

Learning Path 1

Implement an Identity Management Solution

Was ist Entra ID ?



Agenda

Lab

- LP 1 Implement an Identity Management Solution ←
- LP 2 Implement an Authentication and Access Management Solution
- LP 3 Implement Access Management for Apps
- LP 4 Plan and Implement an Identity Governance Strategy

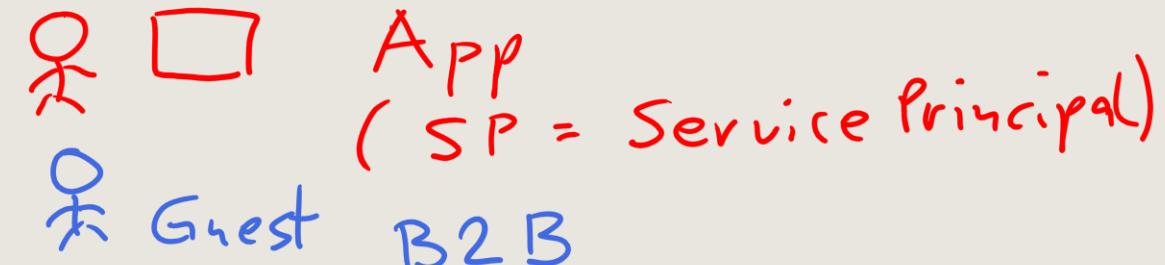
<https://github.com/www42/sc-300>

AAA

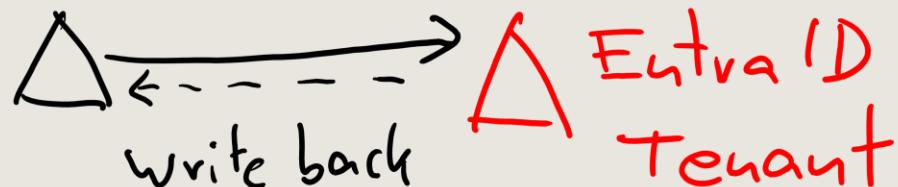
Outline

- Implement initial configuration of Microsoft Entra ID
- Create, configure, and manage identities
- Implement and manage external identities
- Implement and manage hybrid identity

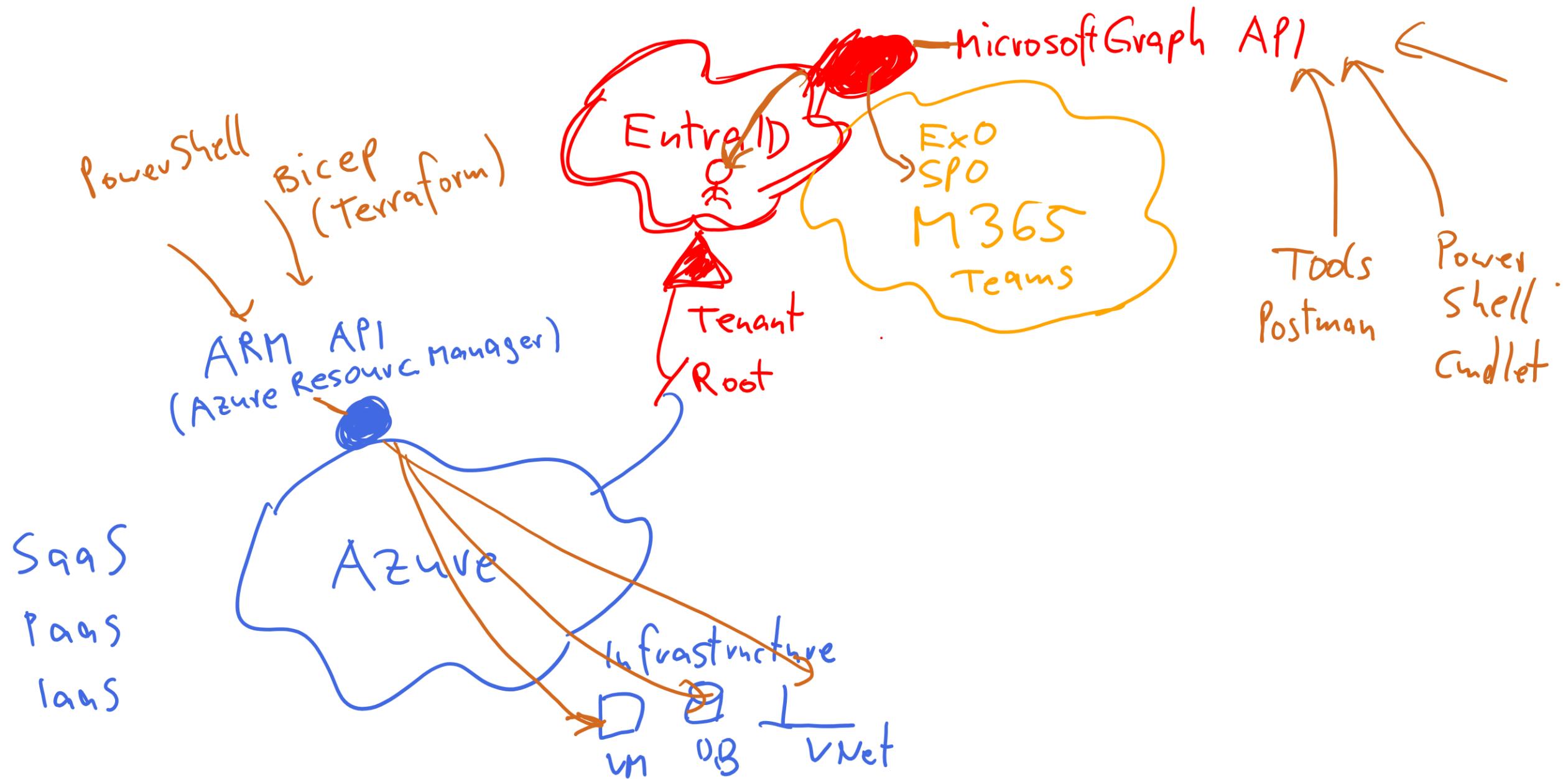
Member



AD
Kerberos
LDAP



Skillable
Labor



Create, configure, and manage identities

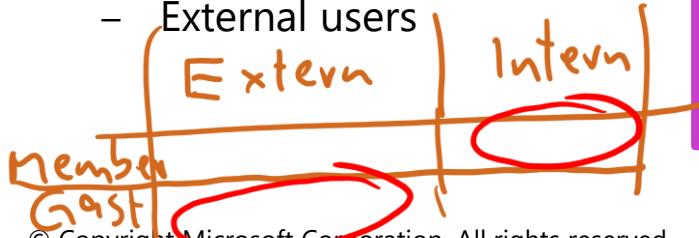
Objectives

- 1 Create, configure, and manage users
- 2 Create, configure, and manage groups
- 3 Configure and mange device identities
- 4 Manage licenses
- 5 Custom security attributes

Create, configure, and manage users

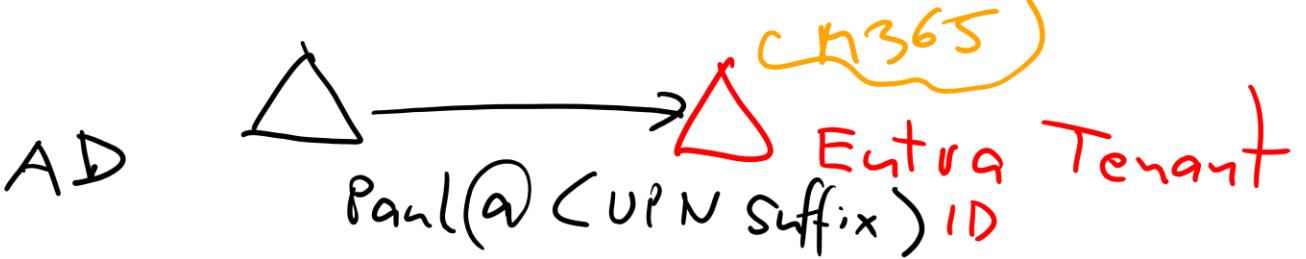
Create, configure, and manage users

- A user account contains all the information needed to authenticate the user during the sign-on process
- You use the **Identity – All users** dashboard in the Microsoft Entra admin center to work with user objects
- Three kinds of users:



	Display name ↑	User principal name ↑	User type	On-premises sync
<input type="checkbox"/>	Adele Vance	AdeleV	Member	No
<input type="checkbox"/>	Alex Wilber	AlexW	Member	No
<input type="checkbox"/>	Bhogeswar Kalita	BhogeswarK	Member	No
<input type="checkbox"/>	Diego Siciliani	DiegoS	Member	No
<input type="checkbox"/>	Grady Archie	GradyA	Member	No
<input type="checkbox"/>	Henrietta Mueller	HenriettaM	Member	No
<input type="checkbox"/>	Isaiah Langer	IsaiahL	Member	No
<input type="checkbox"/>	Johanna Lorenz	JohannaL	Member	No

User settings



Some configurable user settings:

- Groups
- Licenses
- Devices
- Location

Usage

The screenshot shows the Azure portal's User Overview page for a user named Adele Vance. The left sidebar lists several configuration options: Overview, Audit logs, Sign-in logs, Diagnose and solve problems, Custom security attributes, Assigned roles, Administrative units, Groups, Applications, Licenses, Devices, Azure role assignments, and Authentication methods. The "Administrative units", "Groups", "Licenses", and "Devices" items are highlighted with red boxes. The main content area displays Adele Vance's profile picture, name (Adele Vance), UPN (AdeleV), and member status. It also shows her User principal name (AdeleV), Object ID, Created date time (Apr 24, 2022, 11:56 AM), User type (Member), and identities. Summary statistics on the right indicate 7 Group memberships, 1 Application, 0 Assigned roles, and 1 Assigned license.

Group	Count
Group memberships	7
Applications	1
Assigned roles	0
Assigned licenses	1

Demo—users

The screenshot shows the 'Users' page in the Microsoft Azure portal. At the top, there is a search bar labeled 'Search' and a navigation bar with icons for 'New user', 'Edit (Preview)', and 'Delete'. Below the search bar is a list of navigation links: 'All users' (selected), 'Audit logs', 'Sign-in logs', 'Diagnose and solve problems', 'Deleted users', and 'Password reset'. A modal window is open, showing two options: 'Create new user' (description: 'Create a new internal user in your organization') and 'Invite external user' (description: 'Invite an external user to collaborate with your organization'). Below the modal, two user profiles are listed: Adele Vance (selected) and Alex Wilber.

Create, configure, and manage groups

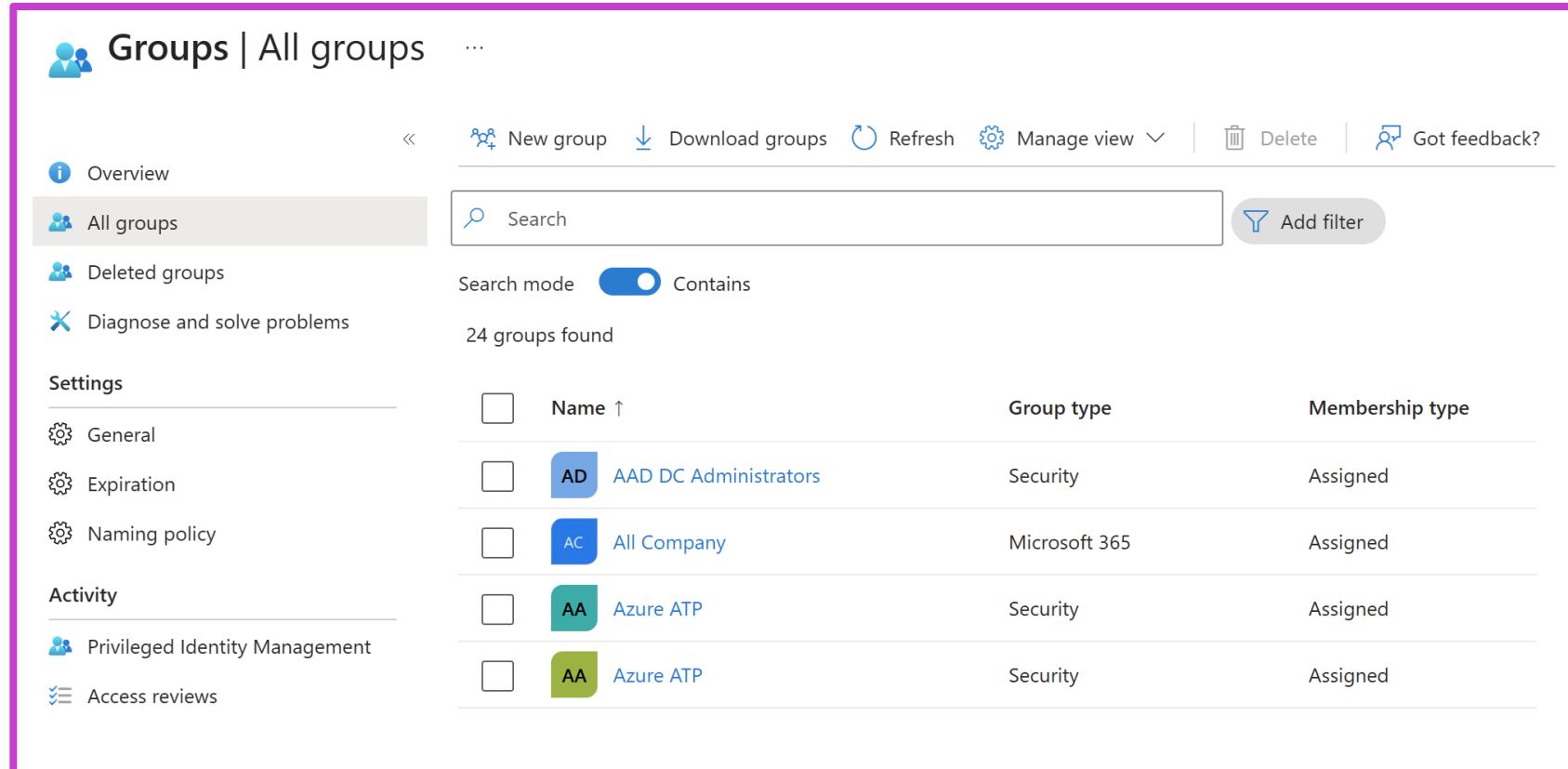
Create, configure, and manage groups

Security groups:

- Most common
- Manage access to shared resources for a group
- Can be nested groups

Microsoft 365 groups:

- Access shared mailbox, calendar, SharePoint, and more
- Give access to external people
- Unable to nest within groups



The screenshot shows the 'Groups | All groups' page in the Microsoft 365 admin center. The left sidebar has links for Overview, All groups (which is selected and highlighted in grey), Deleted groups, and Diagnose and solve problems. The main area shows a table of 24 groups found, with columns for Name, Group type, and Membership type. The groups listed are:

Name	Group type	Membership type
AAD DC Administrators	Security	Assigned
All Company	Microsoft 365	Assigned
Azure ATP	Security	Assigned
Azure ATP	Security	Assigned

Dynamic groups

- Special type of security group
- Membership dynamically generated via membership rule
 - Property -- example = department, region, and other items

Dynamic membership rules ...

Save Discard Got feedback?

Configure Rules Validate Rules

You can use the rule builder or rule syntax text box to create or edit a dynamic membership rule. [Learn more](#)

And/Or	Property	Operator	Value
And	<Choose a Property>	<Choose an Operator>	Add a value
And	objectId	Not Equals	null
And	Choose a Property	Choose an Operator	Add a value

+ Add expression + Get custom extension properties [Learn more](#)

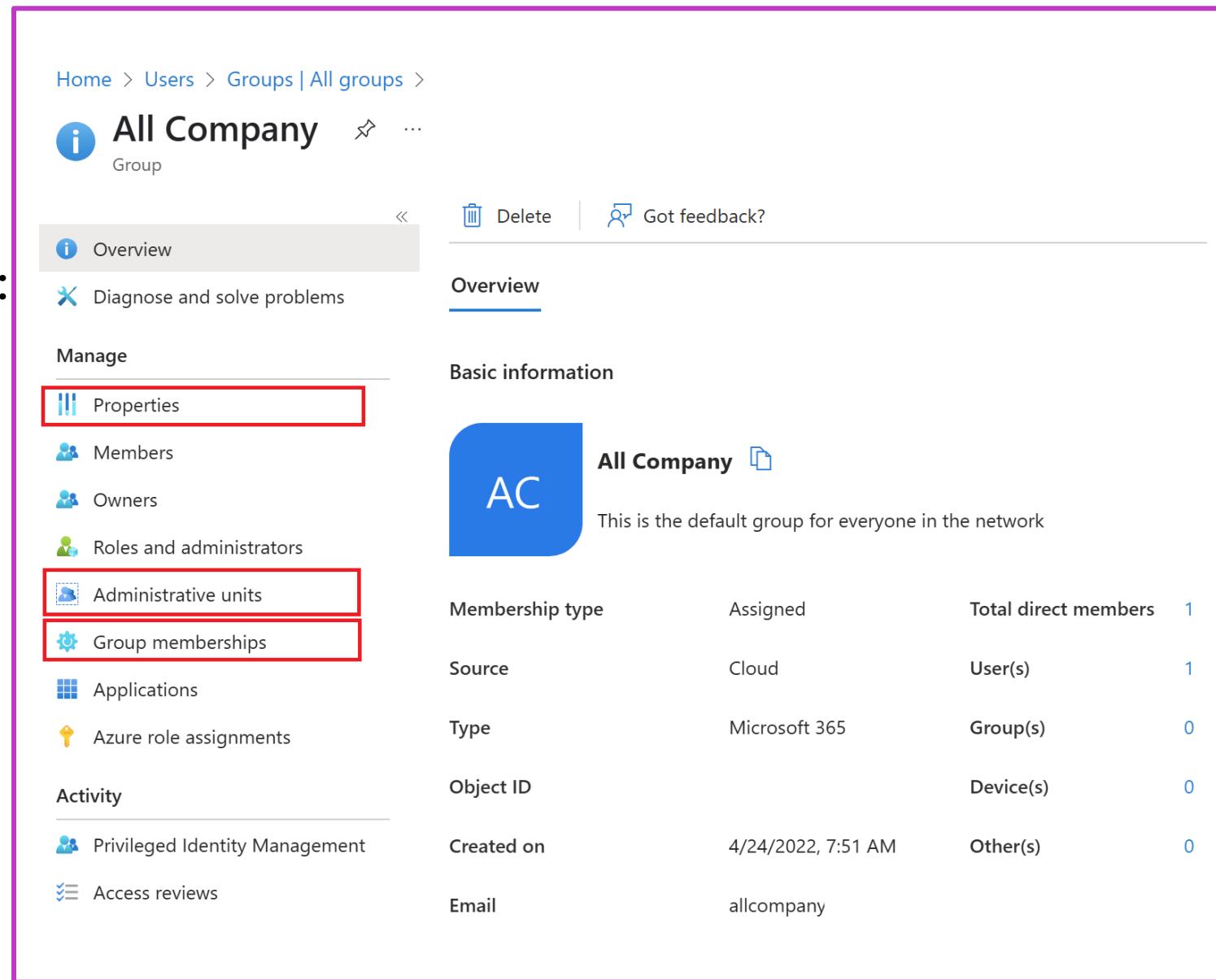
Rule syntax

```
(user.ObjectId -ne null)
```

Group configuration options

Some configurable group settings:

- Properties
- Administrative units 
- Group membership
- Roles and administrators



Home > Users > Groups | All groups >

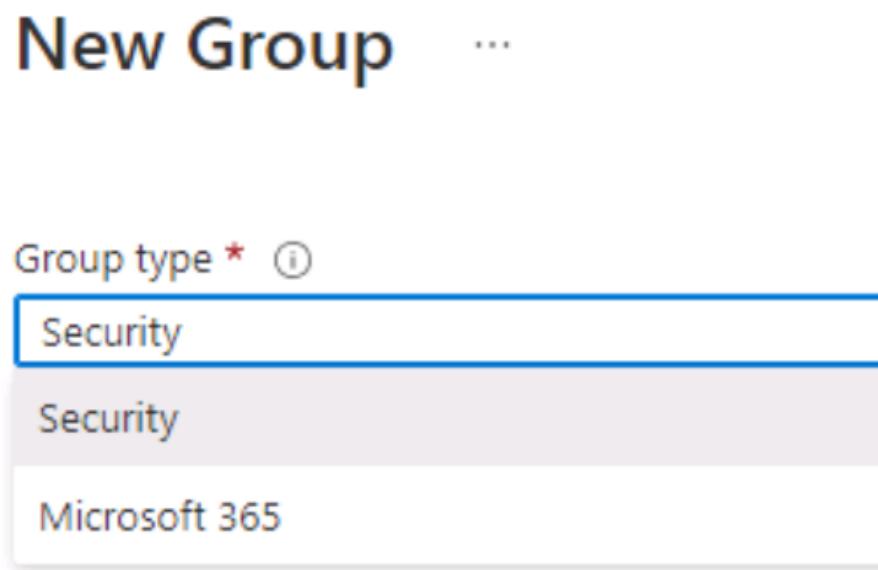
All Company Group

Overview

Basic information

Membership type	Assigned	Total direct members
Source	Cloud	User(s)
Type	Microsoft 365	Group(s)
Object ID		Device(s)
Created on	4/24/2022, 7:51 AM	Other(s)
Email	allcompany	

Demo—groups



Configure and manage device identities

Microsoft Entra ID registered devices

- Supports “BYOD” (bring your own device)
- Registered devices sign in using a local account
- Also attached to a Microsoft Entra ID account granting access to organizational resources
- Control using Mobile Device Management (MDM) tools like Microsoft Intune ?

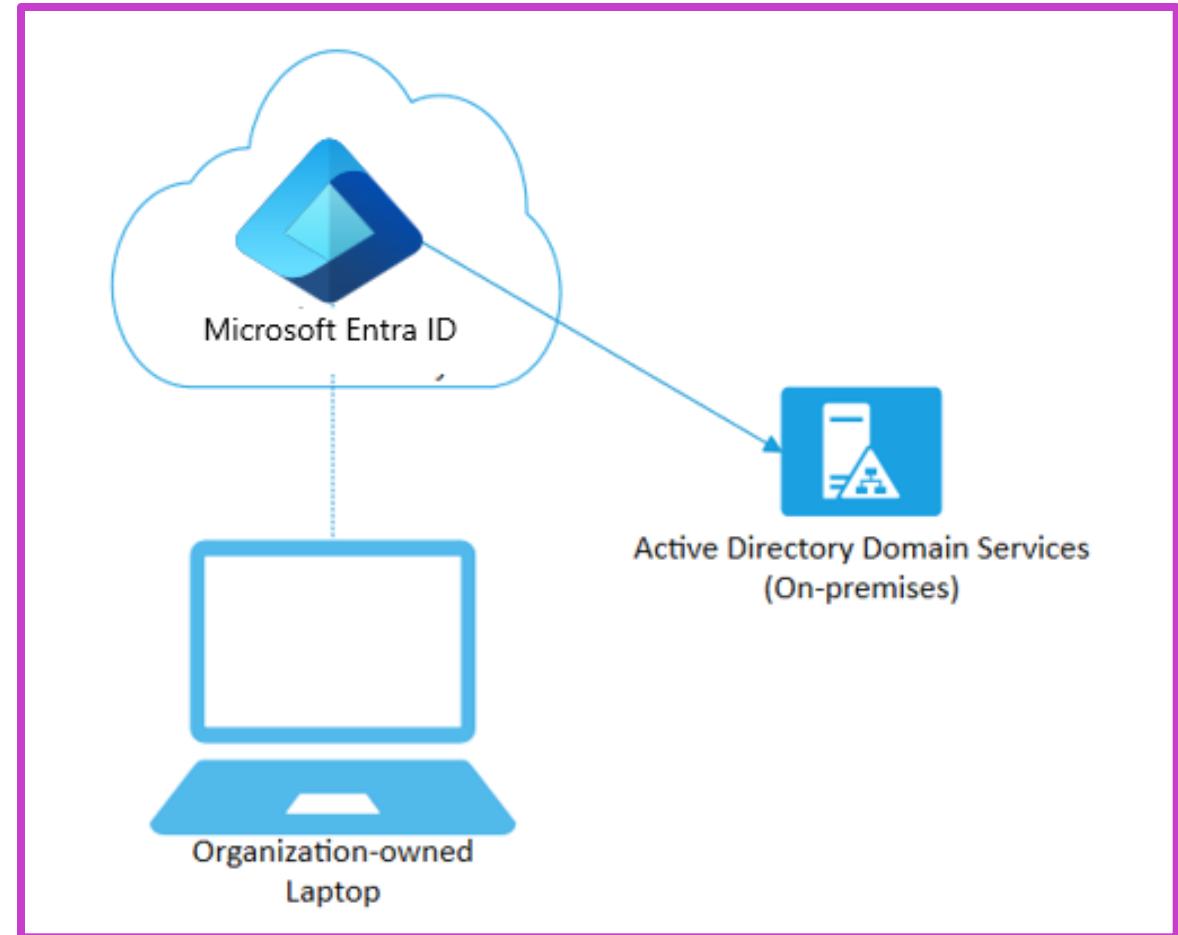
OS: Windows 10/11, iOS, Android, and MacOS



Microsoft Entra ID joined devices

- Intended for cloud-first or cloud-only organizations
- Organization-owned devices
- Joined only to Microsoft Entra ID; organizational account required to sign in
- Easy to sign in with an Entra ID account
- Conditional Access policies can be applied to the device identity

OS: Windows 10/11 devices (not Home)

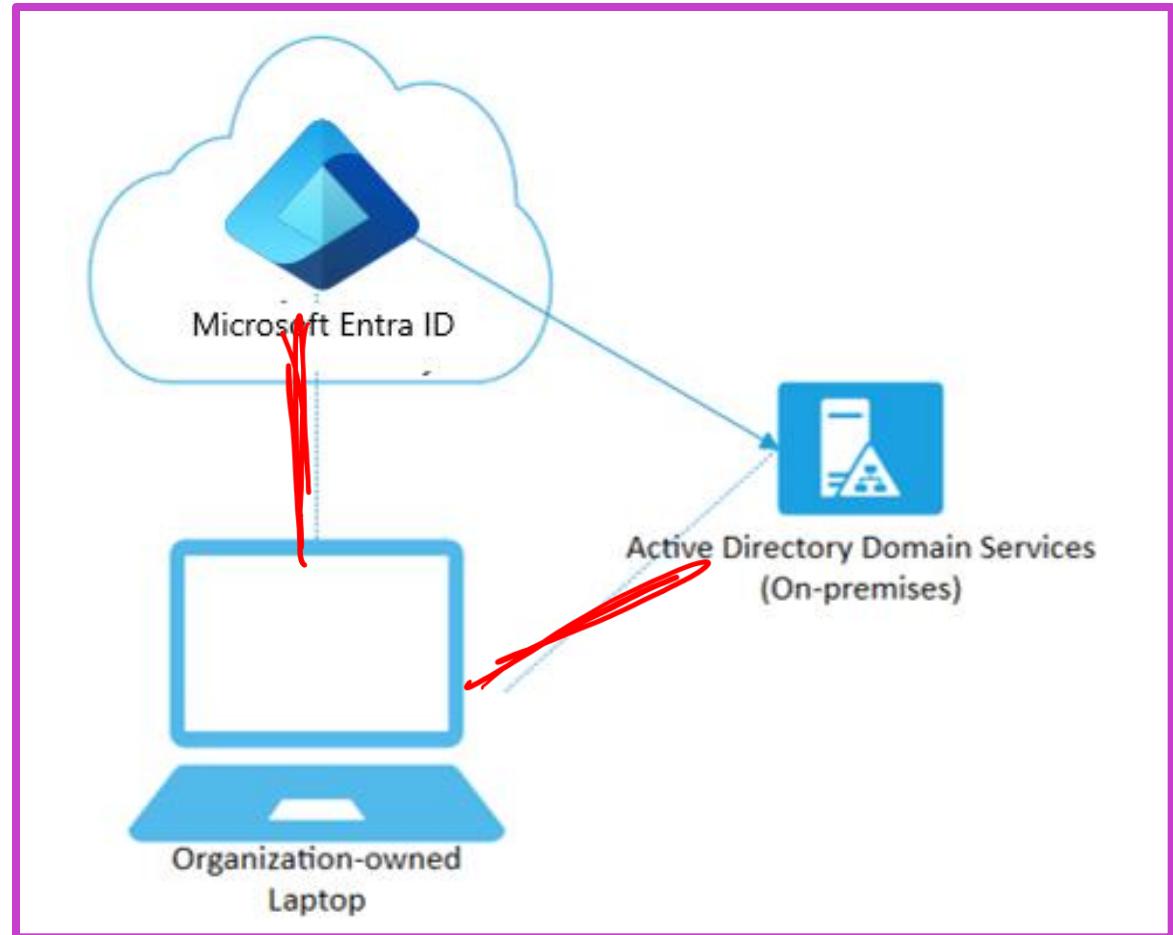


Microsoft Entra hybrid joined devices

Use Microsoft Entra hybrid joined devices if:

- You have Win32 apps deployed to these devices using Microsoft Entra ID machine authentication.
- You want to continue to use group policy to manage the device.
- You want to use existing image solutions to deploy devices.

OS: Windows 8.1 devices in addition to Windows 10/11, plus later Windows Server versions.



Device writeback

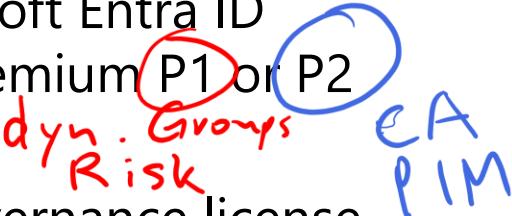
- Use Microsoft Entra Connect to copy a cloud registered device to the on-premises AD.
 - Copied into the **Registered Devices** container
- Used to enable device-based conditional access for ADFS-protected devices
- Provides extra security and assurance that access to applications is granted only to trusted devices
- Synchronizes all devices registered in Azure back to the on-premises Active Directory
- Required to Single sign-on to be enabled.

Manage licenses

About licenses

Microsoft Azure is a cloud service that provides many built-in services for free.

- Microsoft Entra ID comes as a free service
- Gain additional Microsoft Entra ID functionality with a premium P1 or P2 license
 - dyn. Groups*
 - Risk*
- Microsoft Entra ID Governance license
 - A targeted governance license focused on entitlement related features, lifecycle workflows, access reviews, and PIM.

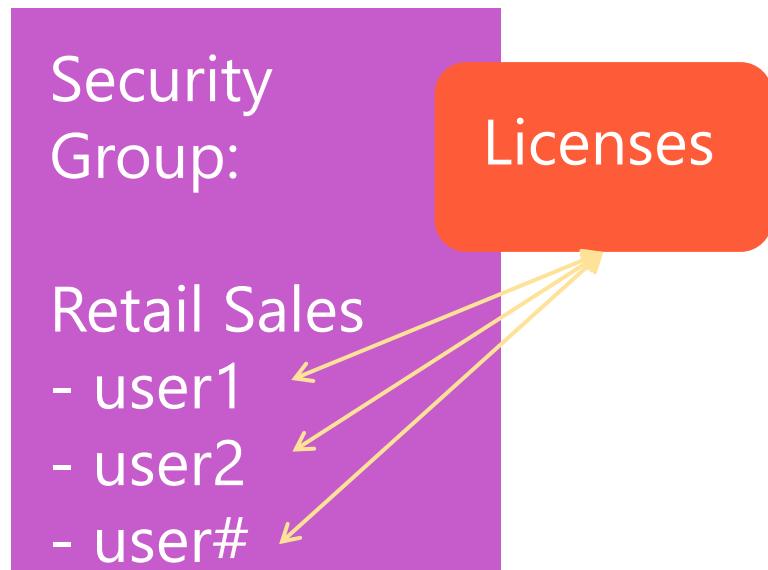


MFA → Free

Additional services (like O365 are paid cloud services)

- Microsoft paid cloud services require licenses
- Licenses are assigned to each user who needs access to the services
- Each user requires a separate paid license
- Administrators use management portals and PowerShell cmdlets to manage licenses

Group-based licensing



- You can assign one or more product licenses to a group
- Microsoft Entra ID assigns to all members of the group
- New group members are automatically assigned the appropriate licenses
- Licenses are removed from users when they leave the group
- Licenses can be assigned to any security group

Demo—licenses

Licenses | Overview

...
Got feedback?

Get started with license management

We are making it easier than ever to manage all your licenses. You can easily:

- Get a trial or purchase license
- See your purchased licenses and see the number of assigned licenses and the product expiry
- Manage licenses to a user or group
- View and delete your self-sign up subscriptions
- See all Microsoft Entra ID features available based on your licenses level

[Users](#) [Groups](#) [Self-service sign up products](#)



Custom security attributes

Manage custom security attributes

Business-specific attributes (key-value pairs) that you can define and assign to Microsoft Entra ID objects.

Example: Add app1 storage clearance attribute to users who need access; then set a conditional access policy.

Microsoft Entra ID P1/P2

The screenshot shows the Microsoft Entra ID 'Custom attributes' management interface. At the top, there's a search bar labeled 'Search attribute set name'. Below it, a table lists two attribute sets: 'Banker' and 'Clerk'. The 'Banker' set has a description 'This person can write checks against the bank' and a maximum number of attributes of 25. The 'Clerk' set has a description 'Bank clerk' and a maximum number of attributes of 25. To the right of the table, there are two open modal dialogs. The first, titled 'New attribute set', contains fields for 'Attribute set name' (with a red asterisk), 'Description', and 'Maximum number of attributes' (set to 25). The second, titled 'New attribute', contains fields for 'Attribute name' (with a red asterisk), 'Description', 'Data type' (set to 'String'), 'Allow multiple values to be assigned' (set to 'No'), 'Only allow predefined values to be assigned' (set to 'No'), and a 'Predefined values' section with a '+ Add value' button. The 'Value' field is currently empty, and the status 'No results' is shown below it.



adatum.onmicrosoft.com
adatum.com

DNS

Configure and manage a Microsoft Entra tenant

Objectives

- 1** Configure company branding
 - 2** Configure and manage Microsoft Entra roles
 - 3** Configure delegation by using administrative units
 - 4** Evaluate effective permissions
 - 5** Configure and manage domains in Microsoft Entra and Microsoft 365
 - 6** Configure tenant-wide settings
- 

Company branding

Company branding

Customize the Microsoft Entra ID sign-in pages with company logos and other elements

- Requires Microsoft Entra ID P1/P2, or an M365 license
- Customize by language

Customize default sign-in experience ...

Basics Layout Header Footer Sign-in form Review

Customize the default sign-in experience to personalize the sign-in page for anyone signing-in to your tenant.

Background

Upload background image, favicon or choose background color.

Favicon ⓘ

Select file(s)

Browse



Image size: 32x32px
(resizable)
Max file size: 5KB
File Type: PNG (preferred),
JPG, or JPEG

Background image ⓘ

Select file(s)

Browse

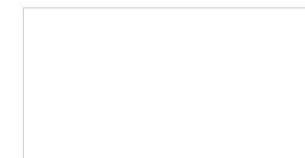


Image size: 1920x1080px
Max file size: 300KB
File Type: PNG, JPG, or JPEG

Page background color ⓘ

Not provided



Review + create

< Previous

Next: Layout >

Configure and manage Microsoft Entra roles

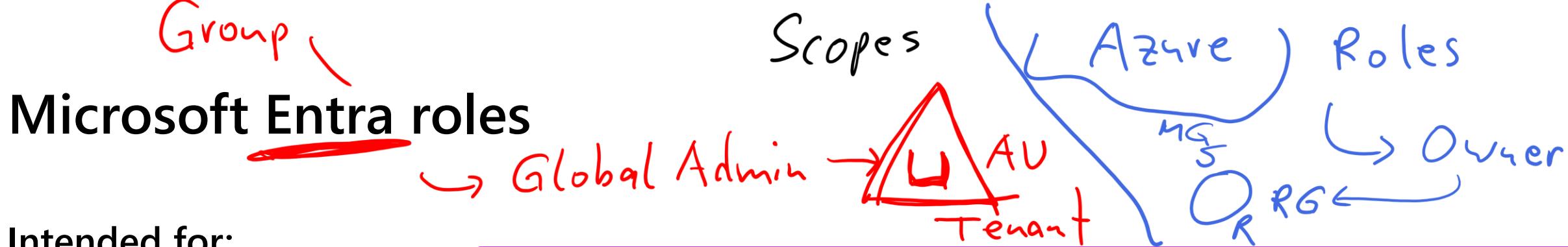
Admin access to Azure and Microsoft Entra ID

Entra Admin Center—<https://entra.microsoft.com>

Azure portal—<https://portal.azure.com>

M365 Admin Center—<https://admin.microsoft.com>

Microsoft Defender for Cloud Apps Portal—<https://security.microsoft.com/>



Intended for:

- IT admins
- App developers
- Microsoft 365, Office 365, Azure, or Dynamics CRM Online subscribers

Define access to Entra ID resources

Do not overlap with Azure roles by default

Home > Roles and administrators | All roles

All roles

Protected actions

Diagnose and solve problems

Activity

Access reviews

Audit logs

Troubleshooting + Support

New support request

Role Description Privileged Type

<input type="checkbox"/> AI Administrator	Manage all aspects of Microsoft 365 Copilot and AI-related enterprise services in Microsoft 365.	PRIVILEGED	Built-in
<input type="checkbox"/> Application Administrator	Can create and manage all aspects of app registrations and enterprise apps.	PRIVILEGED	Built-in
<input type="checkbox"/> Application Developer	Can create application registrations independent of the 'Users can register applications' setting.	PRIVILEGED	Built-in
<input type="checkbox"/> Attack Payload Author	Can create attack payloads that an administrator can initiate later.		Built-in
<input type="checkbox"/> Attack Simulation Administrator	Can create and manage all aspects of attack simulation campaigns.		Built-in

Custom role

Custom roles

Roles and administrators | All roles ...

 New custom role Delete custom role Download assignments Refresh Preview features Got feedback?

Get just-in-time access to a role when you need it using PIM. Learn more about PIM →

Your Basics Permissions Review + create

Learn more Roles created here will be available for assignment on other resources as well. [Learn more](#)

Name *

Description

App

App

Att

Attack Simulation Administrator Can create and manage all aspects of attack

Attribute Assignment Administrator Assign custom security attribute keys and values

Attribute Assignment Reader Read custom security attribute keys and values

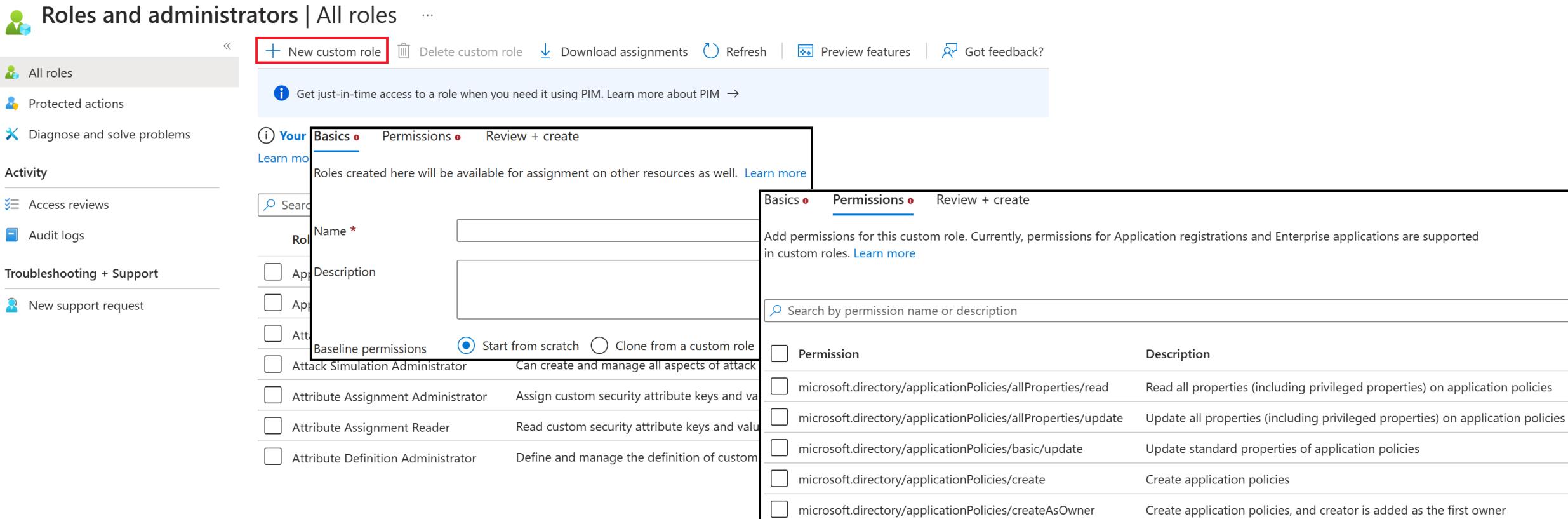
Attribute Definition Administrator Define and manage the definition of custom

Baseline permissions Start from scratch Clone from a custom role

Search by permission name or description

Permission Description

<input type="checkbox"/> microsoft.directory/applicationPolicies/allProperties/read	Read all properties (including privileged properties) on application policies
<input type="checkbox"/> microsoft.directory/applicationPolicies/allProperties/update	Update all properties (including privileged properties) on application policies
<input type="checkbox"/> microsoft.directory/applicationPolicies/basic/update	Update standard properties of application policies
<input type="checkbox"/> microsoft.directory/applicationPolicies/create	Create application policies
<input type="checkbox"/> microsoft.directory/applicationPolicies/createAsOwner	Create application policies, and creator is added as the first owner



Create a custom role to meet your security goals or needs

Requires a Microsoft Entra ID premium license

Assigning roles—to a user or group

Home > Users > Adele Vance

Adele Vance | Assigned roles

User

Search Add assignments Refresh Got feedback?

Overview Audit logs Sign-in logs Diagnose and solve problems

Manage

Custom security attributes Assigned roles Administrative units

Eligible assignments Active assignments Expired assignments

Search by role

Role	Principal name	Scope	Membership
Application Administrator	AdeleV	Directory	Direct

Assign built-in or custom roles

Assign to a user, group, service principal or managed identity

Use principle of least privilege when assigning

Assign users or groups to a role

The screenshot shows the Microsoft Azure portal interface. On the left, there's a navigation bar with 'Home > Contoso > Billing administrator'. Below it is a sidebar with options like 'Diagnose and solve problems', 'Manage' (which is selected), 'Assignment' (highlighted with a green box), 'Description', 'Activity', 'Bulk operation results', 'Troubleshooting + Support', and 'New support request'. In the main content area, under 'Manage', there's a button labeled '+ Add assignments' with a green box around it. A tooltip says 'You can also assign b...'. Below this is a search bar with 'Search by name' and a 'Name' input field containing 'No role assignments found'. To the right, a modal window titled 'Add assignments' lists three users: Adele Vance, Alex Wilber, and Allan Devouna, each with their email and organization information. At the bottom of the modal, it says 'Selected items' and 'No items selected'.

Identities can be added to a role

Alternative method to assign roles

Use principle of least privilege when assigning

Exercise—Explore dynamic groups



This exercise teaches students how to create a dynamic group with all users as members.

[Launch this Exercise in GitHub](#)

Dynamic membership rules

Save Discard | Got feedback?

Configure Rules Validate Rules (Preview)

You can use the rule builder or rule syntax text box to create or edit a dynamic mem

And/Or	Property
And	<Choose a Property>
+ Add expression	+ Get custom extension properties ⓘ

ⓘ Some items could not be displayed in the rule builder. [Learn more](#)

Rule syntax

```
user.ObjectId -ne null
```

Assigning Azure roles to a subscription or broader scope

The screenshot shows the Azure Access control (IAM) interface for the 'rgBuild' resource group. The 'Role assignments' tab is selected. A red box highlights the '+ Add' button. The 'Add role assignment' dialog is open, showing the 'Members' tab selected. The 'Selected role' is set to 'Azure AI Developer'. The 'Assign access to' section has 'User, group, or service principal' selected. The 'Members' section shows a table with columns: Name, Object ID, and Type. The table is currently empty, displaying 'No members selected'. There is an 'Optional' field at the bottom.

Home > Resource groups > rgBuild

Resource groups

+ Create ... Group by none

You are viewing a new version of Browse experience. Some features may be missing. Click here to access the old experience.

Name ↑

cloud-shell-storage-southcentralus

DefaultResourceGroup-EUS

NetworkWatcherRG

rgBuild

rgBuild | Access control (IAM)

Resource group

+ Add Download role assignments Edit columns Refresh Delete Feedback

Overview Activity log Access control (IAM) Tags Resource visualizer Events Settings Cost Management Monitoring Automation Help

Check access Role assignments Roles Deny assignments Classic administrators

Number of role assignments for this subscription 17 4000 Privileged 6

Add role assignment

Role	Members*	Conditions	Assignment type	Review + assign
Selected role	Azure AI Developer			
Assign access to	<input checked="" type="radio"/> User, group, or service principal <input type="radio"/> Managed identity			
Members	+ Select members			
	Name	Object ID	Type	
	No members selected			
Description	Optional			

Assign roles to manage subscriptions, management groups, and resource groups

Using Microsoft Entra roles for Common delegation scenarios

Delegation scenarios:

- Restrict and manage application creation
- Assigning owners to an application
- Assigning a built-in administrative role that grants access to manage configuration in Microsoft Entra ID for all applications
- Creating a custom role defining very specific permissions and assigning it to someone

**When you delegate administrative tasks, you want to keep a few terms in mind:
Least Privilege – Just in Time – Just long enough**

Delegating administrative tasks with built-in roles

Delegating app administration

- Password administrator role
- Group administrator role

Delegating app registration

- Application developer role

Delegating app ownership

- Enterprise application owner role
- Application registration owner role

The screenshot shows the 'Roles and administrators | All roles' page in the Microsoft Entra ID portal. The left sidebar includes links for 'All roles', 'Protected actions', 'Diagnose and solve problems', 'Activity' (with 'Access reviews' and 'Audit logs'), and 'Troubleshooting + Support' (with 'New support request'). The main content area displays information about 'Administrative roles', stating they are used for granting access for privileged actions. It features a search bar ('Application') and a 'Add filters' button. A table lists three built-in roles:

Role	Description	Privileged	Ass...	Type
Application Administrator	Can create and manage all aspects o	PRIVILEGED	0	Built-in
Application Developer	Can create application registrations i	PRIVILEGED	0	Built-in
Attribute Provisioning Administrator	Read and edit the provisioning config	PRIVILEGED	0	Built-in

Demo—assigning roles

Resource type
Directory

Select role i
 ▼

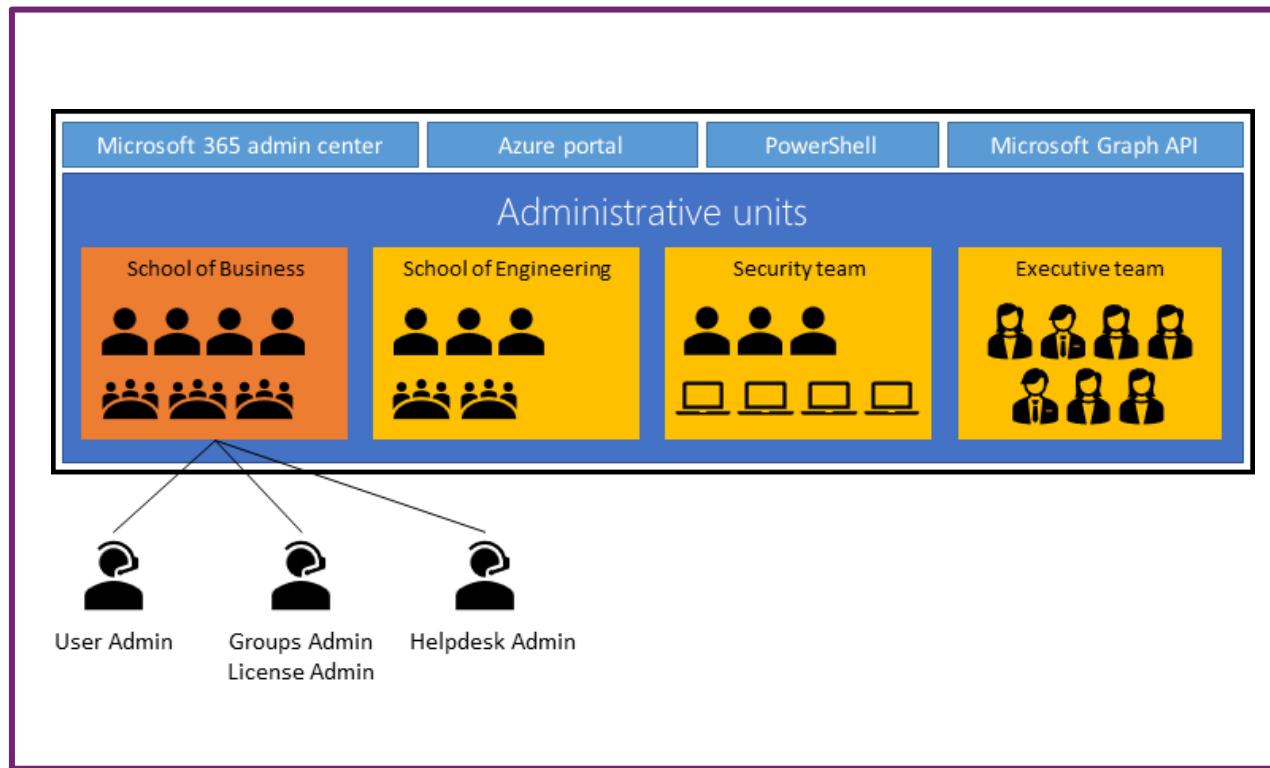
Scope type i
 ▼

Select member(s) * i
No member selected

When to use Administrative units

About administrative units

- Administrative units are Microsoft Entra ID resources that can be containers for other Microsoft Entra resources.
- An administrative unit can contain only users, groups, and devices.
- Administrative units restrict permissions in a role to a specific portion of your organization that you define.



Deployment scenario

Large university composed of many autonomous schools (School of Business, School of Engineering, and so on)

Each school has a team of IT admins who control access, manage users, and set policies for their school

Administrative tasks could include:

- Creating a role with administrative permissions over only Microsoft Entra users in the business school administrative unit
- Creating an administrative unit for the School of Business
- Populating the administrative unit with only the business school students and staff
- Adding the business school IT team to the role, along with its scope

Common delegation scenarios for Admin Units

Delegation scenarios:

- Assigning types of authentication methods
- Creating a dedicated Helpdesk admin
- Admin to control users and groups within the admin unit
- Set up a person who manages the licenses to tools and SaaS apps

When you delegate administrative tasks, you want to keep a few terms in mind:

Least Privilege – Just in Time – Just long enough

Administrative Units

Delegating authentication administration

- Authentication administrator role

Delegating licensing

- License administrator

Delegating user, group, and password management

- User administrator

The screenshot shows the Microsoft Entra admin center interface. The top navigation bar is black with the text "Microsoft Entra admin center". Below it, the left sidebar has a dark grey background with white text and icons. The sidebar includes links for "Applications", "Roles & admins", "Admin units" (which is currently selected and highlighted in blue), and "Delegated admin partners". At the bottom of the sidebar is a "Billing" link. To the right of the sidebar, the main content area has a white background. It displays the title "Administrative units" in large bold letters. Below the title are three buttons: "Learn more" (with a blue info icon), "Add" (with a blue plus sign icon), and "Delete" (with a grey trash bin icon). A search bar labeled "Search administrative units" is present. Below the search bar is a table with one row, showing a checkbox column, a "Name" column with the value "sc300AU", and a "Last modified" column with the date "10/10/2023".

Evaluate effective permissions for Microsoft Entra role

Permissions in Microsoft Entra ID

Permission—consent or authorization to perform a specific action.

Who gets permissions:

Member Users	External Users	Applications	Devices
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Example default permissions for each:

<ul style="list-style-type: none">• Enumerate list of users• Invite external users• Change their password• Manage Photo• Create groups• And so on	<ul style="list-style-type: none">• Read own properties• Change their password• Search for groups• Cannot invite groups• And so on	<ul style="list-style-type: none">• App must be registered• API and permissions assigned in registration• Examples – read, write, verify, and others	<ul style="list-style-type: none">• Device must be registered or joined to the Microsoft Entra tenant
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* Augment or restrict permissions with settings and role assignments

Augment or restrict permissions

 **Users | User settings**

Default user role permissions

[Learn more](#)

Users can register applications Yes

Restrict non-admin users from creating tenants No

Users can create security groups Yes

Guest user access

[Learn more](#)

Guest user access restrictions Guest users have the same access as members (most inclusive) Guest users have limited access to properties and memberships of directory objects Guest user access is restricted to properties and memberships of their own directory objects (most restrictive)

Administration portal

[Learn more](#)

Restrict access to Microsoft Entra ID administration portal No

LinkedIn account connections

[Learn more](#)

Allow users to connect their work or school account with LinkedIn Yes Selected group

 **Roles and administrators | All roles**

[New custom role](#) [Delete custom role](#) [Download assignments](#) [Refresh](#)

Get just-in-time access to a role when you need it using PIM. [Learn more about PIM](#)

Your Role: Global Administrator and 3 other roles

Administrative roles

Administrative roles are used for granting access for privileged actions in Microsoft Entra ID. We can use administrative roles to grant access to manage other parts of Microsoft Entra ID not related to application configuration. [Learn more](#)

[Learn more about Microsoft Entra ID role-based access control](#)

Search by name or description [Add filters](#)

Role	Description
<input type="checkbox"/> AI Administrator	Manage all aspects of Microsoft 365 Copilot
<input type="checkbox"/> Application Administrator	Can create and manage all aspects of app registrations
<input type="checkbox"/> Application Developer	Can create application registrations independently
<input type="checkbox"/> Attack Payload Author	Can create attack payloads that an administrator can use in attacks
<input type="checkbox"/> Attack Simulation Administrator	Can create and manage all aspects of attack simulations
<input type="checkbox"/> Attribute Assignment Administrator	Assign custom security attribute keys and values
<input type="checkbox"/> Attribute Assignment Reader	Read custom security attribute keys and values
<input type="checkbox"/> Attribute Definition Administrator	Define and manage the definition of custom security attributes
<input type="checkbox"/> Attribute Definition Reader	Read the definition of custom security attributes

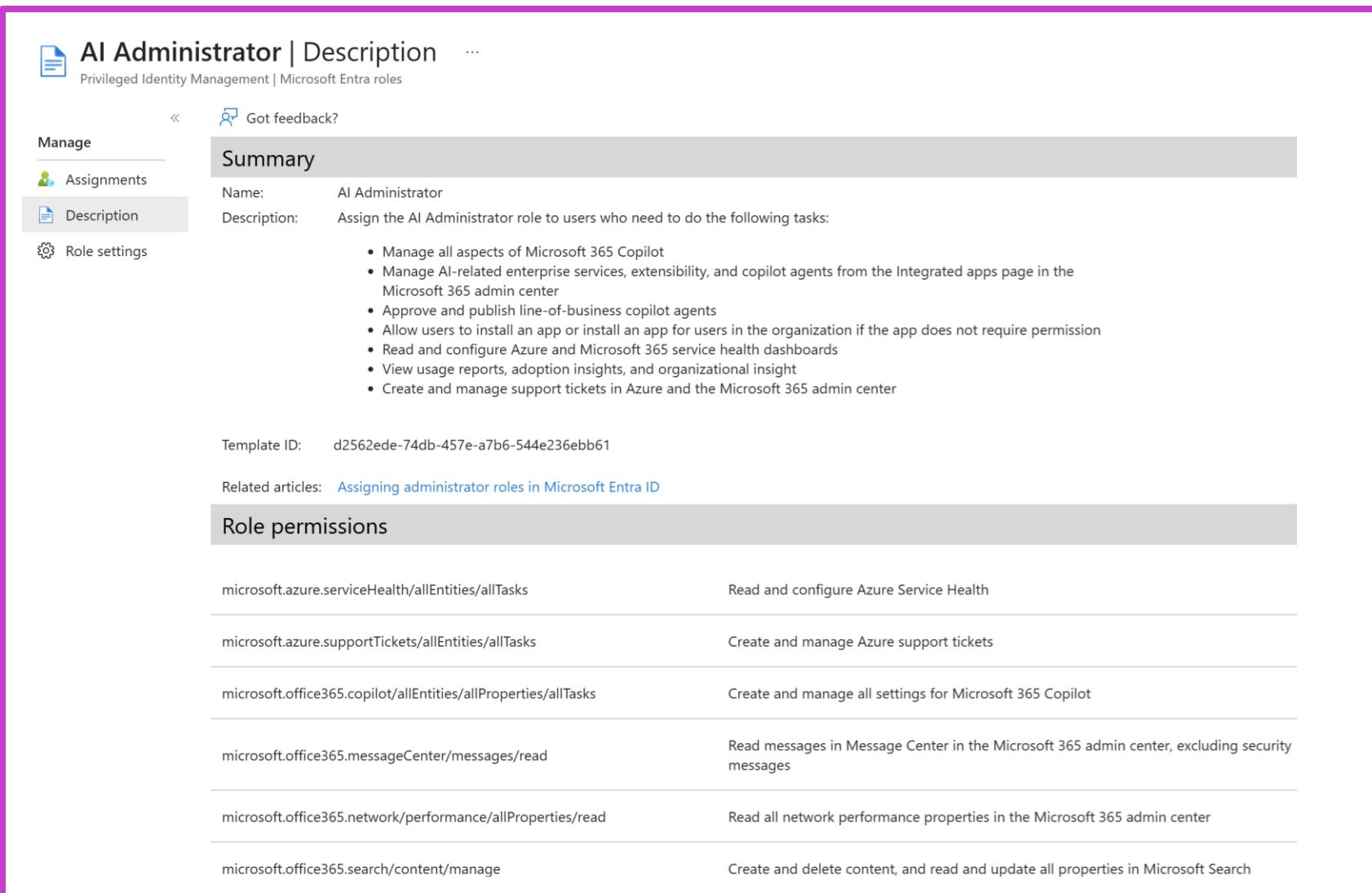
Analyze permission

Role permission

Specific permissions granted when role assigned to a user or group.

Guest/service principal

Additional permission given to ensure a basic level of functionality when assigned to guest users or service principals.



The screenshot shows the 'AI Administrator | Description' page in the Microsoft Entra portal. The page is under the 'Privileged Identity Management | Microsoft Entra roles' section. On the left, there's a navigation menu with 'Manage' and three sub-options: 'Assignments' (selected), 'Description' (highlighted in grey), and 'Role settings'. The main content area has a 'Summary' tab selected. It displays the role name 'AI Administrator' and its description: 'Assign the AI Administrator role to users who need to do the following tasks:'. Below this is a bulleted list of permissions:

- Manage all aspects of Microsoft 365 Copilot
- Manage AI-related enterprise services, extensibility, and copilot agents from the Integrated apps page in the Microsoft 365 admin center
- Approve and publish line-of-business copilot agents
- Allow users to install an app or install an app for users in the organization if the app does not require permission
- Read and configure Azure and Microsoft 365 service health dashboards
- View usage reports, adoption insights, and organizational insight
- Create and manage support tickets in Azure and the Microsoft 365 admin center

Below the summary, there's a 'Template ID: d2562ede-74db-457e-a7b6-544e236ebb61' and a 'Related articles: [Assigning administrator roles in Microsoft Entra ID](#)'. The next section, 'Role permissions', lists several API permissions with their descriptions:

API Permission	Description
microsoft.azure.serviceHealth/allEntities/allTasks	Read and configure Azure Service Health
microsoft.azure.supportTickets/allEntities/allTasks	Create and manage Azure support tickets
microsoft.office365.copilot/allEntities/allProperties/allTasks	Create and manage all settings for Microsoft 365 Copilot
microsoft.office365.messageCenter/messages/read	Read messages in Message Center in the Microsoft 365 admin center, excluding security messages
microsoft.office365.network/performance/allProperties/read	Read all network performance properties in the Microsoft 365 admin center
microsoft.office365.search/content/manage	Create and delete content, and read and update all properties in Microsoft Search

Configure and manage custom domains

Adding a custom domain name

- Tenant has a default domain name ending in **onmicrosoft.com**
- Add your custom domain name and make it the primary domain name
- Add multiple custom domain names for an organization
- Add a root domain before adding subdomains

The screenshot shows the Microsoft Entra admin center interface. The left sidebar includes links for Applications, Roles & admins, Billing, Settings (selected), Preview hub, Domain names (selected), Mobility, and Protection. The main content area displays the 'Custom domain names' page under 'Welcome to Global Secure Access'. It features a 'Custom domain names' card with a red ribbon icon, a 'Custom url domains (Preview)' card with a blue square icon, and a 'Troubleshooting + Support' section with a 'New support request' link. A search bar at the top right contains the text 'Contoso.onmicrosoft.com'. A pink border surrounds the entire screenshot.

Configure tenant-wide settings

Tenant-wide settings

- Tenant-wide settings apply to the entire tenant when set
- These global values set some default behaviors to be applied to all users and properties
- Manage members and guest users:
 - Register applications
 - Restrict access to Microsoft Entra ID administrative portal
- Sign in with LinkedIn
- Manage security defaults
- External collaboration
 - Restricting who can invite guest and other settings

User settings

Microsoft Entra admin center → Identity → Users → User Settings

- App registrations—users can register applications
- Administration portal – Restrict access to the Microsoft Entra ID administration portal
- LinkedIn account connections – Allow users to connect their work or school account with LinkedIn
- Other

The screenshot shows the 'Users | User settings' page in the Microsoft Entra admin center. On the left, there is a sidebar with various options: All users, Audit logs, Sign-in logs, Diagnose and solve problems, Deleted users, Password reset, User settings (which is highlighted with a gray background), Bulk operation results, and New support request. On the right, under 'Default user role permissions', there are three settings with toggle switches:

- 'Users can register applications' is set to 'Yes' (blue toggle).
- 'Restrict non-admin users from creating tenants' is set to 'No' (gray toggle).
- 'Users can create security groups' is set to 'Yes' (blue toggle).

User settings—external users

Microsoft Entra ID → Identity → Users → User Settings

- App registrations—users can register applications
- Administration portal—restrict access to the Microsoft Entra ID administration portal
- LinkedIn account connections—allow users to connect their work or school account with LinkedIn
- Manage user feature previews
- External collaboration setting

Home > Default Directory >

External collaboration settings

Save Discard

Email one-time passcode for guests has been moved to All Identity Providers. →

Guest user access

Guest user access restrictions ⓘ

[Learn more](#)

- Guest users have the same access as members (most inclusive)
- Guest users have limited access to properties and memberships of directory objects
- Guest user access is restricted to properties and memberships of their own directory objects (most restrictive)

Guest invite settings

Guest invite restrictions ⓘ

[Learn more](#)

- Anyone in the organization can invite guest users including guests and non-admins (most inclusive)
- Member users and users assigned to specific admin roles can invite guest users including guests with member permissions
- Only users assigned to specific admin roles can invite guest users
- No one in the organization can invite guest users including admins (most restrictive)

Enable guest self-service sign up via user flows ⓘ

[Learn more](#)

Yes No

Tenant properties

Entra Admin Center → Identity → Overview → Properties

- Changing the tenant display name
- Finding the country or region associated with your tenant
- Finding the location associated with your tenant
- Tenant ID
- Technical contact
- Global privacy contact
- Privacy statement URL

Home >
Default Directory

+ Add Manage tenants What's new Preview fe...

(i) Azure Active Directory is becoming Microsoft Entra ID. [Learn more](#)

Overview Monitoring Properties Recommendations To...

Name	Contoso
Country or region	United States
Data location	United States datacenters
Notification language	English
Tenant ID	
Technical contact	
Global privacy contact	
Privacy statement URL	

Access management for Azure resources

Demo—set tenant-wide settings

The screenshot shows a user interface for managing tenant-wide settings. At the top, there is a navigation bar with five tabs: Overview, Monitoring, Properties (which is underlined, indicating it is the active tab), Recommendations, and Tutorials. Below the navigation bar, there are five configuration items, each consisting of a label on the left and a value or input field on the right.

Name	Contoso
Country or region	United States
Data location	United States datacenters
Notification language	English
Tenant ID	(Empty input field)

References (1 of 2)

Classic subscription administrator roles, Azure roles, and Microsoft Entra roles

<https://learn.microsoft.com/azure/role-based-access-control/rbac-and-directory-admin-roles>

Understand Azure role definitions

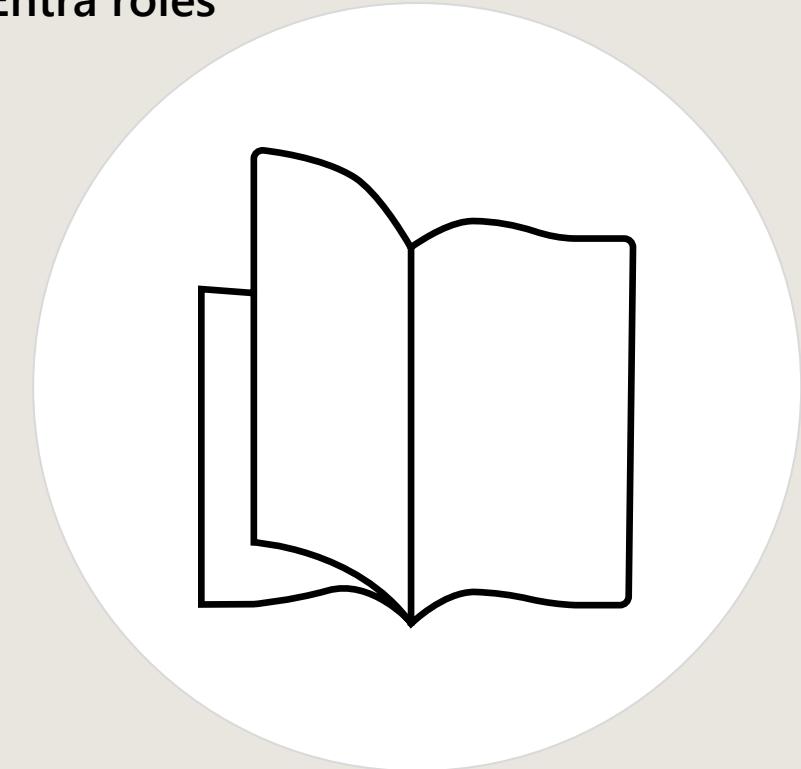
<https://learn.microsoft.com/azure/role-based-access-control/role-definitions>

Privileged Identity Management

<https://learn.microsoft.com/entra/id-governance/privileged-identity-management/>

How To: Configure the Microsoft Entra Multi-Factor Authentication registration policy

<https://learn.microsoft.com/entra/id-protection/howto-identity-protection-configure-mfa-policy>



References (2 of 2)

Conditional Access: Require MFA for administrators

<https://learn.microsoft.com/entra/identity/conditional-access/howto-conditional-access-policy-admin-mfa>

Conditional Access: Require MFA for Azure management

<https://learn.microsoft.com/entra/identity/conditional-access/howto-conditional-access-policy-azure-management>

Conditional Access: Block legacy authentication

<https://learn.microsoft.com/entra/identity/conditional-access/howto-conditional-access-policy-block-legacy>

Conditional Access: Require MFA for all users

<https://learn.microsoft.com/entra/identity/conditional-access/howto-conditional-access-policy-all-users-mfa>



Implement and manage external identities

Objectives

- 1 Describe guest users and B2B accounts
- 2 Manage external collaboration
- 3 How external users are managed in Microsoft 365
- 4 Invite external users—individually or in bulk
- 5 Manage external user accounts in Microsoft Entra ID
- 6 Implement cross-tenant access controls
- 7 Configure identity providers

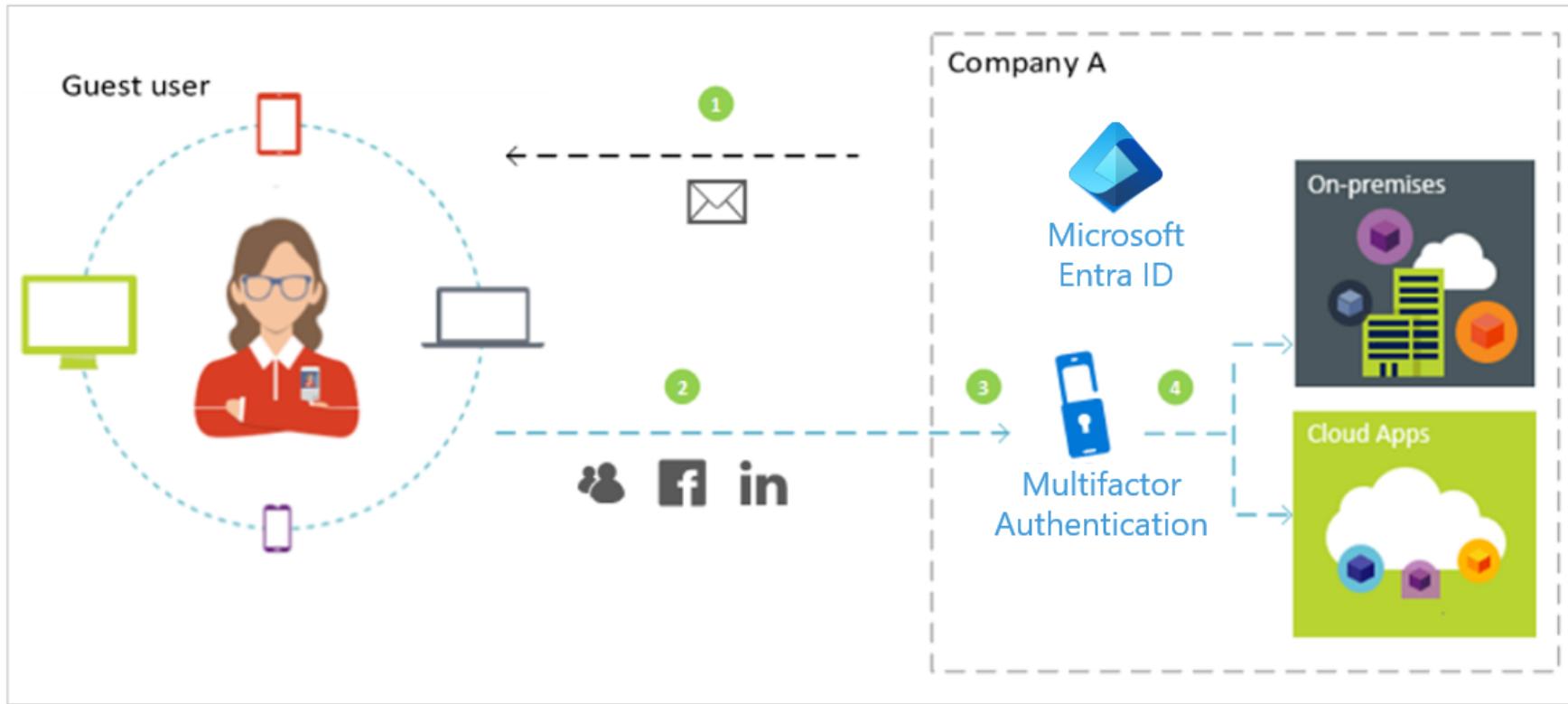
Describe external users,
B2B accounts, and manage
external collaboration

Relationship between external and member users

Was kann er sehen?

		UserType property
	Guest	Member
External	External guest Uses an external Azure AD account, social identity, or other external identity provider to sign in. Most external users fall into this category.	External member Uses an external account to authenticate but has member-level access in your organization. Common scenario in multi-tenant organizations.
	Internal guest Has an account in your Azure AD directory but only guest-level access in your organization. This is often a legacy guest user created before the availability of Azure AD B2B.	Internal member Has an account in your Azure AD directory and member-level access in your organization. Generally considered employees of your organization.

Microsoft Entra B2B



Guest user—a user invited to join your corporate Microsoft Entra ID.

Sourced from another directory, social media, partners, and other services.

Secure B2B collaboration projects enabled.

Collaborating with external users

- Invite external users into your tenant typically as guests
- External users use their existing credentials for authentication
- They are assigned permissions for authorization
- You can restrict what external users can see and do

Exercise—configure external collaboration



This exercise teaches students how to configure external collaboration settings.

[Launch this Exercise in GitHub](#)

Guest invite settings

Guest invite restrictions ⓘ

[Learn more](#)

- Anyone in the organization can invite guest users including guests and non-admins (most inclusive)
- Member users and users assigned to specific admin roles can invite guest users including guests with member permissions
- Only users assigned to specific admin roles can invite guest users
- No one in the organization can invite guest users including admins (most restrictive)

Enable guest self-service sign up via user flows ⓘ

External users from M365 workloads

Microsoft 365 admin center

The screenshot shows the Microsoft 365 admin center interface. On the left is a navigation sidebar with icons for Home, Copilot, Users (selected), Active users, Contacts, Guest users (selected), Deleted users, and Teams & groups. The main content area is titled "Guest users" and shows a message: "Guests have access to Teams. Manage Teams settings". It includes a "Add a guest user" button and a "Refresh" link. Below is a table with columns for "Display name" and "Choose columns". Two entries are listed: "External User" and "Robert at Google".

Manage guest users in the Microsoft 365 admin center.

Similar process to Microsoft Entra ID.

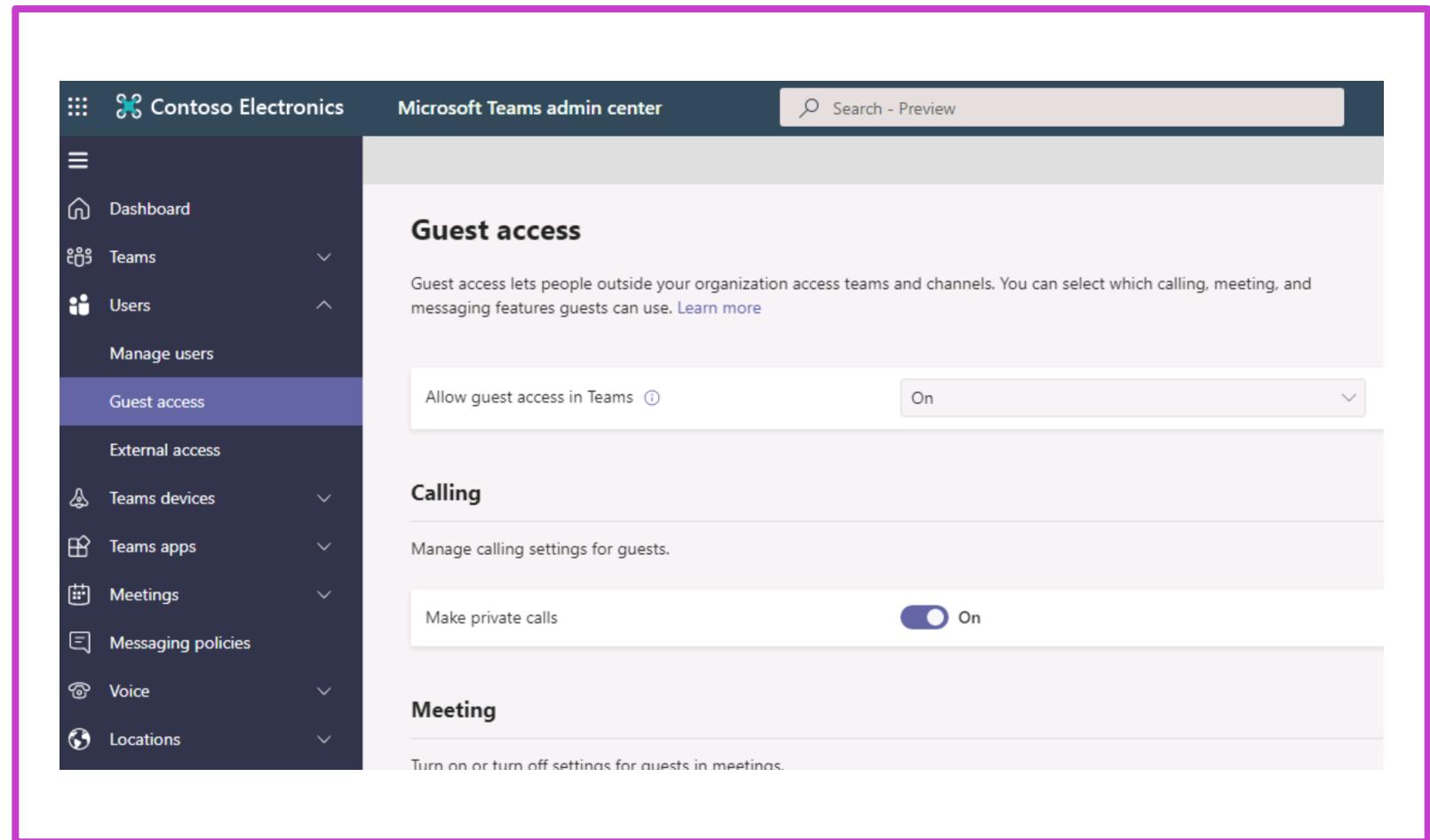
Always use Zero Trust principles when managing.

External collaboration options in Microsoft 365

Activity	Account type	Default setting
Authenticated file and folder sharing	Guest account	Enabled
Site sharing	Guest account	Enabled
Team sharing	Guest account	Enabled
Shared channel in Teams	Existing Microsoft 365 external account	Disabled
External chat and meetings	Existing Microsoft 365 external account	Enabled
Anonymous meeting join	None	Enabled
Unauthenticated file and folder sharing	None	Enabled

Granting/removing external user access

- Configure at the workload admin level
- Always have a governance process in place
- Always use Zero Trust principles when managing



The screenshot shows the Microsoft Teams admin center interface for Contoso Electronics. The left sidebar has a dark theme with white icons and text. The 'Guest access' option is highlighted with a purple background. The main content area is titled 'Guest access' and explains that it lets people outside the organization access teams and channels. It includes a section for 'Allow guest access in Teams' which is set to 'On'. Below this are sections for 'Calling' (with a 'Make private calls' toggle switch turned 'On') and 'Meeting' (with a note about turning on or off settings for guests in meetings).

Invite external users— Individually or in bulk

Inviting users

Inviting users individually:

- Any user (even a guest) can invite guest users by default
- Inviter sends the guest a direct link to the app being shared
- Application owners can manage their own guest users

Inviting users in bulk:

- Prepare a.csv file with user information and invitation preferences
- Upload the.csv file to Microsoft Entra ID

Demo—add external user (single or bulk)

The screenshot shows the Microsoft 365 Admin Center interface for managing users. At the top, there is a navigation bar with several actions: 'New user' (with a dropdown arrow), 'Edit (Preview)' (with a dropdown arrow), 'Delete', 'Download users' (with a downward arrow icon), and 'Bulk operations' (with a clipboard icon and a dropdown arrow). Below this, there are two main sections: 'Create new user' (described as 'Create a new internal user in your organization') and 'Invite external user' (described as 'Invite an external user to collaborate with your organization').

Manage external user accounts in Microsoft Entra ID

External users—restricted by default

External users do not have:

- Assigned roles
- Group membership
- Licenses

Grant access as your security posture and organization needs dictate using Entitlement or Manually.

The screenshot shows the Microsoft Entra ID interface for managing user roles. The top navigation bar includes 'Chris Green | Assigned roles', 'User', 'Search', '+ Add assignments', 'Refresh', and 'Got feedback?'. Below the navigation are tabs for 'Eligible assignments', 'Active assignments' (which is selected), and 'Expired assignments'. A search bar for 'Search by role' is present. The main area displays a table with columns: 'Role', 'Principal name', 'Scope', and 'Membership'. A message 'No results' is shown. On the right, a modal window titled 'Add assignments' is open, with tabs for 'Membership' (selected) and 'Setting'. It shows 'Resource' set to 'qg14', 'Resource type' set to 'Directory', and 'Select role' set to 'Attribute Log Reader'. The 'Scope type' dropdown is set to 'Directory'. Under 'Select member(s)', it says '1 Member(s) selected' and shows 'Selected member(s)' with 'Chris Green' listed. A 'Remove' button is at the bottom right of the modal.

Provide the guest user the least privilege access needed

Add guest to:

- “Assign roles” just as with normal users.

You can add Guests to groups as well.

Home > Contoso > Users > Sam Oogle >

Add assignments ...

Privileged Identity Management | Azure AD roles

Membership Setting

Resource
Contoso

Resource type
Directory

Select role ⓘ

Search role

Select member(s) * ⓘ
1 Member(s) selected

Selected member(s) ⓘ

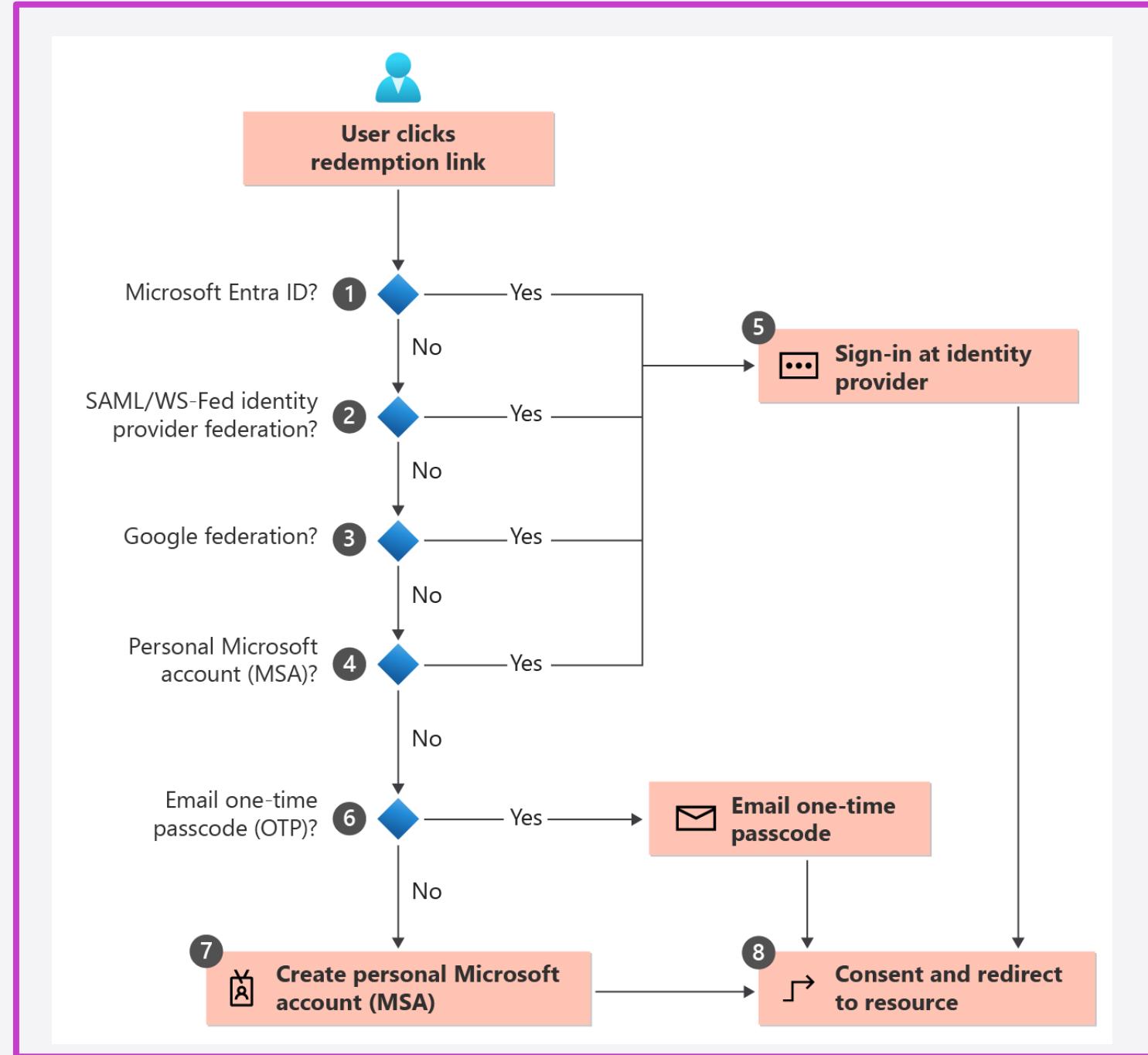
Sam Oogle

Groups Administrator
Guest Inviter
Helpdesk Administrator
Hybrid Identity Administrator
Identity Governance Administrator
Insights Administrator
Insights Business Leader
Intune Administrator
Kaizala Administrator
Knowledge Administrator
Knowledge Manager

B2B user redemption

External identity remediation types

- Microsoft Entra ID native
- SAML / WS-Fed
- Google (other social media)
- Personal MSA
- One-time passcode



Cross-tenant access controls

Configure cross-tenant access controls

- Default—applied to all external collaboration.
- Organizational settings—add rules by specific tenant/tenant-id.
- Microsoft cloud—control access to Azure Government clouds.

The screenshot shows the 'External Identities' blade in the Azure portal. The 'Cross-tenant access settings' tab is selected. The left sidebar includes links for Overview, All identity providers, External collaboration settings, Diagnose and solve problems, Self-service sign up (with Custom user attributes, All API connectors, and Custom authentication extensions), Subscriptions (with Linked subscriptions), Lifecycle management (with Terms of use and Access reviews), and Troubleshooting + Support. The main content area has tabs for 'Organizational settings', 'Default settings' (which is selected), and 'Microsoft cloud settings'. A note states: 'Default settings apply to all external Azure AD organizations not listed on the organizational settings tab. These default setting'. Below this are sections for 'Inbound access settings' (with an 'Edit inbound defaults' link) and 'Outbound access settings' (with an 'Edit outbound defaults' link). The 'Inbound access settings' table lists the following rules:

Type	Applies to	Status
B2B collaboration	External users and groups	All allowed
B2B collaboration	Applications	All allowed
B2B direct connect	External users and groups	All blocked
B2B direct connect	Applications	All blocked
Trust settings	N/A	Disabled

Configure cross-tenant synchronization

Synchronize users and attributes across organizations

- Automatically create and delete users cross-tenant.
- Move attributes and settings across tenants.
- Synced users benefit from features like Conditional Access and analytics.
- Push only—from source tenant to a destination tenant.

Home > Default 2 | Cross-tenant synchronization > Cross-tenant synchronization | Configurations > Fabrikam | Overview >

Provisioning

Save Discard

Provisioning Mode

Automatic

Use Azure AD to manage the creation and synchronization of user accounts in Fabrikam based on user and group assignment.

Admin Credentials

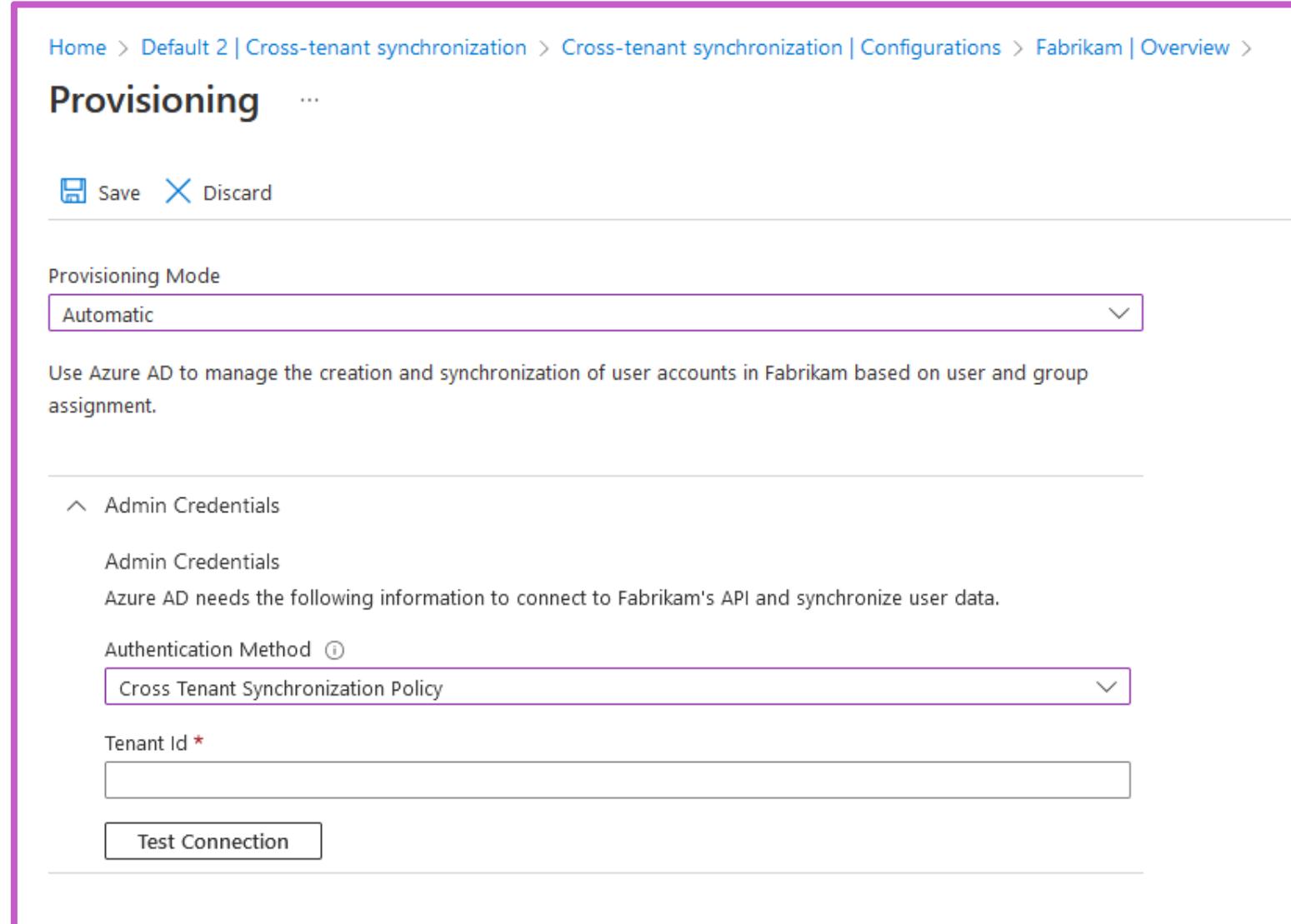
Admin Credentials
Azure AD needs the following information to connect to Fabrikam's API and synchronize user data.

Authentication Method ⓘ

Cross Tenant Synchronization Policy

Tenant Id *

Test Connection



Configure identity providers

SAML/WS-Fed

- You can set up direct federation with any organization that supports SAML 2.0 or WS-Fed
- Any new guests will be authenticated using direct federation
- External users sign in using their own organizational account

SAML/WS-Fed identity provider configuration

Home > Users > External Identities

External Identities | All identity providers

Search

Built-in

Custom

Overview

Cross-tenant access settings

All identity providers

External collaboration settings

Diagnose and solve problems

Self-service sign up

Custom user attributes

All API connectors

Custom authentication extensions

User flows

Name	Status
Microsoft Entra ID	Configured
Email one-time passcode	Configured
Microsoft	Configured
Google	Configured
Facebook	Configure

New SAML/WS-Fed IdP

You must configure the federating identity provider first. →

Display name *

Identity provider protocol *

Select protocol

Domain name of federating IdP *

fabrikam.com

You can add more domains after configuring the SAML/WS-Fed IdP.[Learn more.](#)

Select a method for populating metadata *

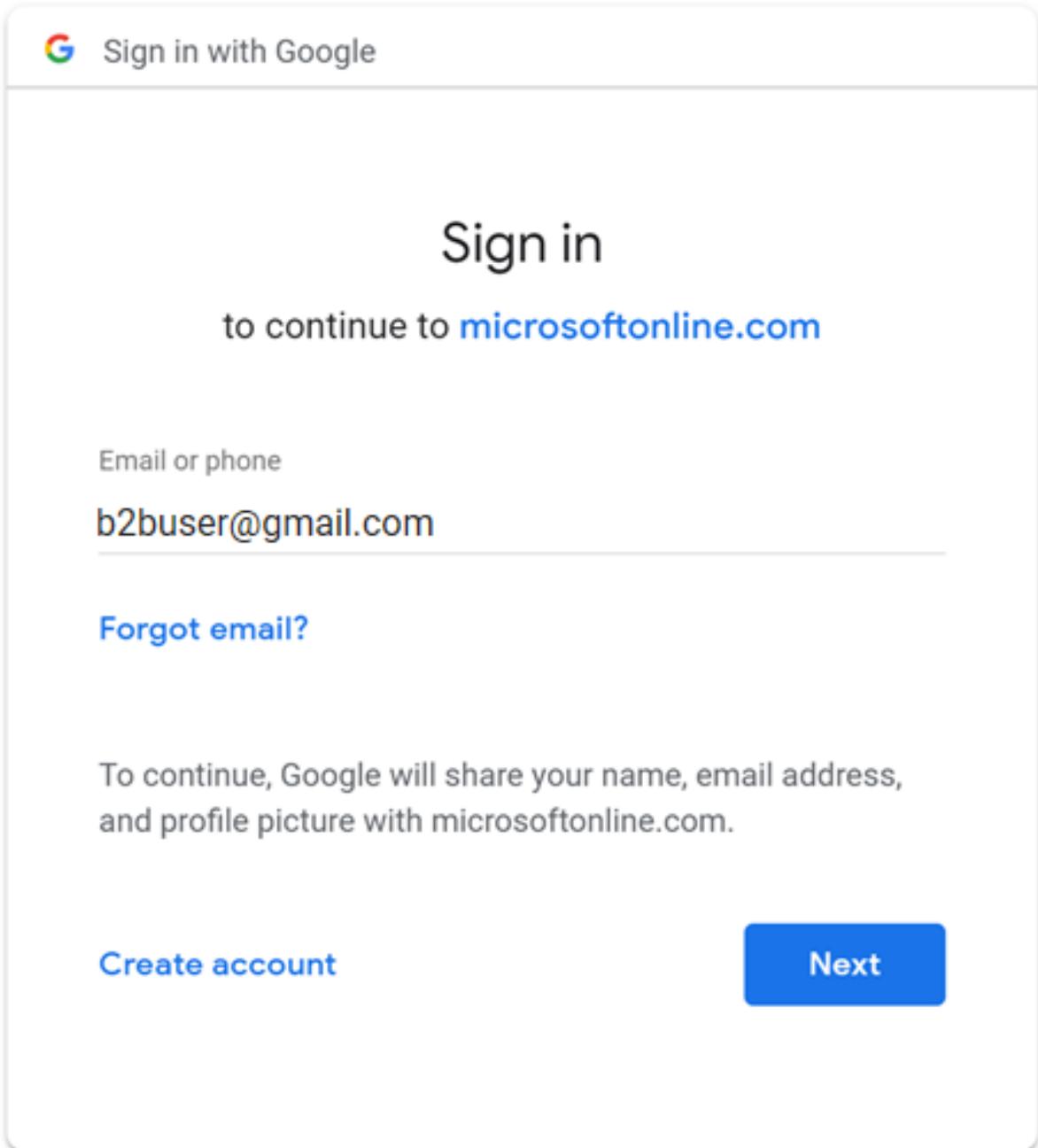
Select method

Save

Cancel

Using Google as an identity provider

- External users who aren't signed in to Google will be prompted to do so
- External users who are already signed in to Google will be prompted to choose the account they want to use
- They must choose the account you used to invite them



Using Facebook as an identity provider

- To use a Facebook account as an identity provider, you must create an application in the Facebook developers' console
- Set the Facebook client ID and client secret using either the Microsoft Entra ID portal or PowerShell
- You can test your Facebook configuration by signing up via a user flow on an app enabled for self-service sign-up

Add social identity provider

i You must configure your Facebook Developer account first to get a client ID and client secret. [Learn more](#)

Name

Client ID *

Client secret *

Verifiable credentials

Implement Microsoft Entra Verified ID

Requirements:

- Azure subscription
- Microsoft Entra ID Premium
- Azure Key Vault

The screenshot shows the Microsoft Entra admin center interface. On the left, a sidebar menu is visible with several sections: Multifactor authentication, Identity Governance, Dashboard, Entitlement management, Access reviews, Privileged Identity Management, Lifecycle workflows, Verified ID, Permissions Management, and Global Secure Access. The 'Verified ID' section is currently selected and expanded, showing three sub-options: Overview, Credentials, and Organization settings. The main content area is titled 'Overview' and features a heading 'Welcome to Entra Verified ID'. It explains that Verified ID enables fast remote onboarding, more secure access, and easy account recovery. Below this, there are three numbered steps: 1. Configure organization settings (with a 'Configure' button), 2. Register decentralized ID (with a 'Register' button), and 3. Verify domain ownership (with a 'Verify' button). A search bar at the top right says 'Search resources, services, and docs (G+)'. The overall theme is light blue and white.

Implement and manage hybrid identity

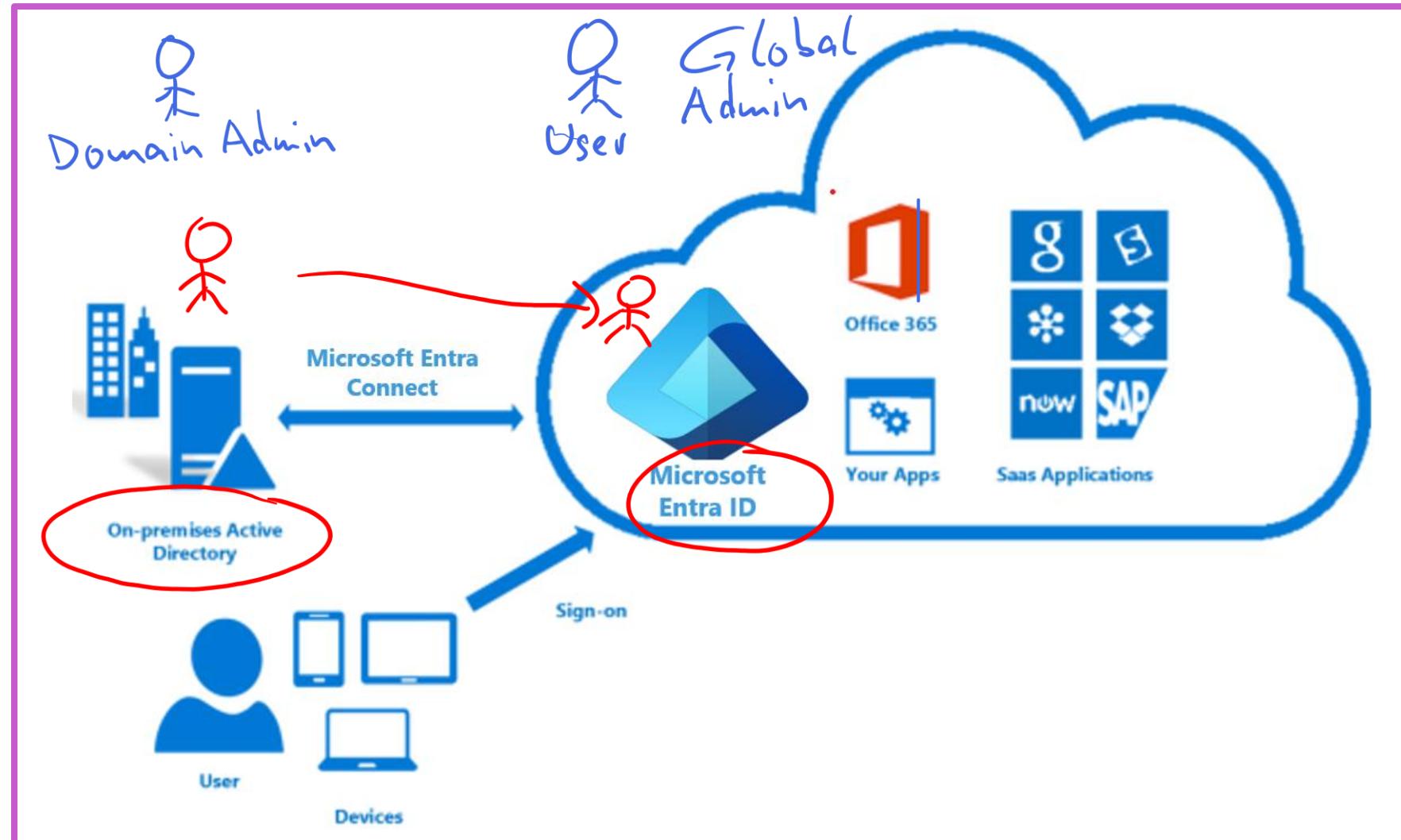
Objectives

- 1** Plan, design, and implement Microsoft Entra Connect Sync
- 2** Implement and manage password hash synchronization (PHS)
- 3** Implement and manage pass-through authentication (PTA)
- 4** Implement and manage federation
- 5** Troubleshoot synchronization errors
- 6** Implement Microsoft Entra Connect Health
- 7** Manage Microsoft Entra Connect Health

Plan, design, and implement Microsoft Entra Connect

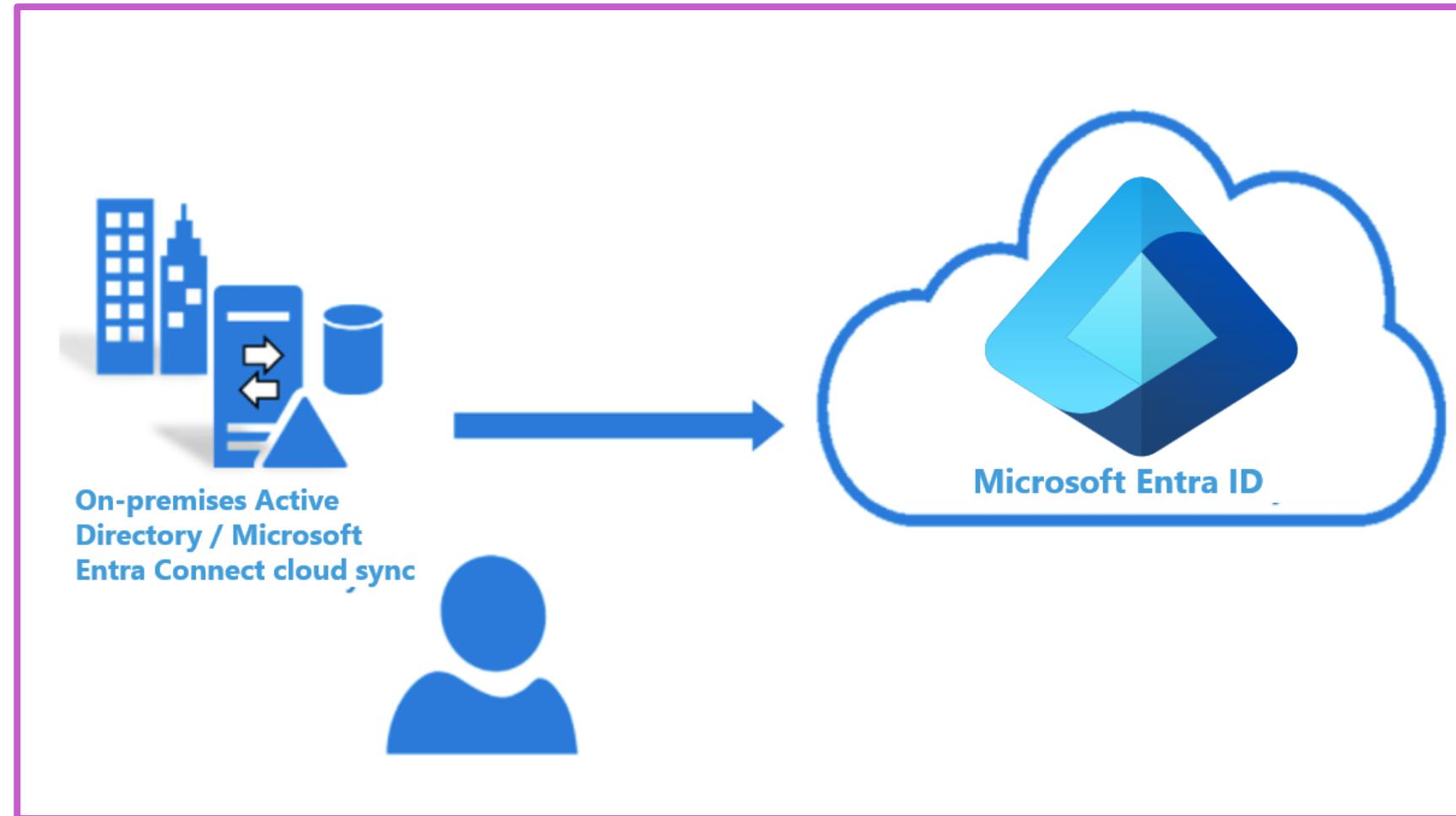
What is Microsoft Entra Connect?

- Microsoft Entra Connect is a solution that bridges an organization's on-premises Active Directory with your cloud-based Microsoft Entra ID
- Microsoft Entra Connect provides:
 - Synchronization
 - Password hash synchronization
 - Pass-through authentication
 - Federation integration
 - Health monitoring



Microsoft Entra cloud sync

- Microsoft Entra cloud sync is a solution that syncs your on-premises AD with Microsoft Entra ID
- Lightweight provisioning agent required on the on-premises AD
- All sync configuration is managed in the cloud
- Can be used in conjunction with Microsoft Entra Connect
- No Devices (Computers)



Authentication methods

~~Cloud authentication~~

Microsoft Entra password hash synchronization (PHS)

- Users can use the same username and password that they use on-premises

Microsoft Entra pass-through authentication (PTA)

- Simple password validation for Microsoft Entra ID authentication services using a software agent that runs on one or more on-premises servers

Shared Password

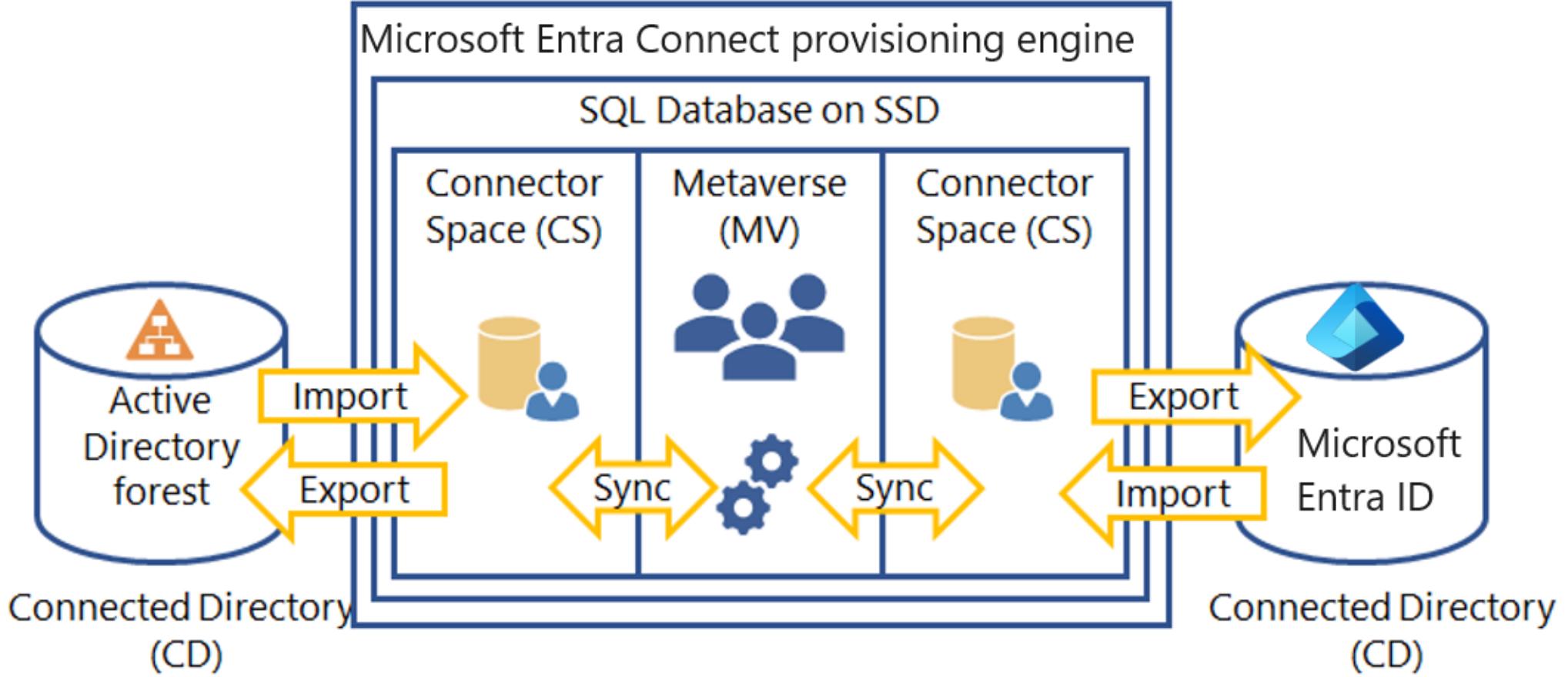
Federated authentication

Handoff to trusted authentication system

- Microsoft Entra ID hands off the authentication process to a separate trusted authentication system to validate the user's password
- The authentication system can provide additional advanced authentication requirements, such as a smartcard or third-party multifactor authentication

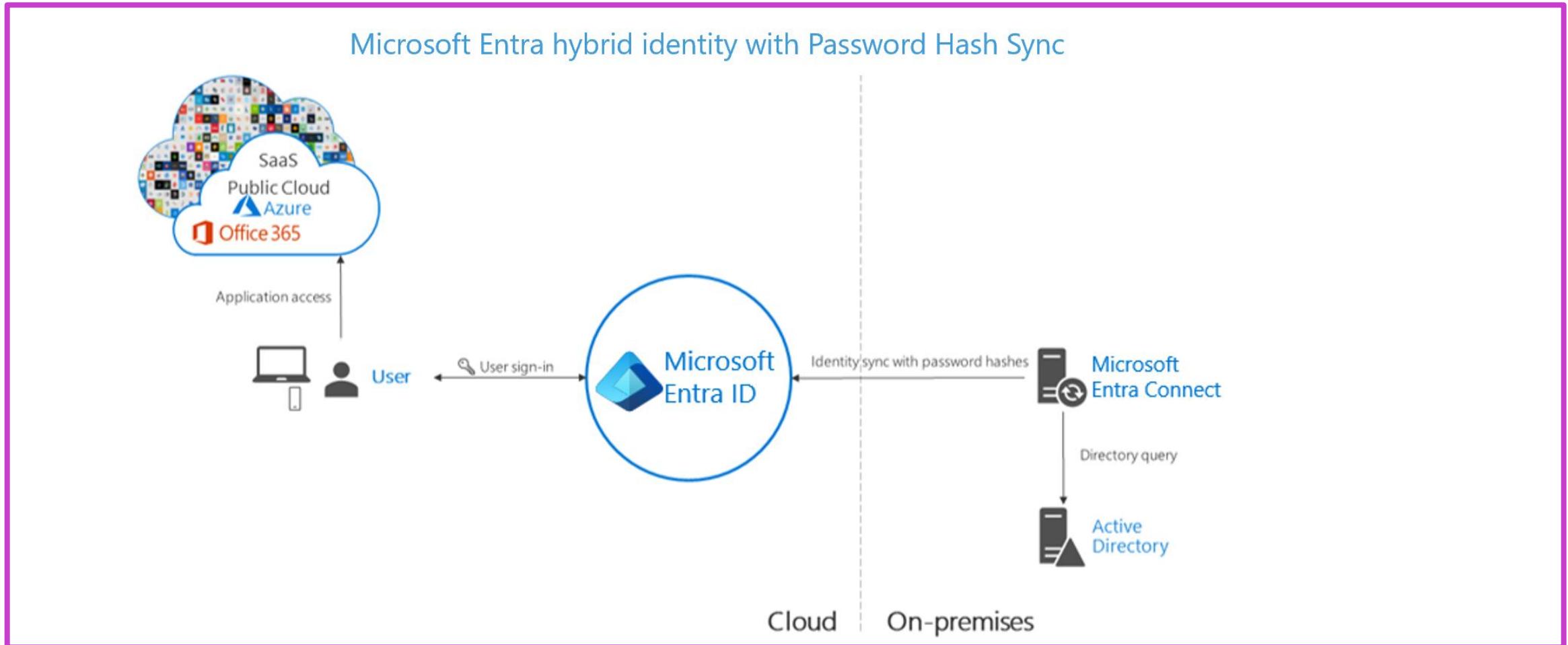
On Prem Auth

Microsoft Entra Connect component factors



Implement and manage password hash synchronization (PHS)

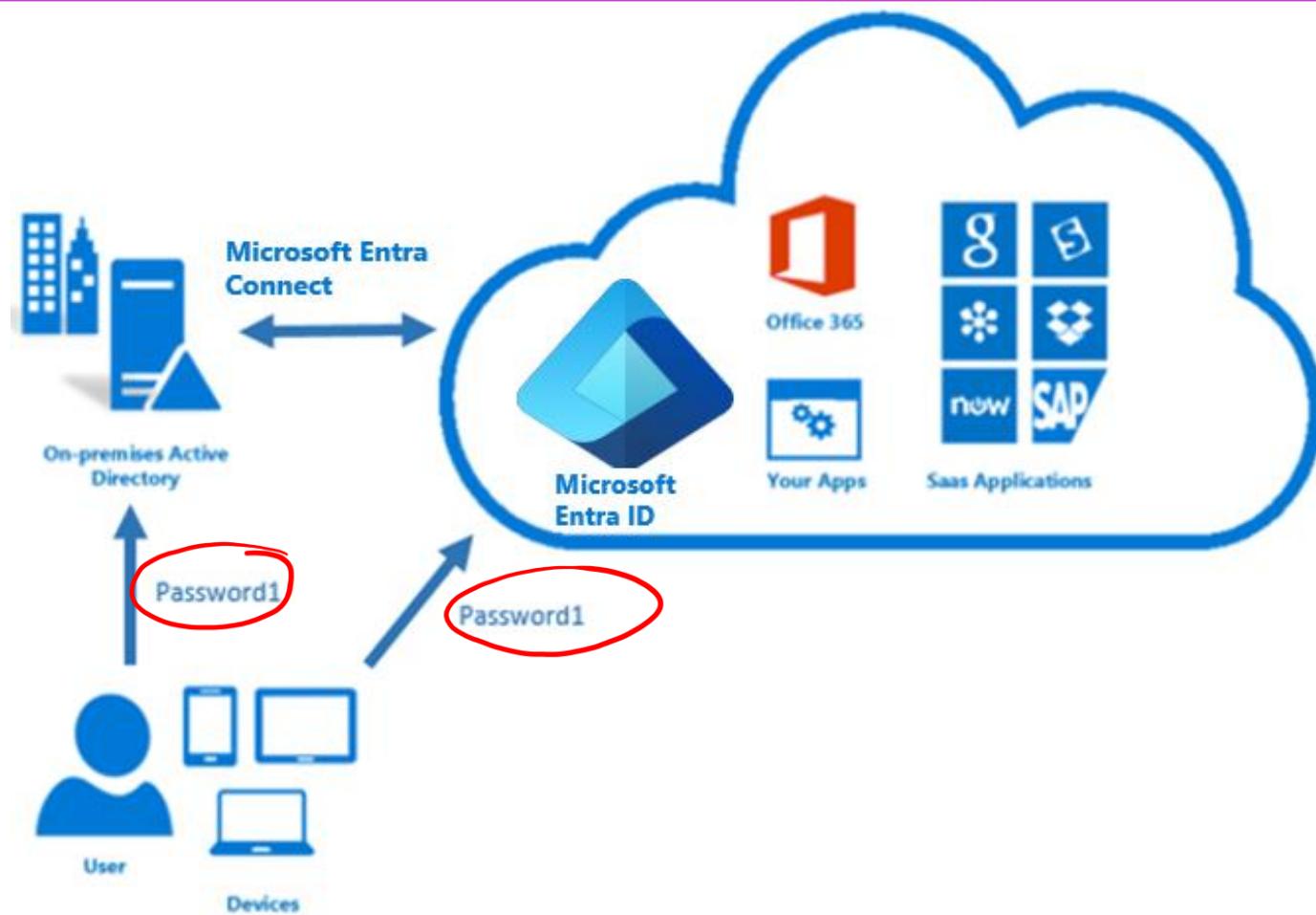
Password hash sync



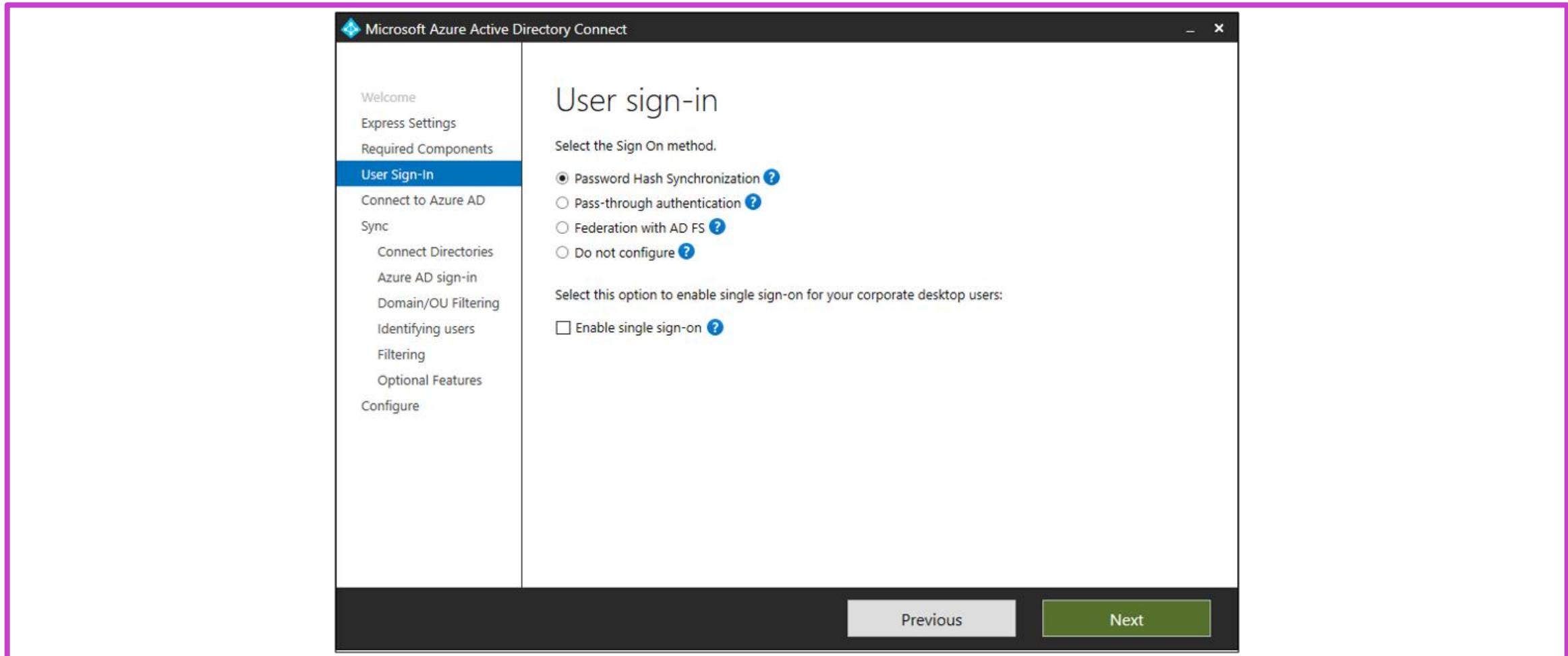
Simplicity of a password hash synchronization solution

P H S

How password hash synchronization works

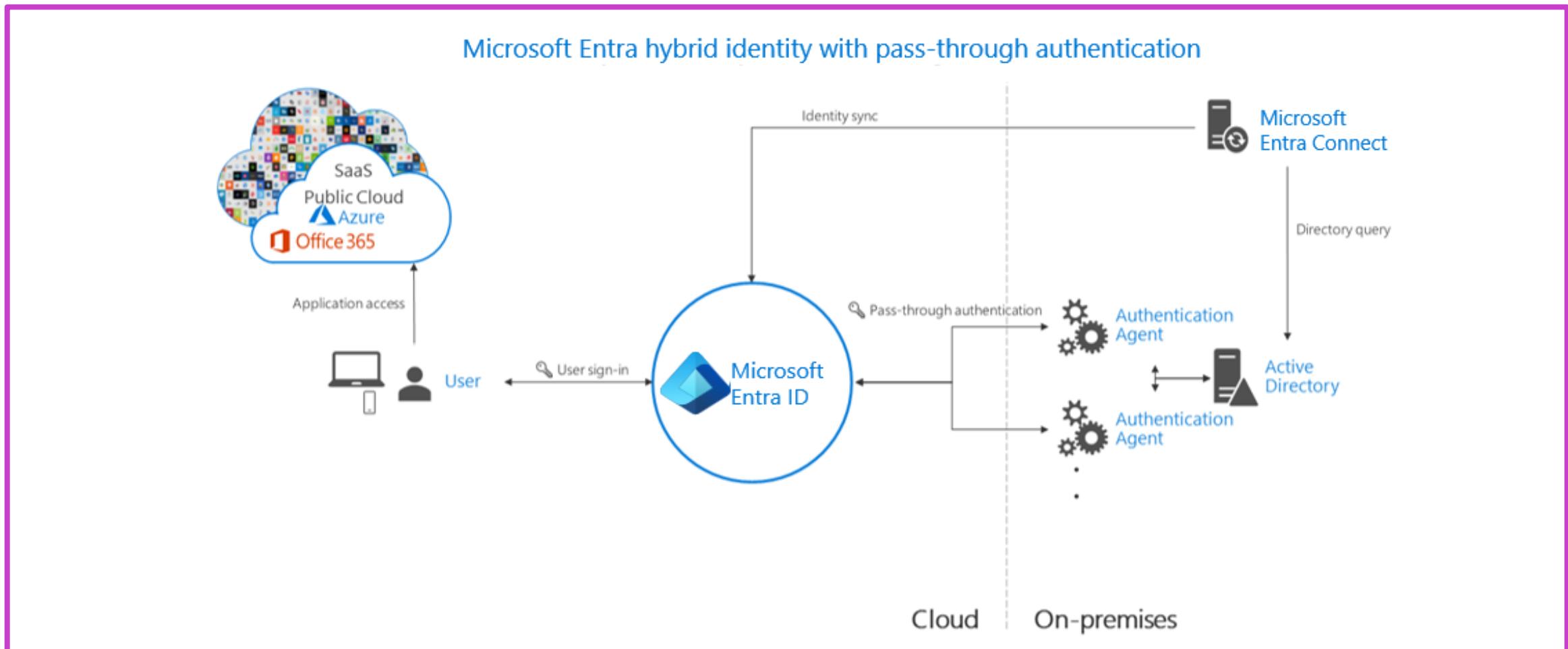


Enable password hash synchronization



Implement and manage pass-through authentication (PTA)

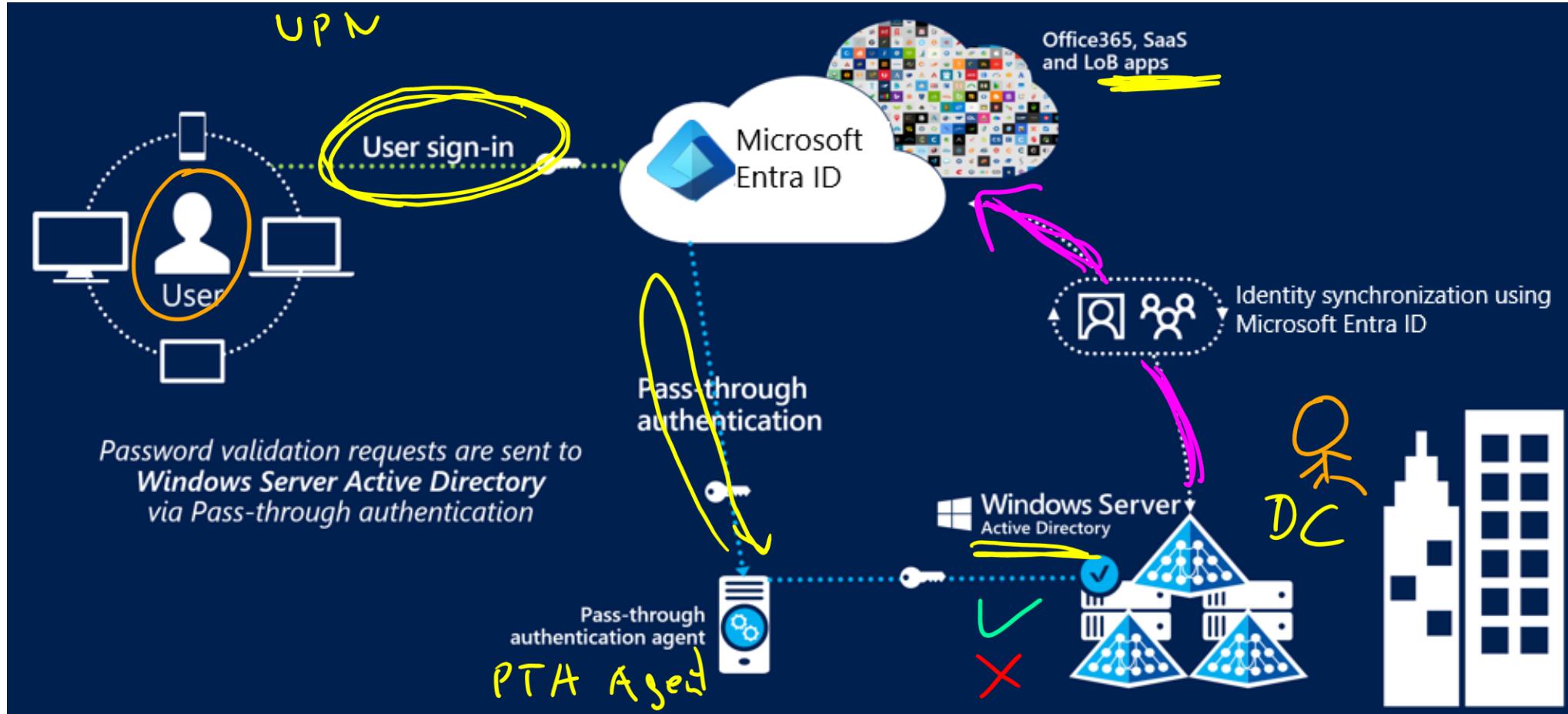
Pass-through authentication



Agent requirements of pass-through authentication, using two agents for redundancy

P T A

How Microsoft Entra pass-through authentication works



Enable pass-through authentication

The image displays two side-by-side screenshots of the Microsoft Azure Active Directory Connect wizard, both enclosed in a thick pink border.

User sign-in Step:

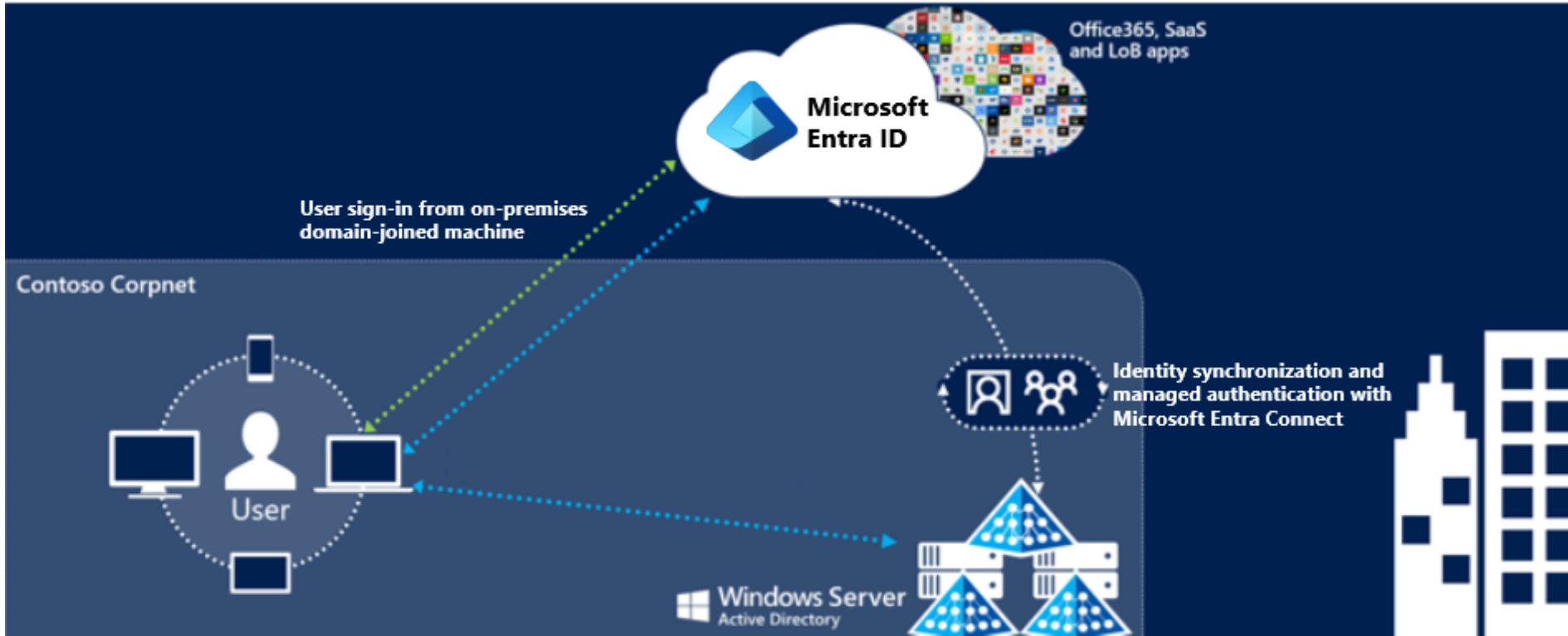
- Left Panel (Navigation):** Shows a sidebar with options: Welcome, Express Settings, Required Components, **User Sign-In** (selected), Connect to Azure AD, Sync, Connect Directories, Azure AD sign-in, Domain/OU Filtering, Identifying users, Filtering, Optional Features, and Configure.
- Right Panel (Content):** Title: User sign-in. Subtitle: Select the Sign On method. Options:
 - Password Hash Synchronization
 - Pass-through authentication
 - Federation with AD FS
 - Federation with PingFederate
 - Do not configure A checkbox below: Enable single sign-on. A note at the bottom: We recommend that you have a cloud only Company Administrator account so that you are able to manage pass-through authentication in the event of an on-premises failure. [Learn more](#). Buttons at the bottom: Previous (disabled) and Next.

Additional tasks Step:

- Left Panel (Navigation):** Shows a sidebar with options: Welcome, **Tasks** (selected), and a list of tasks.
- Right Panel (Content):** Title: Additional tasks. Subtitle: The required tasks for the scenario have been completed. Choose from the list below to perform additional tasks. List of tasks:
 - Privacy settings
 - View current configuration
 - Customize synchronization options
 - Configure device options
 - Refresh directory schema
 - Configure staging mode
 - Change user sign-in** (selected)
 - Configure Source Anchor
 - Manage federation
 - Troubleshoot Buttons at the bottom: Previous and Next.

Seamless single sign-on (SSO)

Single sign-on



User sign-in via on-premises or via Microsoft Entra Connect alternate ID.

If single sign-in fails, the user is prompted to log in.

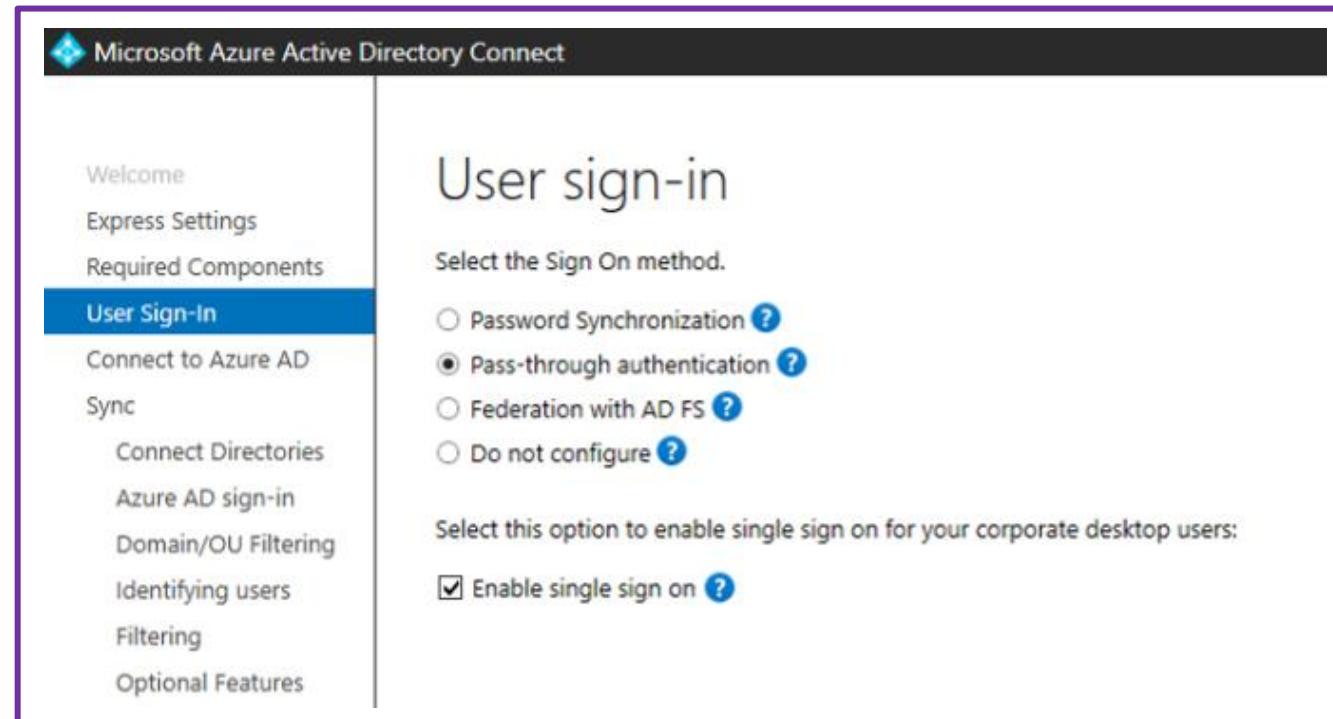
Sign out works, but releases the sign-in so all further access is blocked until sign-in is completed again.

Supported in browser-based and Office-based clients.

How seamless SSO is set up

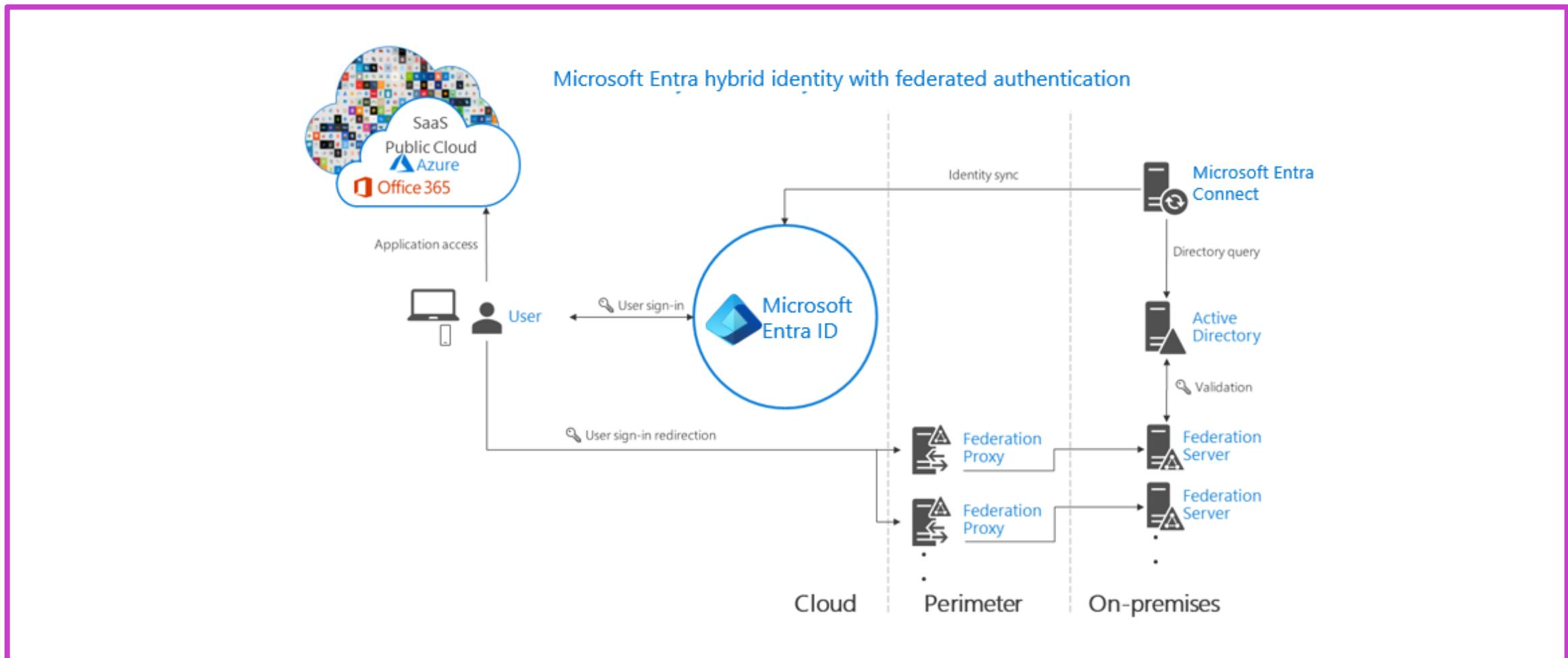
Seamless SSO is enabled using Microsoft Entra Connect. While enabling the SSO, the following steps occur:

1. A computer account (AZUREADSSOACC) is created in your on-premises Active Directory (AD).
2. A set of Kerberos service principal names (SPNs) are created to be used during the Microsoft Entra ID sign-in process.
3. Kerberos decryption key is shared securely with Microsoft Entra ID.



Implement and manage federation

Federated authentication

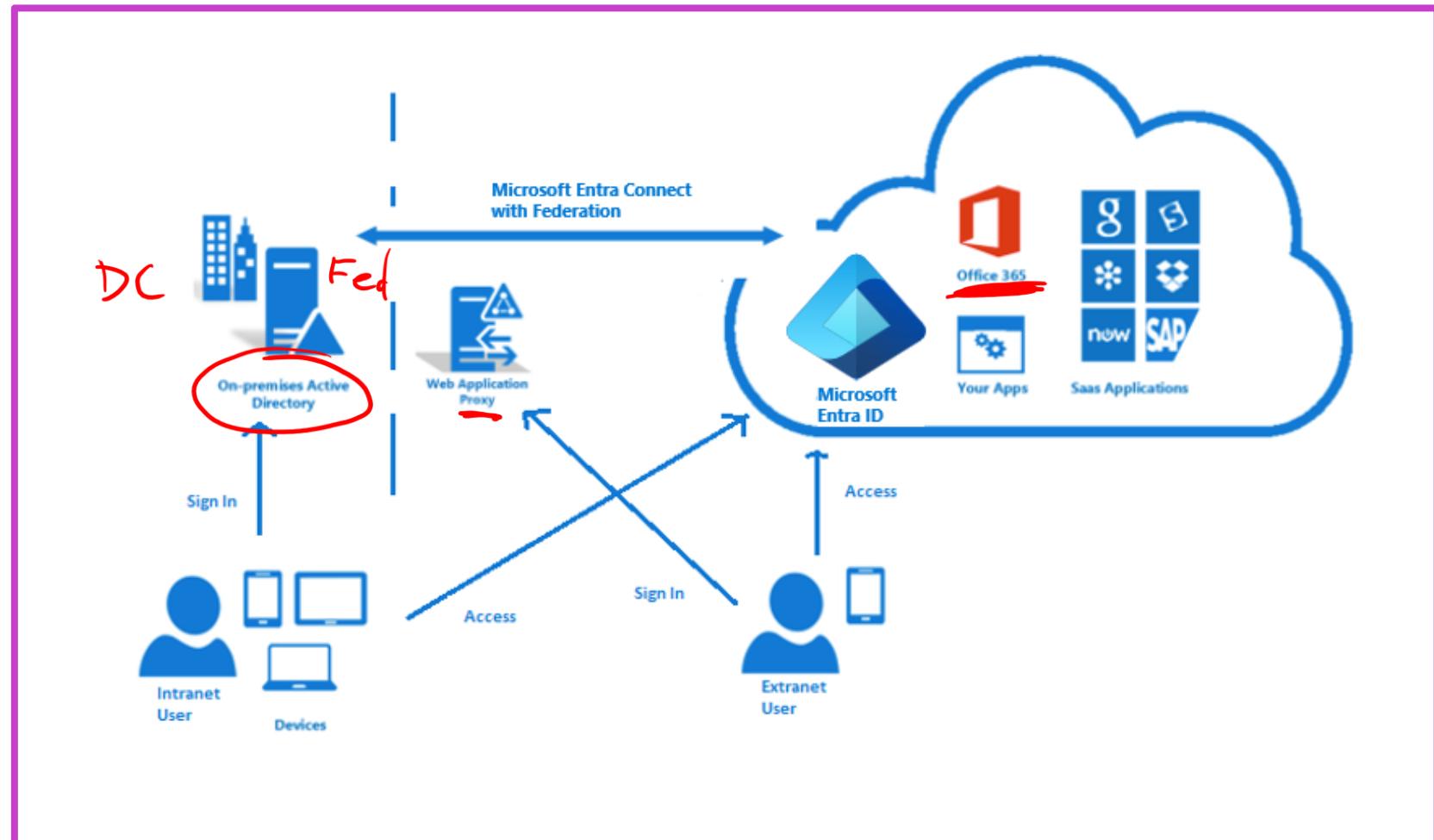


Components required for federation in the perimeter and internal network of your organization

What is federation?

Federation uses a new or existing farm with AD FS in Windows Server 2012 R2 and later

- Users sign in to Microsoft Entra ID services using their on-premises passwords
- Microsoft Entra Connect configures the trust between Microsoft Entra ID and the on-premises farm



Deploying a federation with AD FS and Microsoft Entra Connect

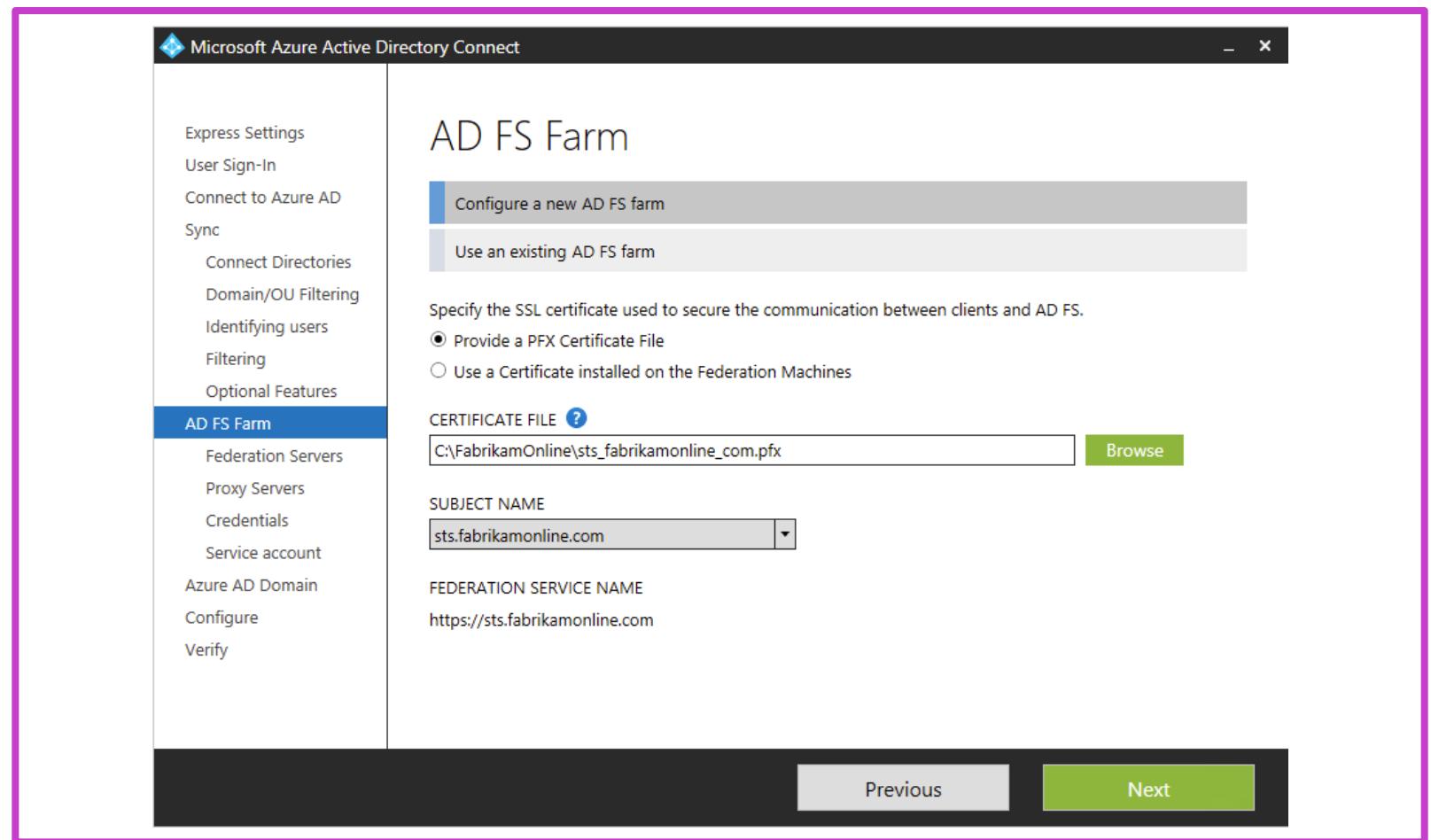
To deploy an AD FS farm, you need:

- Local administrator credentials on your federation servers.
- Local administrator credentials on any workgroup servers (not domain-joined) that you intend to deploy the Web Application Proxy role on.
- The machine that you run the wizard on to be able to connect to any other machines that you want to install AD FS or Web Application Proxy on by using Windows Remote Management.

Using Microsoft Entra Connect to connect to an AD FS farm

Primary steps

- Select AD FS server(s)
- Select Web App Proxy server(s)
- Specify AD FS service account
- Select Microsoft Entra domain to federate



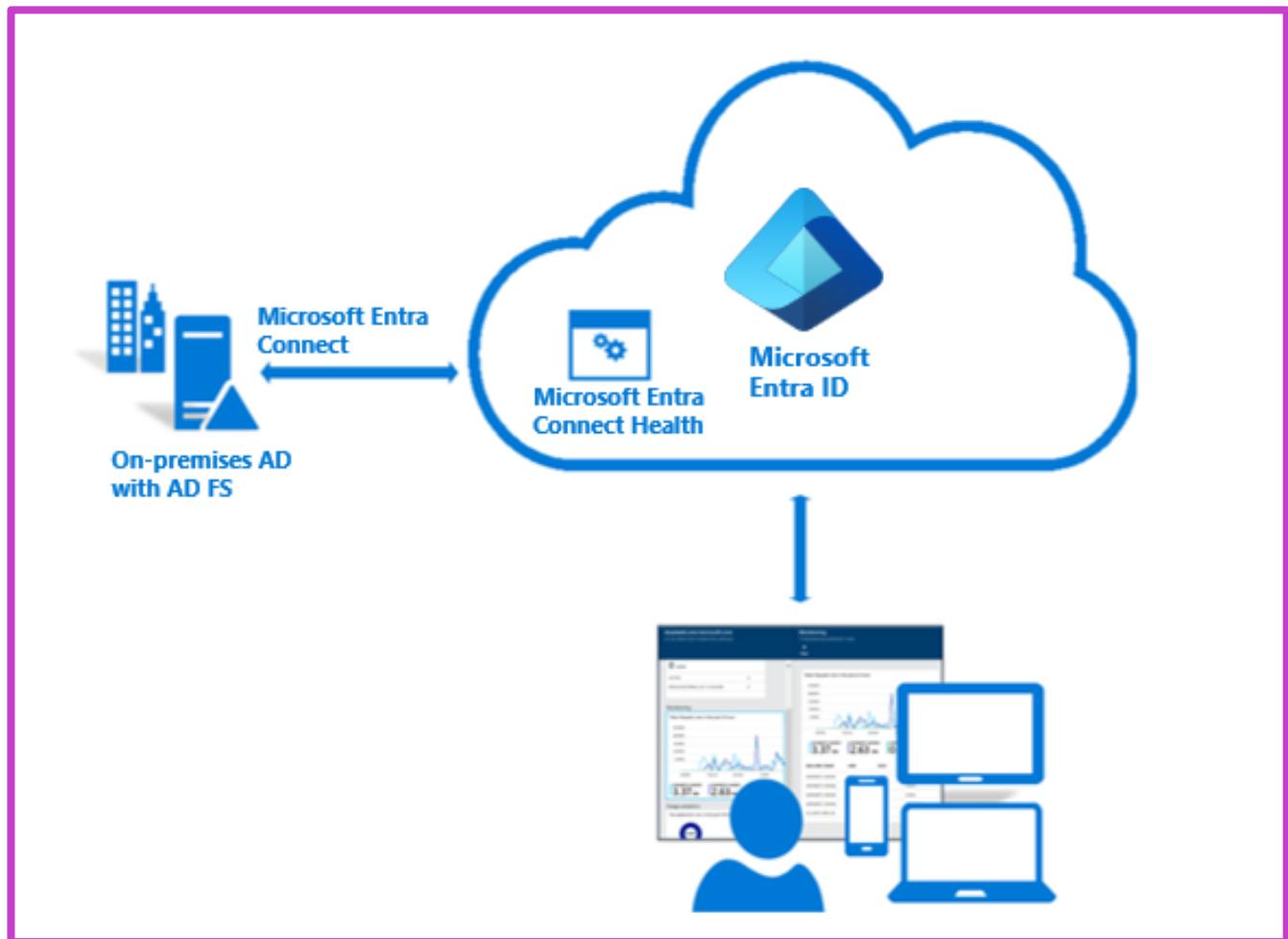
Managing federation with Microsoft Entra Connect

Manage AD FS feature	What it does
<u>Repair the trust</u>	How to repair the federation trust with Microsoft 365
<u>Federate with Microsoft Entra ID using alternate login ID</u>	Configure federation using alternate login ID
<u>Add an AD FS server</u>	How to expand an AD FS farm with an additional AD FS server
<u>Add an AD FS Web Application Proxy server</u>	How to expand an AD FS farm with an additional Web Application Proxy (WAP) server
<u>Add a federated domain</u>	How to add a federated domain

Implement Microsoft Entra Connect Health

What is Microsoft Entra Connect Health?

- Provides robust monitoring of your on-premises identity infrastructure
- Enables you to maintain a reliable connection to Microsoft 365 and Microsoft Online Services
- Provides monitoring capabilities for your key identity components
- Makes the key data points about these components easily accessible
- Microsoft Entra Health Connect portal (aka.ms/aadconnecthealth)

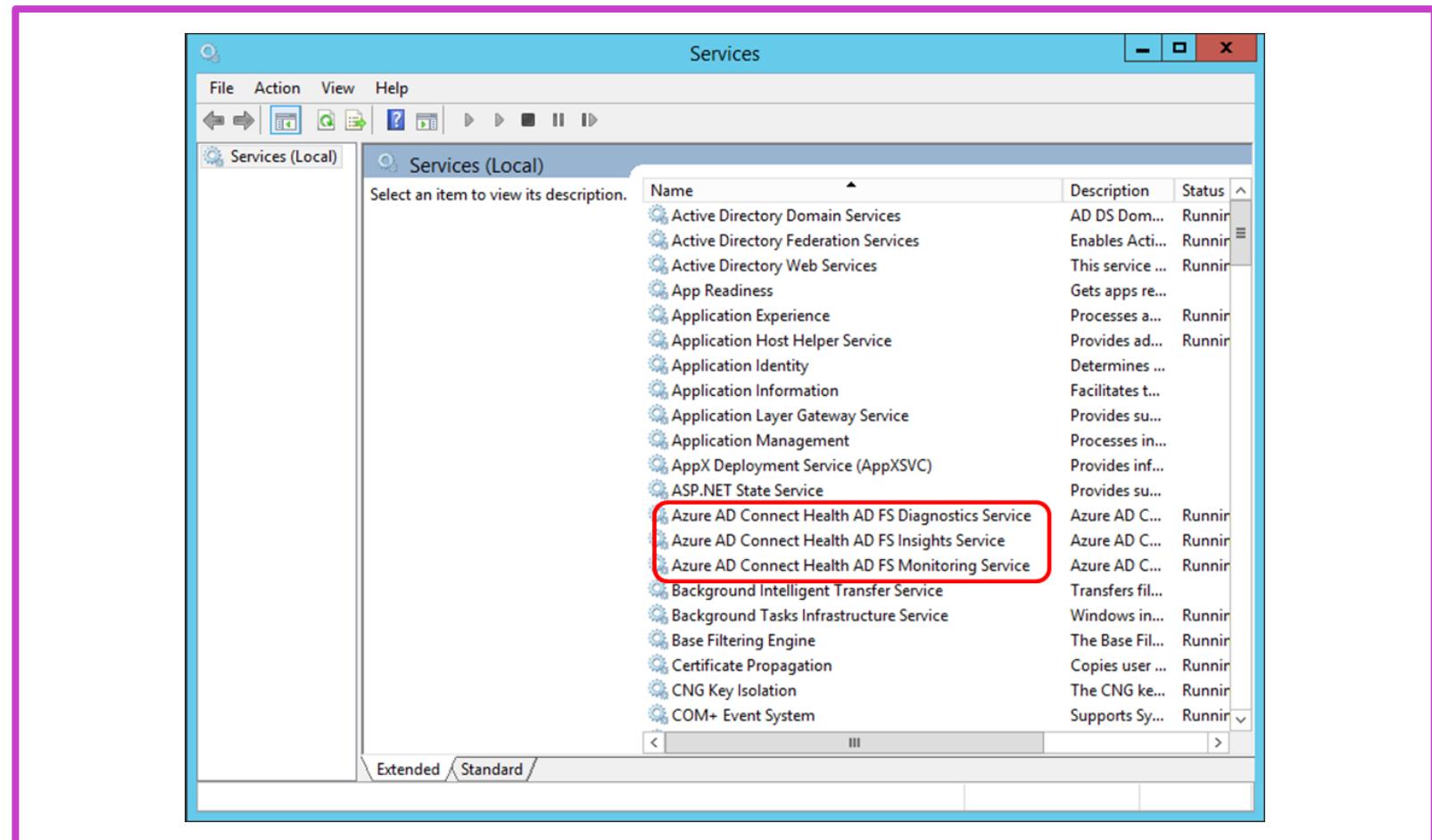


Considerations for installing Microsoft Entra Connect Health

- Microsoft Entra ID premium license required (P1 or P2)
- Only a global administrator can deploy and configure
- Microsoft Entra Connect Health Agent—install on each server to collect health data from
 - AD FS server or your Active Directory Domain Services machine
- Firewall must be opened for specific IP ranges and TCP ports
- TLS inspection can block install or operation
- PowerShell 4.0 or later required
- FIPS compliant encryption must be disabled

Example—Microsoft Entra Connect Help for AD FS installation steps

1. Install the agent for Active Directory Federation Service.
2. Configure the agent.
3. Sign in using a Microsoft Entra account with permission to register the agent.
4. Ensure that the Microsoft Entra Connect Health services are installed.
5. Install the Microsoft Entra Connect Health agent for Sync.



Manage Microsoft Entra Connect Health

Enable email notifications

The screenshot shows the Azure Active Directory Connect (Sync) Alerts blade in the Azure portal. On the left, there's a summary of Azure Active Directory Connect Servers: FABVM03 is Unhealthy and FABVM02 is Healthy. Below that, the Azure Active Directory Connect (Sync) Alerts section shows 1 active alert, all of which are Active. A red box highlights the 'Azure Active Directory Connect (Sync) Alerts' tile.

Azure Active Directory Connect (Sync) Alerts

fabtoso.onmicrosoft.com

Time Range Notificati... Settings

NAME **TYPE** **SCOPE**

ACTIVE ALERTS

Azure AD Connect Sync Service is not r...	! Error	FABVM03
---	---------	---------

RESOLVED ALERTS

No items for this.

Notification
fabtoso.onmicrosoft.com

Save Discard

You can provide feedback by doing a right click on any alert.

Find ...

OFF ON

Notify All Global Administrators

ADDITIONAL EMAIL RECIPIENTS

varun@fabtoso.com
idadmins@fabtoso.com

Additional tasks

Delete a server or service instance

- Delete a server from the Microsoft Entra Connect Health service
- Delete a service instance from Microsoft Entra Connect Health service

Manage access with Azure role based access control

- Allow users or groups access to Microsoft Entra Connect Health
- Remove users or groups

Troubleshoot synchronization errors

Troubleshooting

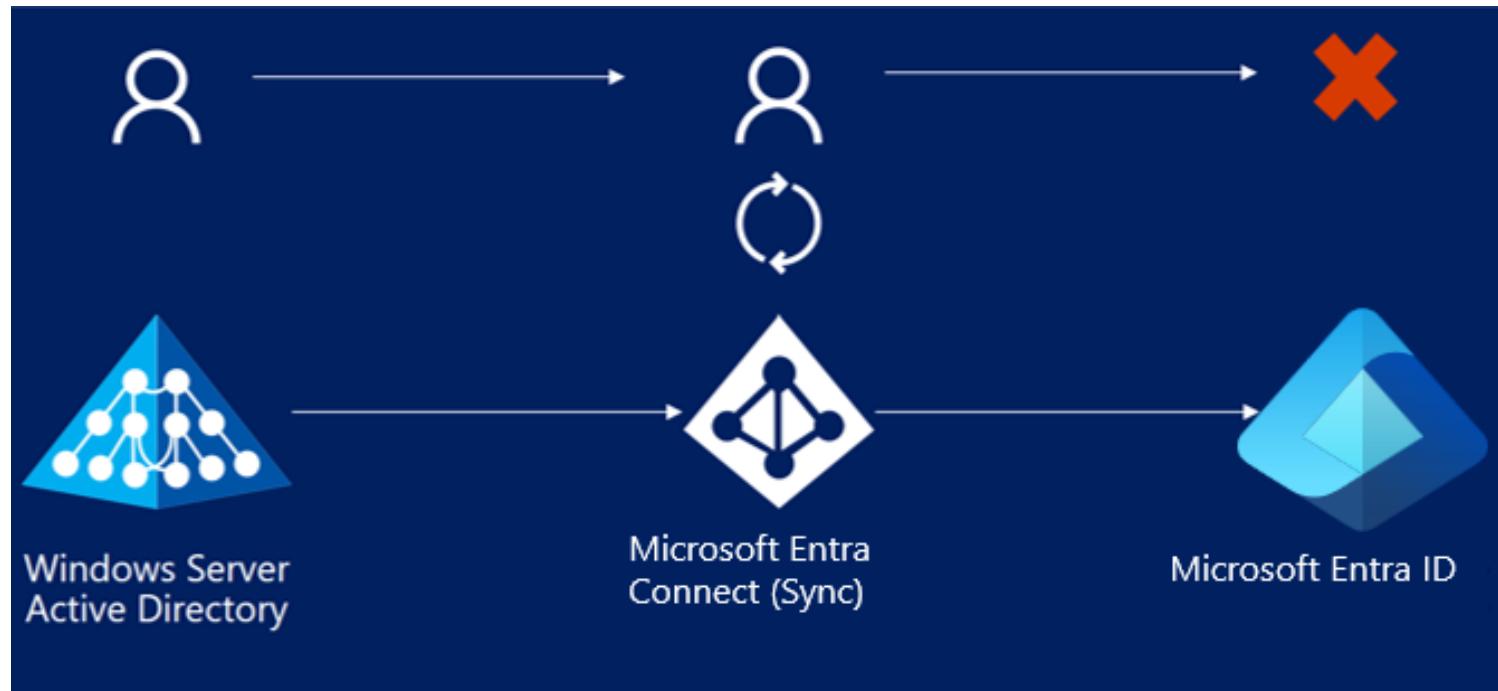
Diagnose and remediate duplicated attribute sync errors

- Duplicate UserPrincipalName or Proxy Addresses
- Orphaned object

Diagnostic and troubleshooting steps in Connect Health

- Attributes: UserPrincipalName, ProxyAddresses, SipProxyAddress, OnPremiseSecurityIdentifier

Potential synchronization errors



Data mismatch errors

- InvalidSoftMatch
- ObjectTypeMismatch

Duplicate attributes

- AttributeValueMustBeUnique

Data validation failures

- IdentityDataValidationFailed
- FederatedDomainChangeError

LargeObject

Admin role conflict

Summary

Initial Microsoft Entra ID configuration

- Microsoft Entra roles, custom roles
- Custom domain
- Administrative units
- Tenant-wide settings

Configure and manage identities

- Users
- Groups
- Licenses
- Focus on proper maintenance!

External Identities

- Guests can use your solutions
- External collaboration
- Invite individually or in bulk
- Use external identity providers (as needed)

Hybrid Identity

- Connect to your on-premises AD
- Microsoft Entra Connect
- Implement PHS, PTA, and SSO
- Microsoft Entra Connect Health

Labs

Lab	Brief description	Length
1. Manage user roles	Create a user account, add a role to it, and remove a role	10 minutes
2. Working with tenant properties	Set tenant-wide properties such as changing the tenant display name and adding privacy information	10 minutes
3. Assign licenses to users and groups	Create a user in Microsoft Entra ID, create a security group, and assign a license to a group	10 minutes
4. Configure external collaboration	Configure external collaboration settings	5 minutes
5. Add guest users to the directory	Add users individually to the directory	5 minutes
6. Add a federated identity provider	Configure a new federated identity provider	15 minutes

References

Implement initial configuration of Microsoft Entra ID

<https://learn.microsoft.com/learn/modules/implement-initial-configuration-of-azure-active-directory/>

Create, configure, and manage identities

<https://learn.microsoft.com/learn/modules/create-configure-manage-identities/>

Implement and manage external identities

<https://learn.microsoft.com/learn/modules/implement-manage-external-identities/>

Implement and manage hybrid identity

<https://learn.microsoft.com/learn/modules/implement-manage-hybrid-identity/>



Learning path recap

In this learning path, we:

Explained and configured identities for use in your cloud solutions.

Deployed and managed a Microsoft Entra ID infrastructure.

Configured and maintained external and hybrid identities.

