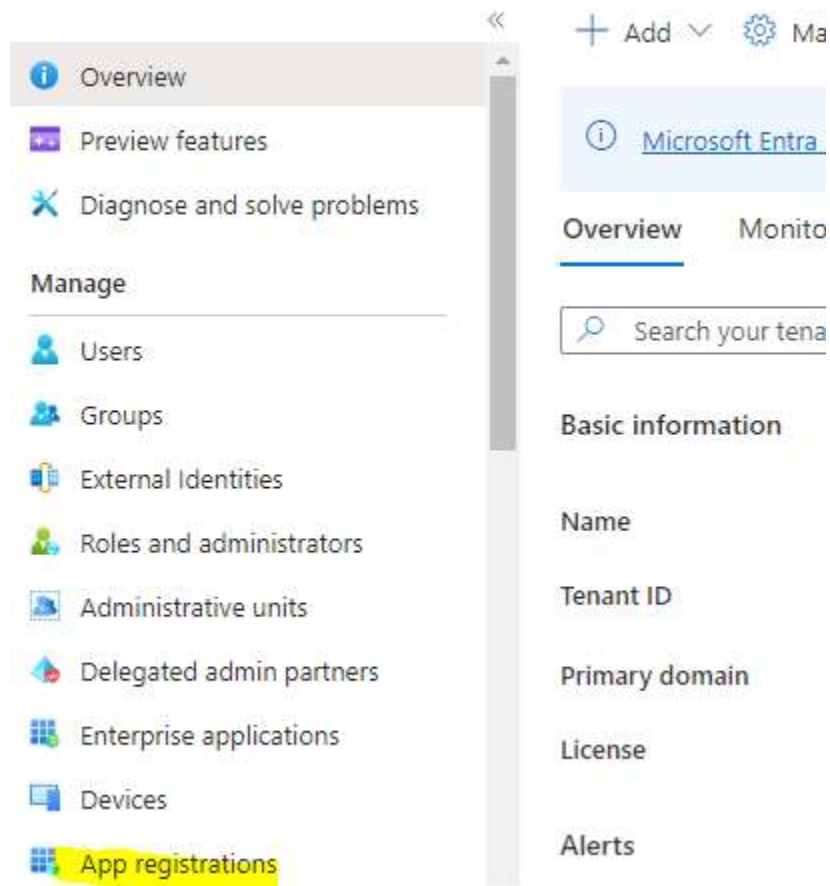


Azure AD - APP Registration - Demo

We're going to register an application in Azure AD and pulling users details from Azure AD using PowerShell script.

1. Login to azure portal as global admin, and go to Azure AD, and click on "App registrations"



2. Click "New registration" and Provide "Name", select option for "Who can use this application or access this API?" and Redirect URI (optional)

Register an application ...

* Name

The user-facing display name for this application (this can be changed later).

Supported account types

Who can use this application or access this API?

- ☒ Accounts in this organizational directory only (CloudzDevOps only - Single tenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft
- ☐ Personal Microsoft accounts only

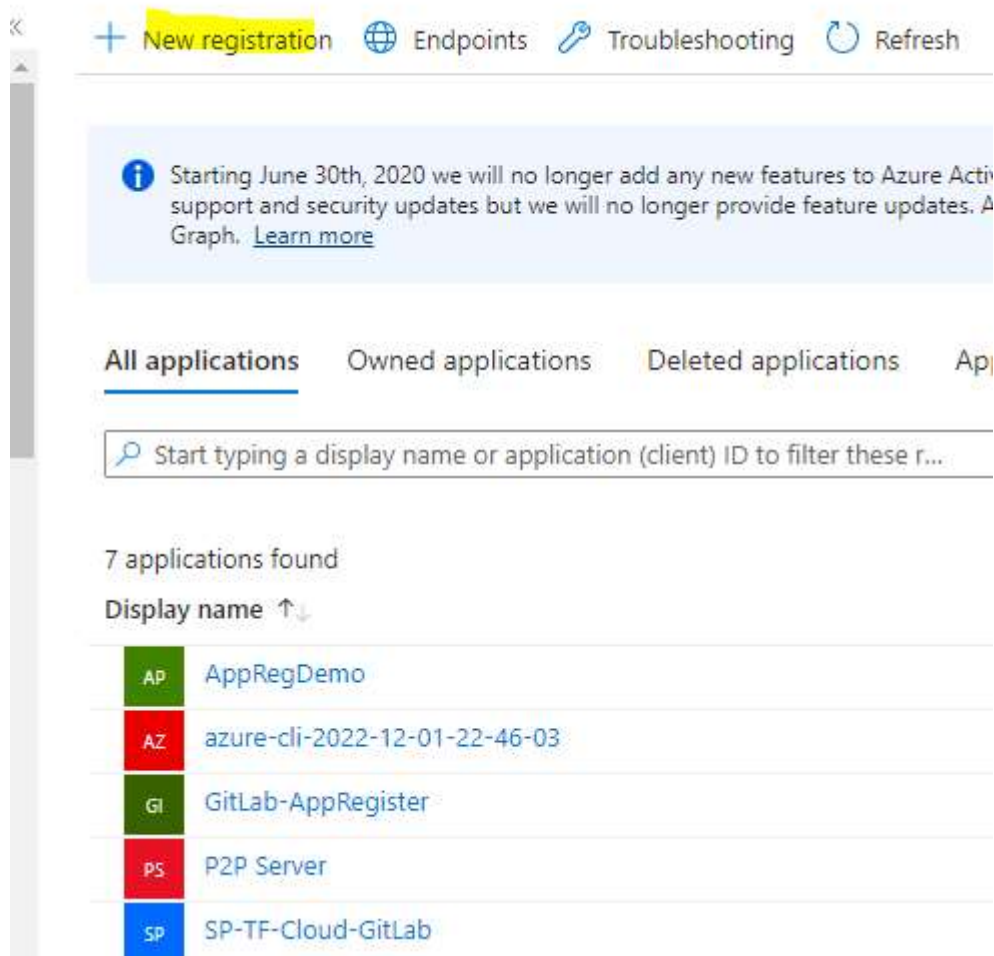
[Help me choose...](#)

Redirect URI (optional)

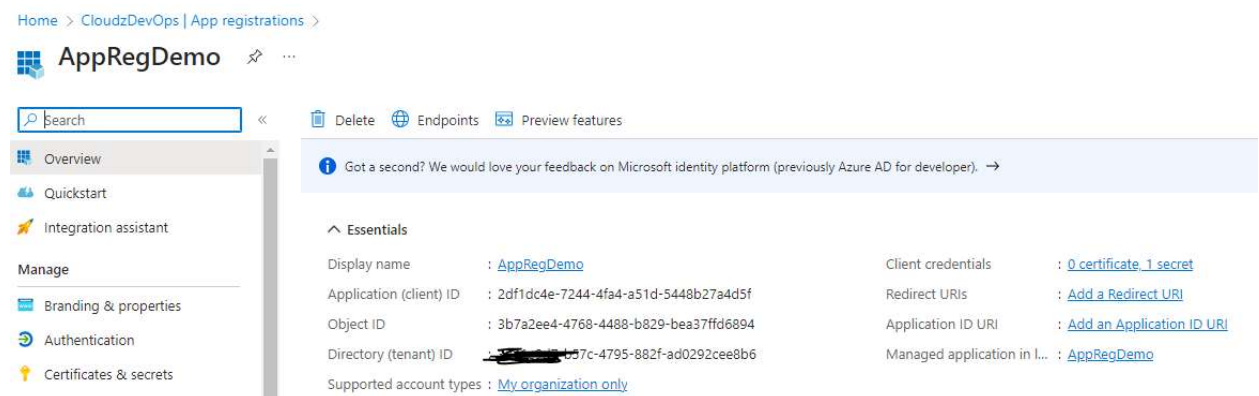
We'll return the authentication response to this URI after successfully authenticating the user. Providing thi

By proceeding, you agree to the [Microsoft Platform Policies](#) 

Register



3. You'd get your application/client ID (SPN), App Object ID, Tenant ID, etc., make a note of them



4. Click on "Certificates & secrets" and "New client secret"

AppRegDemo | Certificates & secrets

Search

Got feedback?

Overview
Quickstart
Integration assistant

Manage

Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using a HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) **Client secrets (1)** Federated credentials (0)

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

+ New client secret

5. You will get secret value. Copy it to somewhere as you cannot get it again.

AppRegDemo | Certificates & secrets

Search

Got feedback?

Overview
Quickstart
Integration assistant

Manage

Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators

Credentials enable confidential applications to identify themselves to the authentication service when receiving tokens at a web addressable location (using a HTTPS scheme). For a higher level of assurance, we recommend using a certificate (instead of a client secret) as a credential.

Application registration certificates, secrets and federated credentials can be found in the tabs below.

Certificates (0) **Client secrets (2)** Federated credentials (0)

A secret string that the application uses to prove its identity when requesting a token. Also can be referred to as application password.

+ New client secret

Description	Expires	Value	Secret ID
AppRegDemoClientSecret	9/9/2023	822*****	6776b613-0240-4db0-aac1-f1e6fb4265...
AppRegDemoClientSecrets	9/9/2023	tEl8Q~kEU4SfwNs1Pnf15wDlvj9radRZD...	8dd20495-5c65-48d8-a82f-d8e19757cf4b

6. Go to "API permissions" and click on "Add a permission"

AppRegDemo | API permissions

Search

Refresh

Got feedback?

Overview
Quickstart
Integration assistant

Manage

Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions

The "Admin consent required" column shows the default value for an organization. However, use value in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as p all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission ✓ Grant admin consent for CloudzDevOps

API / Permissions name	Type	Description
Microsoft Graph / 21		

7. Select "Microsoft APIs" and click on "Microsoft Graph"

> CloudzDevOps | App registrations > AppRegDemo

AppRegDemo | API permissions

Search: arch

Refresh Got feedback?

Overview
Quickstart
Integration assistant
...
Adding & properties
Authentication

The "Admin consent required" column value in your organization, or in org

Configured permissions

Applications are authorized to call APIs all the permissions the application need

Request API permissions

Select an API

Microsoft APIs APIs my organization uses My APIs

Commonly used Microsoft APIs



Microsoft Graph

Take advantage of the tremendous amount of data in Office 365, Enterprise Mobility + Security, and Windows 10. Access Azure AD, Excel, Intune, Outlook/Exchange, OneDrive, OneNote, SharePoint, Planner, and more through a single endpoint.

8. Select "Application permissions" and select user permission as shown below.

Request API permissions

< All APIs



Microsoft Graph

<https://graph.microsoft.com/> Docs

What type of permissions does your application require?

Delegated permissions

Your application needs to access the API as the signed-in user.

Application permissions

Your application runs as a background service or daemon without a signed-in user.

Select permissions

expand all

Search: user

Permission

Admin consent required

> CrossTenantUserProfileSharing

> IdentityRiskyUser

Request API permissions

> UserNotification

> UserShiftPreferences

✓ User (1)

<input type="checkbox"/>	User.EnableDisableAccount.All ⓘ Enable and disable user accounts	Yes
<input type="checkbox"/>	User.Export.All ⓘ Export user's data	Yes
<input type="checkbox"/>	User.Invite.All ⓘ Invite guest users to the organization	Yes
<input type="checkbox"/>	User.ManageIdentities.All ⓘ Manage all users' identities	Yes
<input checked="" type="checkbox"/>	User.Read.All ⓘ Read all users' full profiles	Yes
<input type="checkbox"/>	User.ReadWrite.All ⓘ Read and write all users' full profiles	Yes

9. Grant admin consent for the permission given as shown below.

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

cloudzdevops@outlook CLOUDZDEVOPS (CLOUDZDEVOPS)

Home > CloudzDevOps | App registrations > AppRegDemo

AppRegDemo | API permissions

Search Refresh Got feedback?

Overview
Quickstart
Integration assistant
Manage
Branding & properties
Authentication
Certificates & secrets
Token configuration
API permissions
Expose an API
App roles
Owners
Roles and administrators
Manifest

⚠ You are editing permission(s) to your application, users will have to consent even if they've already done so previously.

ℹ The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission ✓ Grant admin consent for CloudzDevOps

API / Permissions name	Type	Description	Admin consent requ...	Status
▼ Microsoft Graph (2)				
User.Read	Delegated	Sign in and read user profile	No	...
User.Read.All	Application	Read all users' full profiles	Yes	⚠ Not granted for Cloudz...

To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try [Enterprise applications](#).

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

Home > CloudzDevOps | App registrations > AppRegDemo

AppRegDemo | API permissions

Search Refresh Got feedback?

Warning: You are editing permission(s) to your application, users will have to consent even if they've already done so previously.

Info: The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission ✓ Grant admin consent for CloudzDevOps

API / Permissions name	Type	Description	Admin consent required	Status
▼ Microsoft Graph (2)				
User.Read	Delegated	Sign in and read user profile	No	...
User.Read.All	Application	Read all users' full profiles	Yes	⚠ Not granted for Cloudz... ...

To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try [Enterprise applications](#).

AppRegDemo | API permissions

Search Refresh Got feedback?

Info: Successfully granted admin consent for the requested permissions.

Info: The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission ✓ Grant admin consent for CloudzDevOps

API / Permissions name	Type	Description	Admin consent required	Status
▼ Microsoft Graph (2)				
User.Read	Delegated	Sign in and read user profile	No	✔ Granted for CloudzDev... ...
User.Read.All	Application	Read all users' full profiles	Yes	✔ Granted for CloudzDev... ...

10. Note - You need to run "Install-Module AzureAD" and "Connect-AzAccount" before running below script

```
PS C:\Users\T...> Install-Module AzureAD

Untrusted repository
You are installing the modules from an untrusted repository. If you trust this repository, change its InstallationPolicy value by running the Set-PSRepository cmdlet. Are you sure you want to install the modules from 'PSGallery'?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): Yes
PS C:\Users\T...> Connect-AzAccount

Account SubscriptionName TenantId Environment
-----
cloudzdevops@outlook.com CloudzDevOps-Training 3341e9d7-b57c-4795-882f-***** AzureCloud
```

11. Replace the values as needed and run the below script in VS code or PShell ISE as admin.

```
#$tenant = Read-Host ('Enter your tenant name')
$tenant = "#####-b57c-4795-882f-*****"
```

```

$openid = Invoke-RestMethod -uri
"https://login.microsoftonline.com/$tenant/.well-known/openid-configuration"

$autendpoint = $openid.authorization_endpoint

$tokenendpoint = $openid.token_endpoint

$autendpoint
$tokenendpoint

$Body = @{
    client_id = "2df1dc4e-7244-4fa4-a51d-5448b27a4d5f"
    client_secret = "8228Q~tZNn5XZO.CWm9nqto9DurzKA0S14FdPaAw"
    redirect_uri = ""
    grant_type = "client_credentials"
    resource = "https://graph.microsoft.com"
    tenant = "$tenant"
}

$token = Invoke-RestMethod -Uri $tokenendpoint -Body $Body -Method "Post"

$token.access_token

$apiUrl = 'https://graph.microsoft.com/beta/users/'
$Data = Invoke-RestMethod -Headers @{Authorization = "Bearer
 $($token.access_token)"} -Uri $apiUrl
$Users = $Data.Value

$Users | select userPrincipalName,displayName,userType,createdDateTime

```

12. You'll be able to get all Azure AD users properties.

13. Output of script as below

[illegible]