCycle – PolicyType Initial



New user synced successfully to Azure Cloud

Microsoft Azure Upgrade

Home > Default Directory | Users >

Users ...

All users (preview)

Audit logs

Sign-in logs

Diagnose and solve problems

Deleted users (preview)

Password reset

User settings

Bulk operation results

Troubleshooting + Support

New support request

Want to switch back to the legacy users list experience? Click here to leave the preview.

Search Add filter

11 users found

	Display name	User principal name	User type	On-premises sy...	Identities	Company name	Creation type
<input type="checkbox"/>	AS Alex Smith	Alex365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	ds david stalk	david365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	GA Global Administrator	adadmin@prefect...	Member	No	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	JD John Doe	John365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	KF kevin freak	kevin365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	OD On-Premises Directory Syncro...	Sync_WIN-EDED0...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	OO On-Premises Directory Syncro...	Sync_prafulclouds...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	pp praful patel	praful365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	pp praful patel	Cloud.praful_out...	Member	No	MicrosoftAccount		
<input type="checkbox"/>	PP priya patel	priya365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		
<input type="checkbox"/>	VZ veer zara	veer365@prefect...	Member	Yes	Cloudprafuloutlook.onmicrosoft		

```
Administrator: Windows PowerShell
PS C:\Users\Administrator.WIN-EDED0L2K3RI> Invoke-ADSyncDiagnostics -PasswordSync

=====
=          =
=      Password Hash Synchronization General Diagnostics      =
=          =
=====

AAD Tenant - Cloudprafuloutlook.onmicrosoft.com
Password Hash Synchronization cloud configuration is enabled

False

AD Connector - pfect.cloud
Password Hash Synchronization is enabled
Latest Password Hash Synchronization heartbeat is detected at: 08/17/2022 13:40:40 UTC

    Directory Partitions:
=====
    Directory Partition - pfect.cloud
False
False
False
    Last successful attempt to synchronize passwords from this directory partition started at: 8/17/2022 1:44:40 PM UTC
and ended at: 8/17/2022 1:44:40 PM UTC

    Only Use Preferred Domain Controllers: False
    Checking connectivity to the domain...
    Domain "pfect.cloud" is reachable
```

Ref:

<https://docs.microsoft.com/en-us/azure/architecture/reference-architectures/identity/azure-ad>
<https://docs.microsoft.com/en-us/azure/active-directory/cloud-sync/tutorial-single-forest>



Congratulations!!!! 🎉