

The Graph API StarterKit for AVD and W365 Automation



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Esther Barthel



The Collective





Sr. Solutions Architect

Sr. DevOps Engineer



[virtues-it.bsky.social](https://virtues-it.bsky.social/@esther_barthel)



[REDACTED]



[@virtuEs_IT](https://twitter.com/virtuEs_IT)



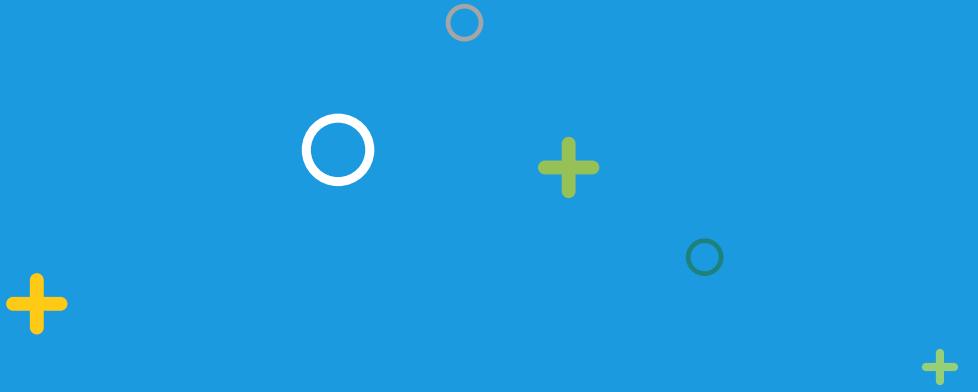
[cloud-devops-ninja](https://github.com/cloud-devops-ninja)



[ebarthel](https://www.linkedin.com/in/ebarthel/)



[REDACTED]



End User Computing

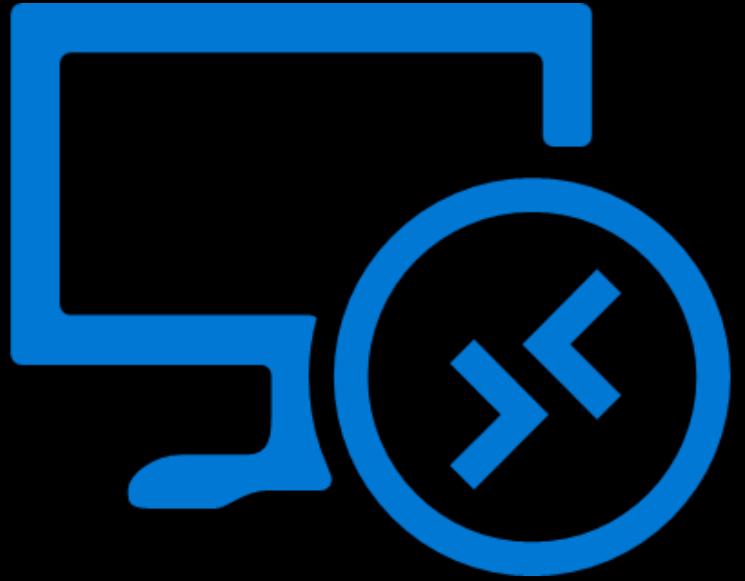


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plex

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AVD



W365 CloudPC



AVD



W365 CloudPC

Infrastructure-as-Code



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Infrastructure-as-Code (IaC)

“

*a modern approach to **managing & provisioning**
IT infrastructure through the use of **code**,
rather than traditional manual processes.*

”

Infrastructure-as-Code (IaC)

- *efficiency*
- *reliability*
- *consistency*

in the deployment and management of IT infrastructure



AVD



W365 CloudPC



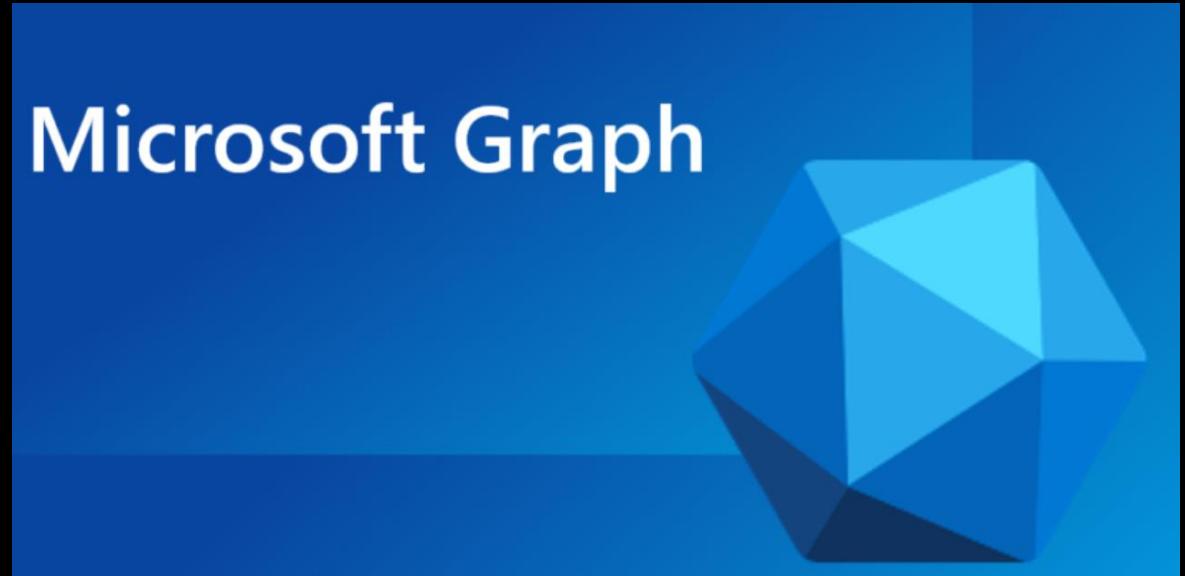
AVD
(Infra-as-Code)



W365 CloudPC
(Config-as-Code)



AVD
(Infra-as-Code)



W365 CloudPC
(Config-as-Code)

Every Bite a

Better Burger!

Burger Pasta Salads



Beef Burger

Orion With Cheese
\$18.00



Chicken Burger

Cheese With Chicken
\$12.00



Classic Burger

Beef Wit Lottice
\$24.00



Grilled Burger

Griller Chicken
\$14.00



Classic Burger

Beef Wit Lottice
\$24.00



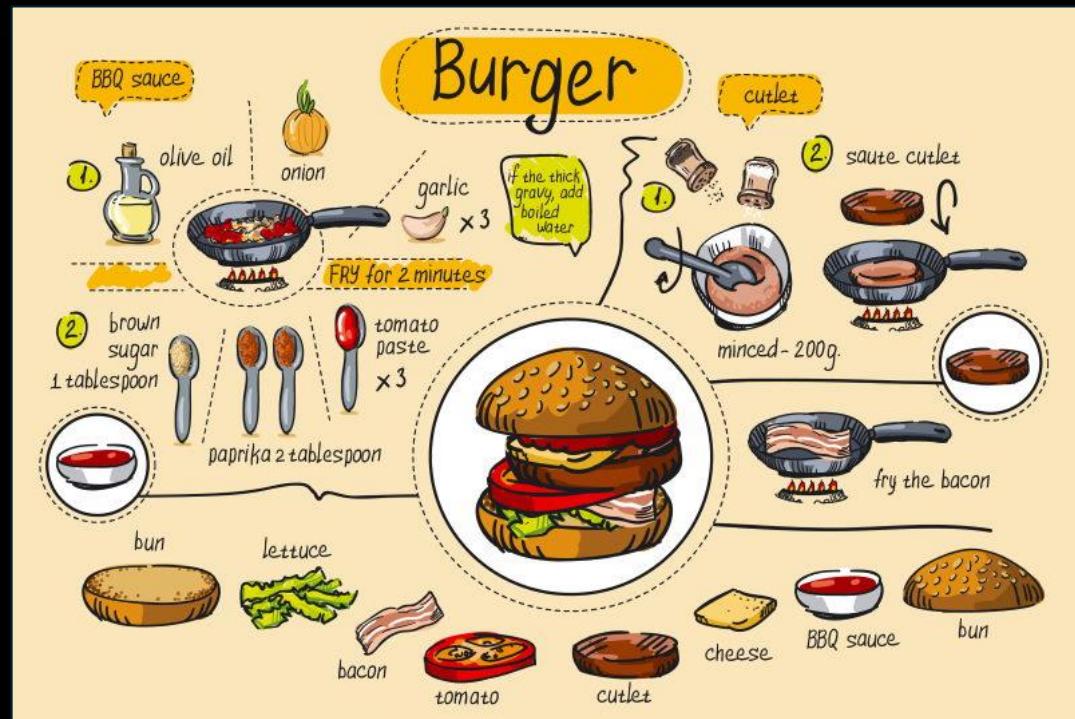
Grilled Burger

Griller Chicken
\$14.00



Fresh Beef
Burger With Cheese...

Beef burger With Fresh Cheese And Onion Served With
Fries And Drink. Enjoy our 20% Off With New
Promo Code



Declarative code
(templates)

Imperative code
(scripts)

Every Bite a

Better Burger!

Burger Pasta Salads



Beef Burger

Orion With Cheese
\$18.00



Chicken Burger

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Classic Burger

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Griller Chicken
\$14.00



Classic Burger

Beef Wit Lottice
\$24.00



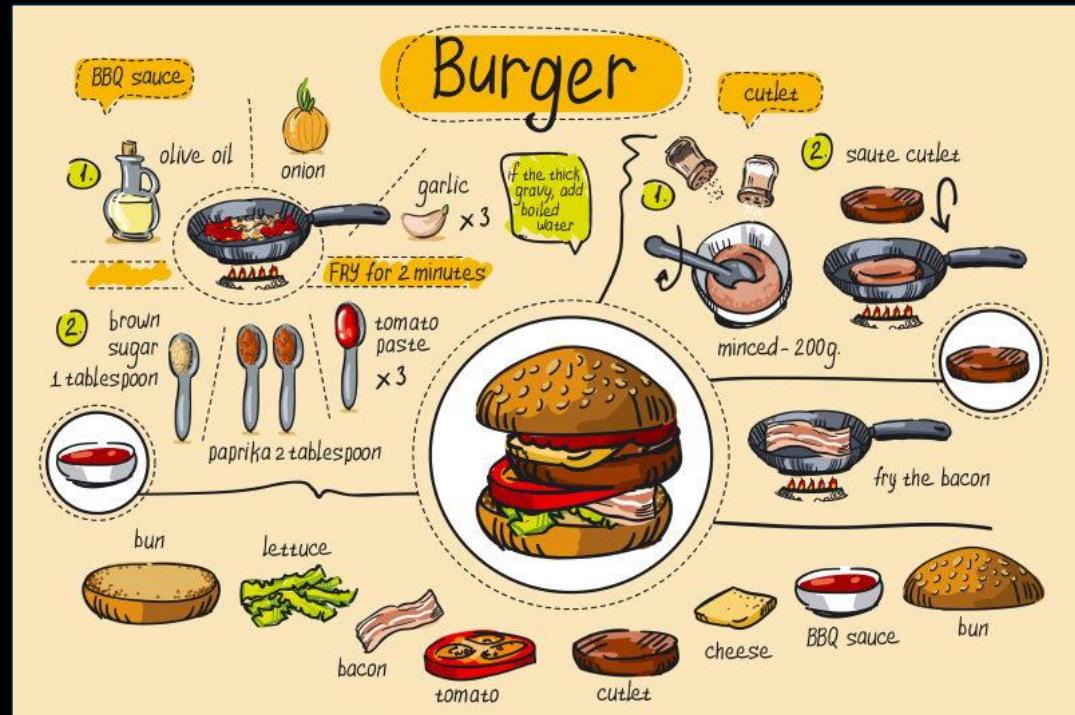
Grilled Burger

Griller Chicken
\$14.00



Fresh Beef
Burger With Cheese...

Beef burger With Fresh Cheese And Onion Served With
Fries And Drink. Enjoy our 20% Off With New
Promo Code



Declarative code (templates)



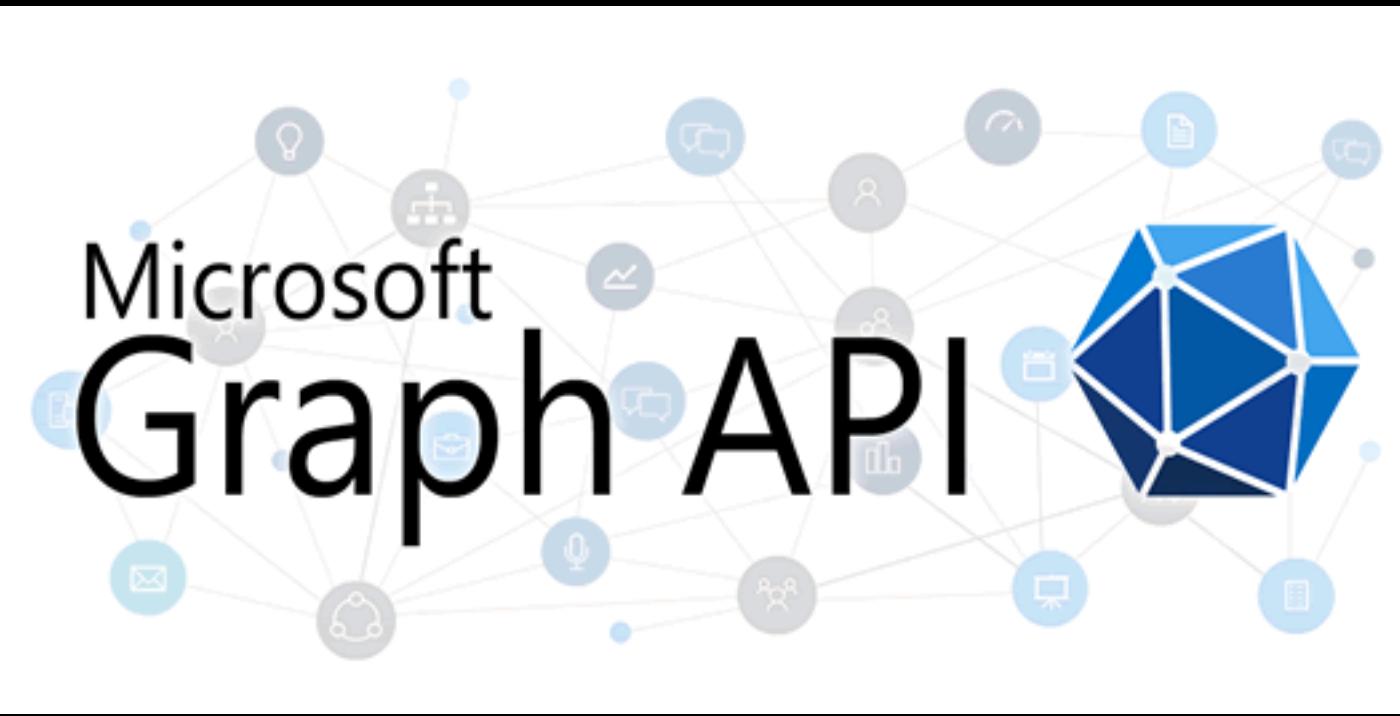
Imperative code (scripts)



Getting Started with the Graph API

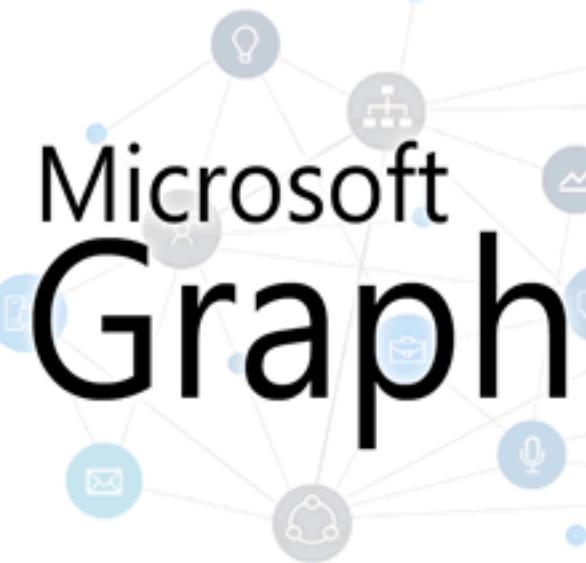


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A screenshot of a mobile application interface for a food delivery service. The top navigation bar includes a back arrow, a search icon, and a user profile icon. The main content area has a dark background with white text and icons. On the left, there's a sidebar with a list of categories: "Every Bite a" (highlighted), Better Burger!, Pasta, Salads, and a "More" section. The "Burger" section contains six items: "Beef Burger" (with "Orion With Cheese" note, \$18.00), "Chicken Burger" (with "Cheese With Chicken" note, \$12.00), "Classic Burger" (with "Beef Wit Lottice" note, \$24.00), "Grilled Burger" (with "Griller Chicken" note, \$14.00), another "Classic Burger" (with "Beef Wit Lottice" note, \$24.00), and another "Grilled Burger" (with "Griller Chicken" note, \$14.00). On the right side of the screen, there's a large, detailed illustration of a "Fresh Beef Burger With Cheese..." which is described as "Beef burger With Fresh Cheese And Onion Served With Fries And Drink. Enjoy our 20% Off With New Promo Code".

Declarative code (templates)



Declarative code (templates)

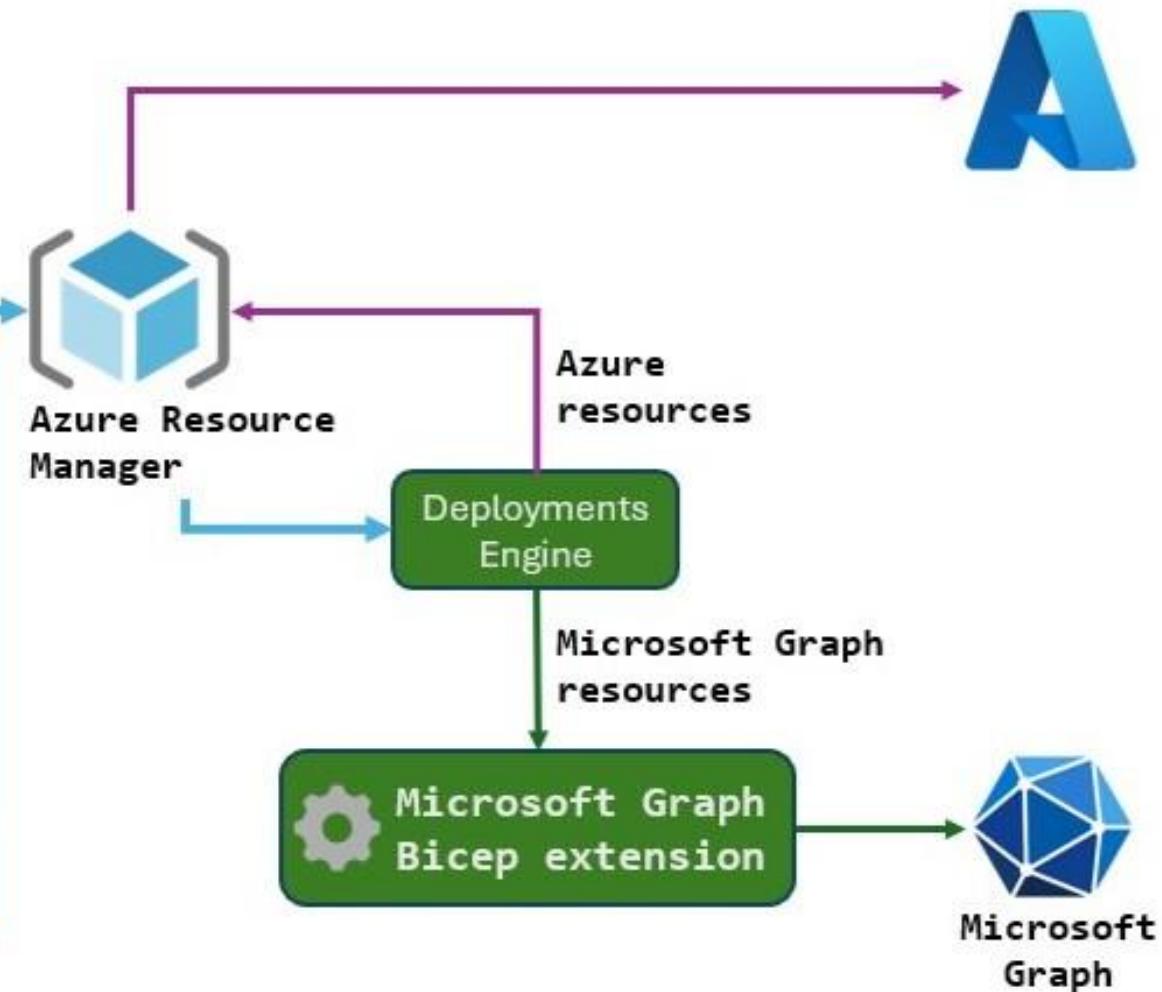
The image shows a mobile application interface for a food delivery service. On the left, a dark card displays a menu with sections for "Burger", "Pasta", and "Salads". It lists several burger options with images and prices: Beef Burger (\$18.00), Chicken Burger (\$12.00), Classic Burger (\$24.00), and Grilled Burger (\$14.00). Below the menu, there are two more "Classic Burger" and "Grilled Burger" entries. On the right, a large, detailed illustration of a "Fresh Beef Burger With Cheese..." is shown, with a caption below it stating: "Beef burger With Fresh Cheese And Onion Served With Fries And Drink. Enjoy our 20% Off With New Promo Code".

Sneak preview



```
resource manId 'Microsoft.ManagedIdentity/userAssignedIdentities@2023-01-31' = {
    name: 'ExampleManagedIdentity'
    location: location
}

resource group 'Microsoft.Graph/groups@beta' = {
    uniqueName: 'ExampleGroup'
    displayName: 'Example Group'
    mailEnabled: false
    mailNickname: 'exampleGroup'
    securityEnabled: true
    owners: [
        resourceSp.id
    ]
    members: [
        manId.properties.principalId
    ]
}
```



Version

Learn / Microsoft Graph /

Microsoft Graph Bicep v1.0

Filter by title

Bicep templates for Microsoft Graph documentation

Microsoft Graph Bicep v1.0 reference

Overview

Applications

Federated identity credentials

App role assigned to

Groups

Oauth2 permission grants

Service principals

Microsoft Graph Bicep resource reference overview

The following Microsoft Graph Bicep types are available for use in your Bicep files.

Applications

App role assigned to

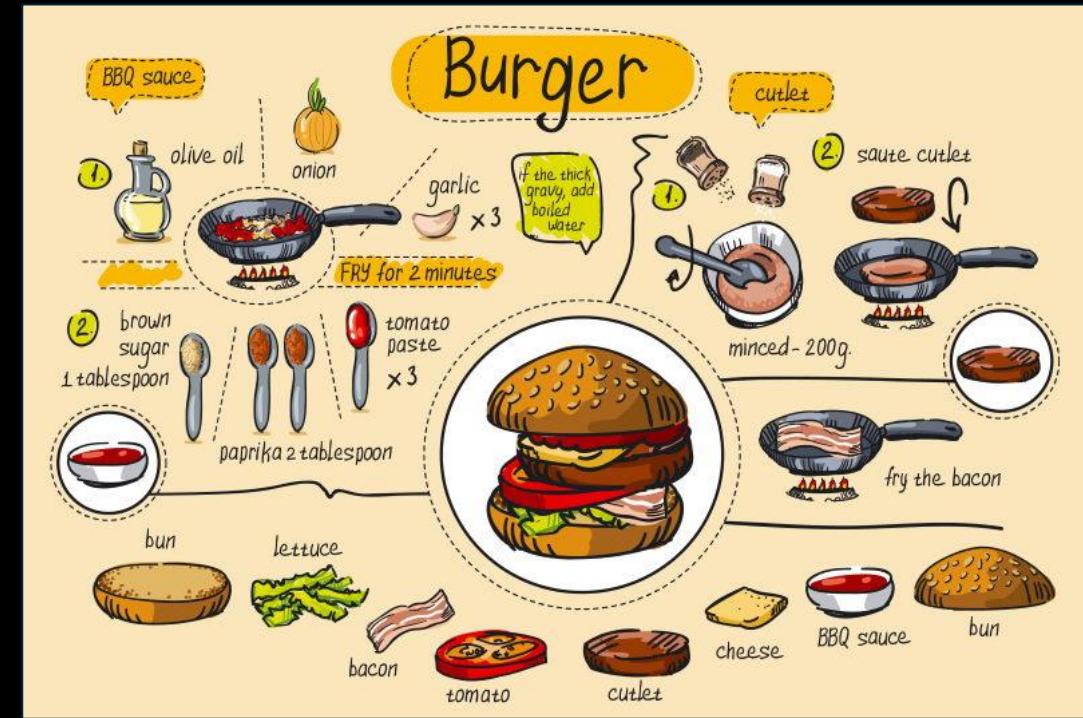
Federated identity credentials

Groups

OAuth2 permission grants

Service principals

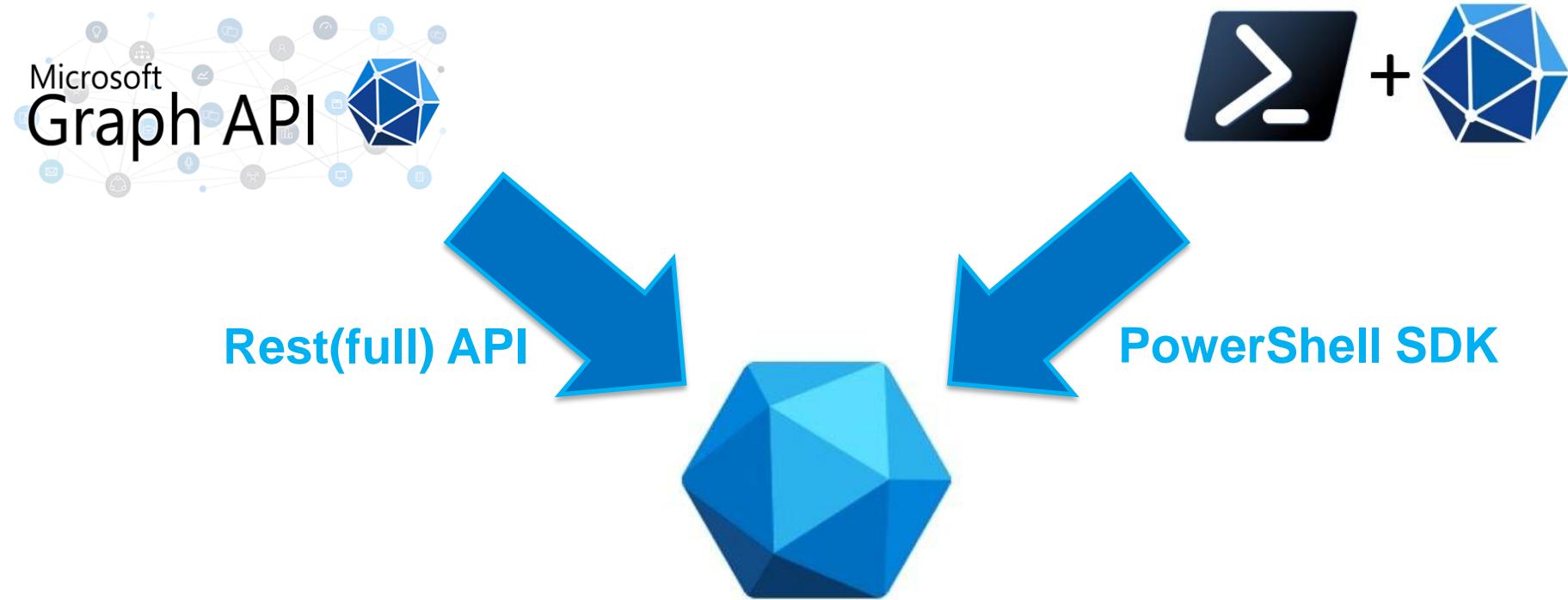
Microsoft Graph API



Imperative code (scripts)



Coding skills loading



Microsoft Graph

[Microsoft Learn: Microsoft Graph REST API v1.0 endpoint reference](#)

[Microsoft Learn: Get started w/ Microsoft Graph PowerShell SDK](#)



Windows 365 Cloud PC Management PowerShell Module

Description

This PowerShell module allows you to manage your Windows 365 environment from the command line. It provides a set of cmdlets that allow you to perform various tasks, such as creating, modifying and deleting policies, managing Cloud PCs, and more.



Getting Started

```
Install-Module -Name PSCloudPC -Verbose
```

Then import the module into your session

```
Import-Module PSCloudPC -Verbose -Force
```



Stefan Dingemanse, Niels Kok

Graph Explorer

Sample queries Resources Resources

Search resources

Switch to beta Off

Resources available

- groups (8)
 - GET
 - POST
 - > {group-id} (46)
 - > \$count (1)

GET v1.0 https://graph.microsoft.com/v1.0/groups?\$filter=startswith(displayName, 'grp-sec')&\$select=id,displayName,description

Run query

Request body Request headers Modify permissions Access token

OK - 200 - 333 ms

Response preview Response headers Code snippets Toolkit component Adaptive cards

```
{ "@odata.context": "https://graph.microsoft.com/v1.0/$metadata#groups(id,displayName,description)", "value": [ { "id": "redacted", "displayName": "grp-sec-AVDUsers", "description": "AVD Users group" } ] }
```

Response preview Response headers Code snippets Toolkit component Adaptive cards

C# CLI Go Java JavaScript PHP PowerShell Python

```
# Leverage the power of our client libraries. Download the PowerShell client library here https://aka.ms/pshellsdk
# To read more about our SDKs, go to the documentation page at https://aka.ms/pshellsdkdocs
Import-Module Microsoft.Graph.Groups

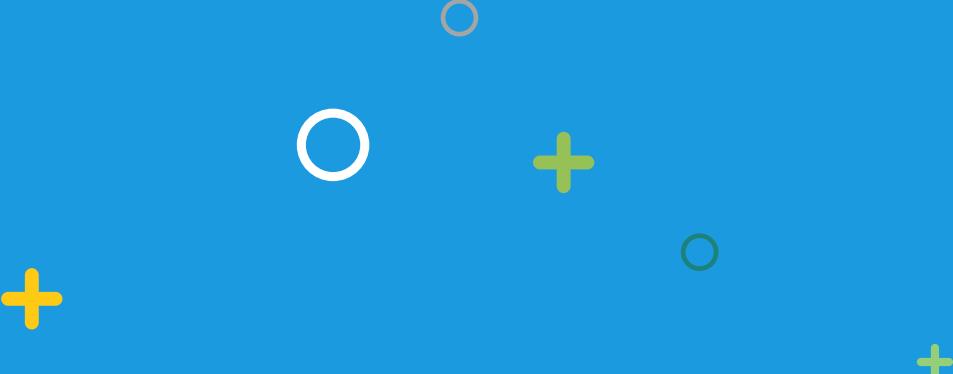
Get-MgGroup -Filter "startswith(displayName, 'grp-sec')" -Property "id,displayName,description"
```

M C

IT Processes



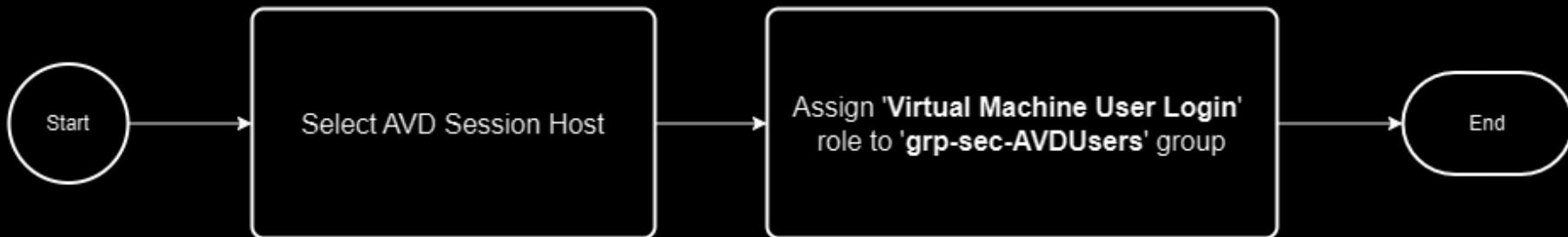
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Graph API Example: Azure Virtual Desktop



Assign 'Virtual Machine User Login' role for a group to an AVD Session Host



vm-avd-demo-0 | Access control (IAM) ☆ ...

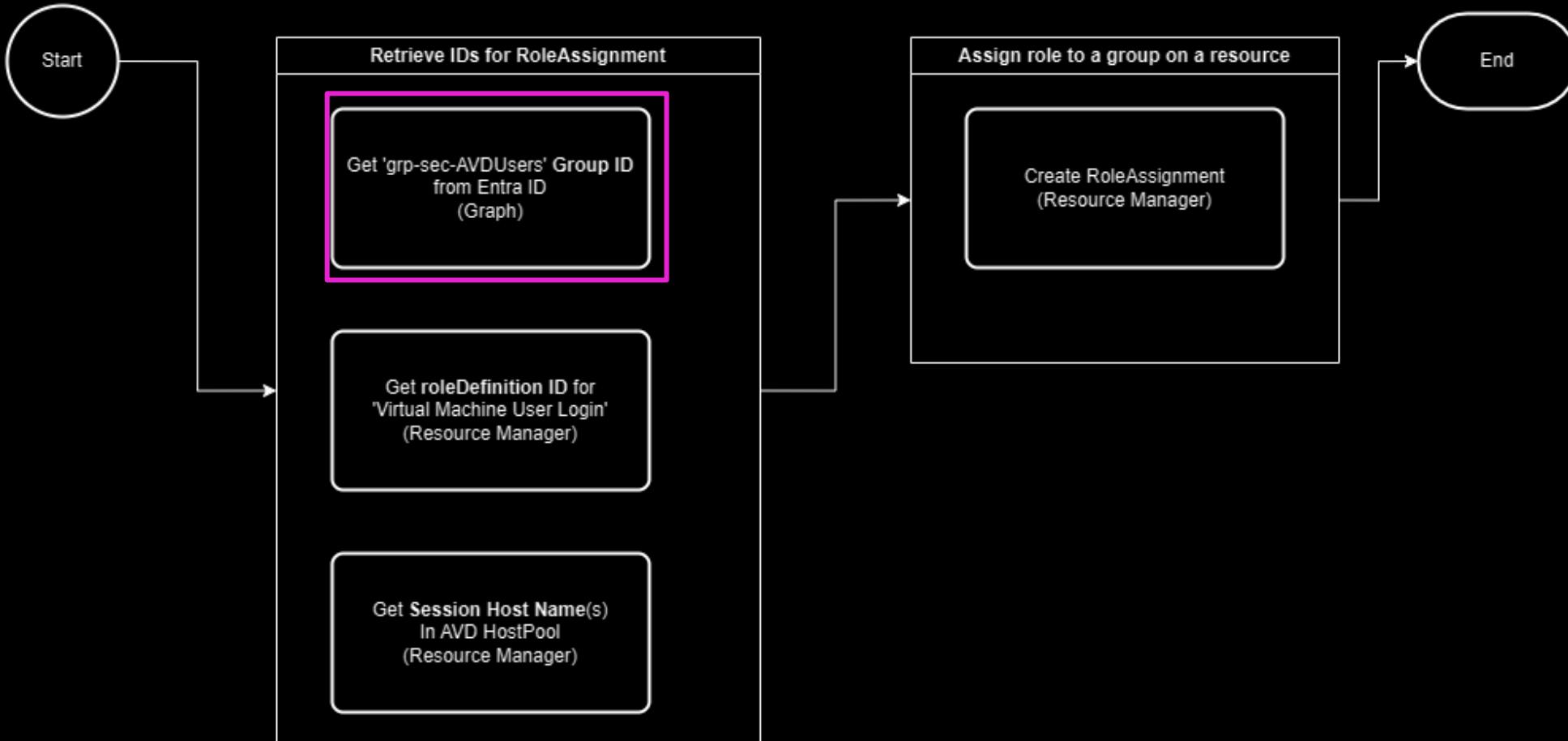
Virtual machine

Search Add Download role assignments Edit columns Refresh Remove

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

Name	Type	Role	Scope	Condition
Virtual Machine User Login (1)	Group	Virtual Machine User Login	This resource	None

Assign 'Virtual Machine User Login' role for a group to an AVD Session Host



_ExpertsLive > Demos > ➤ 01_Assign_AIM_Role_To_Group.ps1 > ...

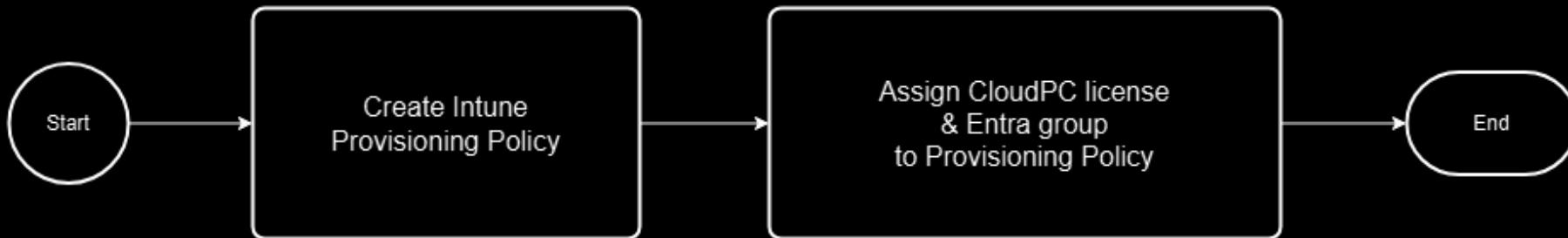
```
1 > #region Get Credentials from Azure Key Vault...
10  #endregion
11
12 > #region Step 00 - Connect to Azure Resource Manager API, using REST API (retrieve bearer token)...
35  #endregion
36
37 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)...
60  #endregion
61
62 > #region Step 01 - Get the Entra Group ID...
86  #endregion
87
88 > #region Step 02 - Get roleDefinition ID ...
113 #endregion
114
115 > #region Step 03 - Get Session Host Name ...
143 #endregion
144
145 > #region Step 04 - Assign Role to Entra Group ...
183 #endregion
184 ✨
185
```

Graph API Example: Windows 365 CloudPC

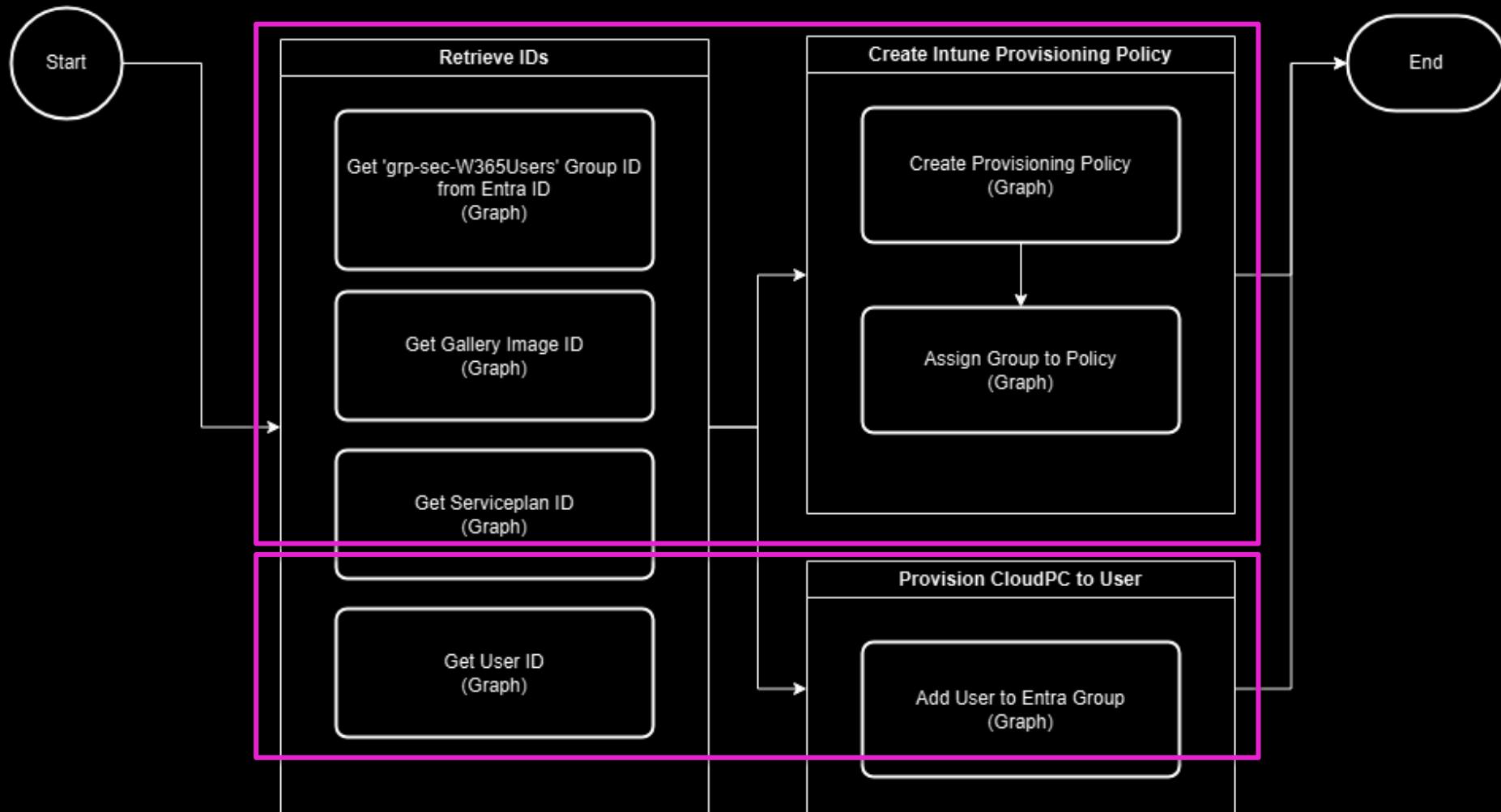


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Provision Windows 365 CloudPC to User



Provision Windows 365 CloudPC to User



_ExpertsLive > Demos > 02_W365_Create_Provisioning_Policy.ps1 > ...

```
11 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)...
36 #endregion
37
38 > #region Step 01 - Get the Entra Group ID...
62 #endregion
63
64 > #region Step 02 - Get the Gallery Image ID...
87 #endregion
88
89 > #region Step 03 - Get the CloudPC Serviceplan ID...
111 #endregion
112
113 > #region Step 04 - Create CloudPC Provisioning Policy...
163 #endregion
164
165 > #region Step 05 - Assign Entra Group and Serviceplan to CloudPC Provisioning Policy...
199 #endregion
200
```

_ExpertsLive > Demos > > 03_W365_Provision_CloudPC_to_User.ps1 > ...

```
11 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token) ...
34 #endregion
35
36 > #region Step 01 - Get the Entra Group ID...
60 #endregion
61
62 > #region Step 02 - Get the Entra User ID...
85 #endregion
86
87 > #region Step 03 - Add Member to Group...
112 #endregion
113 ♦♦
114 [REDACTED]
```

Graph API reference doc



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Use the Microsoft Graph API

Microsoft Graph is a RESTful web API that enables you to access Microsoft Cloud service resources. After you register your app and get authentication tokens for a user or service, you can make requests to the Microsoft Graph API.

Call a REST API method

To read from or write to a resource such as a user or an email message, you construct a request that looks like the following:

HTTP

 Copy

```
{HTTP method} https://graph.microsoft.com/{version}/{resource}?{query-parameters}
```

4. Request an access token

In the OAuth 2.0 client credentials grant flow, you use the application ID and client secret values that you saved when you registered your app to request an access token directly from the Microsoft identity platform `/token` endpoint.

You specify the preconfigured permissions by passing `https://graph.microsoft.com/.default` as the value for the `scope` parameter in the token request.

Send a POST request to the `/token` identity platform endpoint to acquire an access token. In this request, the client uses the client secret.

HTTP

cURL

HTTP

Copy

4. Request an access token

In the OAuth 2.0 client credentials grant flow, you use the application ID and client secret values that you saved when you registered your app to request an access token directly from the Microsoft identity platform /token endpoint.

You specify the preconfigured permissions by passing <https://graph.microsoft.com/.default> as the value for the scope parameter in the token request.

Send a POST request to the /token identity platform endpoint to acquire an access token. In this request, the client uses the client secret.

HTTP

cURL

HTTP

Copy

request, the client uses the client secret.

HTTP

cURL

HTTP

 Copy

// Line breaks are for legibility only.

```
POST https://login.microsoftonline.com/{tenant}/oauth2/v2.0/token HTTP/1.1
```

```
Host: login.microsoftonline.com
```

```
Content-Type: application/x-www-form-urlencoded
```

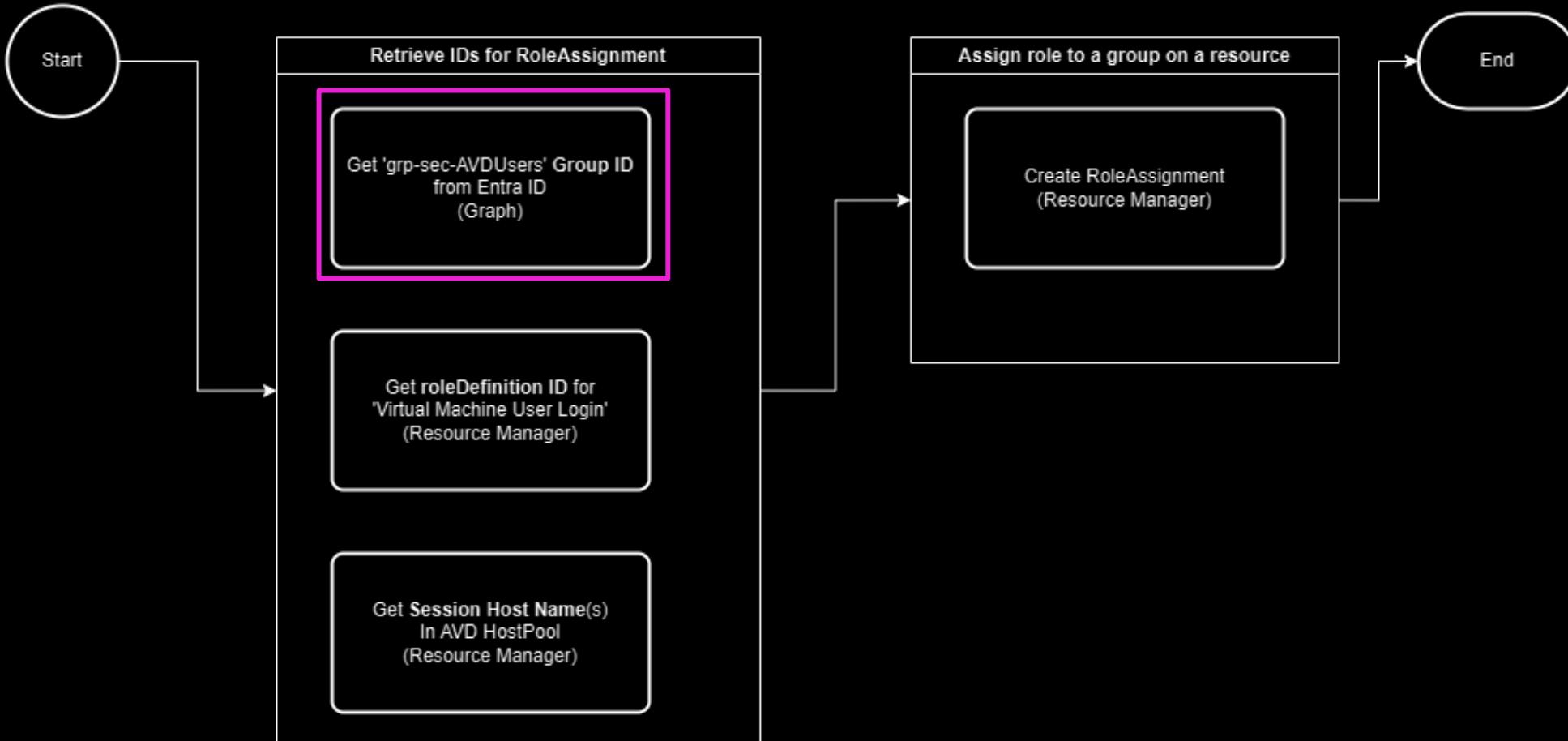
```
client_id=535fb089-9ff3-47b6-9bfb-4f1264799865
```

```
&scope=https%3A%2F%2Fgraph.microsoft.com%2F.default
```

```
&client_secret=qWgdYA....L1qKv5bPX
```

```
&grant_type=client_credentials
```

Assign 'Virtual Machine User Login' role for a group to an AVD Session Host



List groups

Article • 05/23/2024 • 20 contributors

 Feedback

Namespace: microsoft.graph

List all the groups available in an organization, excluding dynamic distribution groups. To retrieve dynamic distribution groups, use the [Exchange admin center](#).

Permissions

Choose the permission or permissions marked as least privileged for this API. Use a higher privileged permission or permissions [only](#) if your app requires it. For details about delegated and application permissions, see [Permission types](#). To learn more about these permissions, see the [permissions reference](#).

Permission type	Least privileged	Higher privileged permissions
-----------------	------------------	-------------------------------

Permissions

Choose the permission or permissions marked as least privileged for this API. Use a higher privileged permission or permissions [only if your app requires it](#). For details about delegated and application permissions, see [Permission types](#). To learn more about these permissions, see the [permissions reference](#).

Permission type	Least privileged permissions	Higher privileged permissions
Delegated (work or school account)	GroupMember.Read.All	Group.ReadWrite.All, Directory.Read.All, Directory.ReadWrite.All, Group.Read.All
Delegated (personal Microsoft account)	Not supported.	Not supported.
Application	GroupMember.Read.All	Directory.Read.All, Directory.ReadWrite.All, Group.Read.All, Group.ReadWrite.All

HTTP request

HTTP

 Copy

GET /groups

Request headers

Name	Description
Authorization	Bearer {token}. Required. Learn more about authentication and authorization.
ConsistencyLevel	eventual. This header and <code>\$count</code> are required when using <code>\$search</code> , or in specific usage of <code>\$filter</code> . For more information about the use of ConsistencyLevel and <code>\$count</code> , see Advanced query capabilities on directory objects.

HTTP request

HTTP

 Copy

GET /groups

Request headers

Name	Description
Authorization	Bearer {token}. Required. Learn more about authentication and authorization.
ConsistencyLevel	eventual. This header and <code>\$count</code> are required when using <code>\$search</code> , or in specific usage of <code>\$filter</code> . For more information about the use of ConsistencyLevel and <code>\$count</code> , see Advanced query capabilities on directory objects.

Request body

Don't supply a request body for this method.

Response

If successful, this method returns a `200 OK` response code and collection of `group` objects in the response body. The response includes only the default properties of each group.

Request body

Don't supply a request body for this method.

Response

If successful, this method returns a `200 OK` response code and collection of `group` objects in the response body. The response includes only the default properties of each group.

Postman



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[Use Postman with the Microsoft Graph API - Microsoft Graph | Microsoft Learn](#)

[←](#)[→](#)[Home](#)[Workspaces](#)[API Network](#) Search Postman[POST 03. Graph - Add Memb](#)[GET xx. Graph: Get CloudPC](#)[GET xx. Graph: List CloudPC](#)[POST 00. Graph: Get Bearer](#)

Collections



Environments

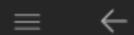


History

**HTTP** 00. ExpertsLive Demos / AzureVirtualDesktop / 01. Assign AIM role to group / **00. Graph: Get Bearer Token (oAuth)****POST**<https://login.microsoftonline.com/{{tenantId}}/oauth2/v2.0/token>[Params](#) [Authorization](#) [Headers \(11\)](#) [Body](#) [Scripts](#) [Settings](#) none form-data x-www-form-urlencoded raw binary GraphQL

	Key	Value
<input checked="" type="checkbox"/>	grant_type	client_credentials
<input checked="" type="checkbox"/>	client_id	{{clientId}}
<input checked="" type="checkbox"/>	client_secret	{{clientSecret}}
<input checked="" type="checkbox"/>	scope	https://graph.microsoft.com/.default
	Key	Value

[Body](#) [Cookies \(3\)](#) [Headers \(15\)](#) [Test Results \(1/1\)](#)

[←](#)[→](#)[Home](#)[Workspaces](#)[API Network](#) Search Postman[POST 03. Graph - Add Memb](#)[GET xx. Graph: Get CloudPC](#)[GET xx. Graph: List CloudPC](#)[POST 00. Graph: Get Bearer](#)

Collections



Environments



History

[POST](#)<https://login.microsoftonline.com/{{tenantId}}/oauth2/v2.0/token>

Params

Authorization

Headers (11)

Body

Scripts

Settings

 none form-data x-www-form-urlencoded raw binary GraphQL

	Key	Value
<input checked="" type="checkbox"/>	grant_type	client_credentials
<input checked="" type="checkbox"/>	client_id	{{clientId}}
<input checked="" type="checkbox"/>	client_secret	{{clientSecret}}
<input checked="" type="checkbox"/>	scope	https://graph.microsoft.com/.default
	Key	Value

Body

Cookies (3)

Headers (15)

Test Results (1/1)

[←](#)[→](#)[Home](#)[Workspaces](#)[API Network](#) Search Postman[POST 03. Graph - Add Memb](#)[GET xx. Graph: Get CloudPC](#)[GET xx. Graph: List CloudPC](#)[POST 00. Graph: Get Bearer](#)

Collections



Environments



History

[POST](#)<https://login.microsoftonline.com/{{tenantId}}/oauth2/v2.0/token>

Params

Authorization

Headers (11)

Body

Scripts

Settings

 none form-data x-www-form-urlencoded raw binary GraphQL

	Key	Value
<input checked="" type="checkbox"/>	grant_type	client_credentials
<input checked="" type="checkbox"/>	client_id	{{clientId}}
<input checked="" type="checkbox"/>	client_secret	{{clientSecret}}
<input checked="" type="checkbox"/>	scope	https://graph.microsoft.com/.default
	Key	Value

Body

Cookies (3)

Headers (15)

Test Results (1/1)

none form-data x-www-form-urlencoded raw binary GraphQL

Key	Value	Description
<input checked="" type="checkbox"/> grant_type	client_credentials	
<input checked="" type="checkbox"/> client_id	{{clientId}}	
<input checked="" type="checkbox"/> client_secret	{{clientSecret}}	
<input checked="" type="checkbox"/> scope	https://graph.microsoft.com/.default	

Body Cookies (3) Headers (15) Test Results (1/1)

Status: 200 OK Time: 218 ms Size: 2.92 K

Pretty

Draw Preview Visualiz

Visualize

JSON ✓

二
二



Home Workspaces

API Network

Search Postman



POST 03. Graph - Add Memb

GET xx. Graph: Get CloudPC

GET xx. Graph: List CloudPC

POST 00. Graph: Get Bearer 1



Collections



Environments



History



POST

https://login.microsoftonline.com/{{tenantId}}/oauth2/v2.0/token

Params

Authorization

Headers (11)

Body •

Scripts •

Settings

Pre-request

```
1 pm.test(pm.info.requestName, () => {
2     pm.response.to.not.be.error;
3     pm.response.to.not.have.jsonBody('error');
4 });
5 pm.globals.set("graphBearerToken", pm.response.json().access_token);
6 // output to console
7 console.log('Step 00 - graph BearerToken: '+ pm.response.json().access_token.substring(0,25) + '...');
```

Post-response •

Body

Cookies (3)

Headers (15)

Test Results (1/1)

JSON

Raw

Pretty

Tree

Variables

ICON



GET

https://graph.microsoft.com/{{version-1.0}}/groups?\$filter=startswith(displayName, 'grp-sec-AVDUsers')&\$top=1&\$select=id, displayName,description

Params • Authorization Headers (9) Body Scripts • Settings

Headers (7 hidden)

Key	Value	Description
<input checked="" type="checkbox"/> Authorization	Bearer {{graphBearerToken}}	
<input checked="" type="checkbox"/> Content-Type	application/json	
Key	Value	Description

Body Cookies Headers (12) Test Results (1/1)

Status: 200 OK

Pretty

Raw

Preview

Visualize

JSON



```
1 {  
2   "@odata.context": "https://graph.microsoft.com/v1.0/$metadata#groups(id,displayName,description)",  
3   "value": [  
4     {  
5       "id": "cf31d097-f74e-425c-9277-a8d83f6ae889",  
6       "displayName": "grp-sec-AVDUsers",  
7       "description": "AVD Users group"  
8     }  
9   ]  
10 }
```

GET https://graph.microsoft.com/{{version-1.0}}/groups?\$filter=startswith(displayName, 'grp-sec-AVDUsers')&\$top=1&\$select=id, displayName,description

Params • Authorization Headers (9) Body Scripts • Settings

Headers (7 hidden)

Key	Value	Description
<input checked="" type="checkbox"/> Authorization	Bearer {{graphBearerToken}}	
<input checked="" type="checkbox"/> Content-Type	application/json	
Key	Value	Description

Body Cookies Headers (12) Test Results (1/1)

Status: 200 OK

Pretty Raw Preview Visualize JSON

```
1 {  
2   "@odata.context": "https://graph.microsoft.com/v1.0/$metadata#groups(id,displayName,description)",  
3   "value": [  
4     {  
5       "id": "cf31d097-f74e-425c-9277-a8d83f6ae889",  
6       "displayName": "grp-sec-AVDUsers",  
7       "description": "AVD Users group"  
8     }  
9   ]  
10 }
```

GET

https://graph.microsoft.com/{{version-1.0}}/groups?\$filter=startswith(displayName, 'grp-sec-AVDUsers')&\$top=1&\$select=id, displayName,description

Params • Authorization Headers (9) Body Scripts • Settings

Headers (7 hidden)

Key	Value	Description
<input checked="" type="checkbox"/> Authorization	Bearer {{graphBearerToken}}	
<input checked="" type="checkbox"/> Content-Type	application/json	

Body Cookies Headers (12) Test Results (1/1)

Status: 200 OK

Pretty Raw Preview Visualize JSON

```
1 {  
2   "@odata.context": "https://graph.microsoft.com/v1.0/$metadata#groups(id,displayName,description)",  
3   "value": [  
4     {  
5       "id": "cf31d097-f74e-425c-9277-a8d83f6ae889",  
6       "displayName": "grp-sec-AVDUsers",  
7       "description": "AVD Users group"  
8     }  
9   ]  
10 }
```

GET

https://graph.microsoft.com/{{version-1.0}}/groups?\$filter=startswith(displayName, 'grp-sec-AVDUsers')&\$top=1&\$select=id, displayName,description

Params • Authorization Headers (9) Body Scripts • Settings

Headers (7 hidden)

Key	Value	Description
<input checked="" type="checkbox"/> Authorization	Bearer {{graphBearerToken}}	
<input checked="" type="checkbox"/> Content-Type	application/json	
Key	Value	Description

Body Cookies Headers (12) Test Results (1/1)

Status: 200 OK

Pretty Raw Preview Visualize JSON

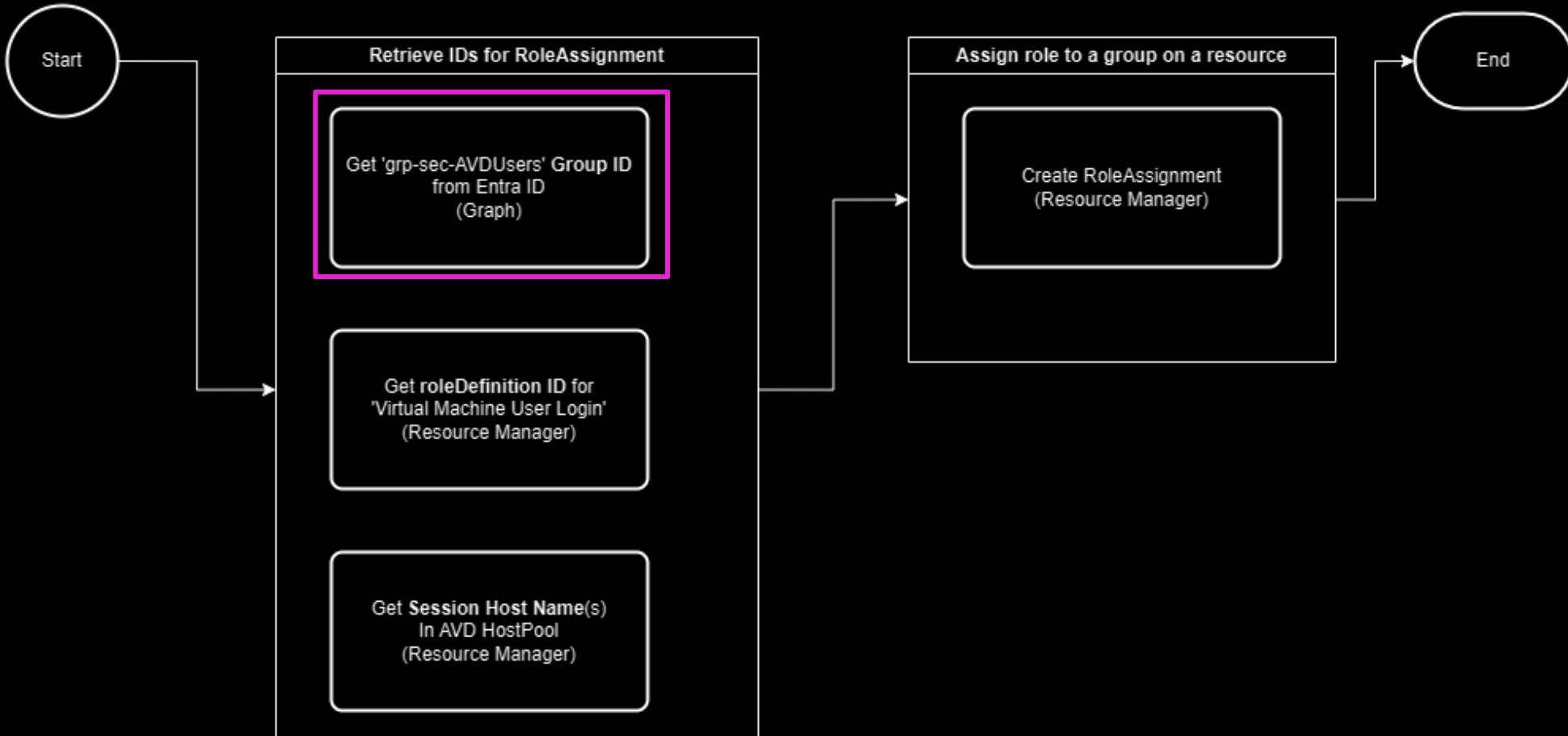
```
1 {  
2   "@odata.context": "https://graph.microsoft.com/v1.0/$metadata#groups(id,displayName,description)",  
3   "value": [  
4     {  
5       "id": "cf31d097-f74e-425c-9277-a8d83f6ae889",  
6       "displayName": "grp-sec-AVDUsers",  
7       "description": "AVD Users group"  
8     }  
9   ]  
10 }
```

PowerShell & REST API



MC2MC
—CONNECT—

Assign 'Virtual Machine User Login' role for a group to an AVD Session Host



_ExpertsLive > Demos > ➤ 01_Assign_AIM_Role_To_Group.ps1 > ...

```
1 > #region Get Credentials from Azure Key Vault...
10  endregion
11
12 > #region Step 00 - Connect to Azure Resource Manager API, using REST API (retrieve bearer token) ...
35  endregion
36
37 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token) ...
60  endregion
61
62 > #region Step 01 - Get the Entra Group ID...
86  endregion
87
88 > #region Step 02 - Get roleDefinition ID ...
113 #endregion
114
115 > #region Step 03 - Get Session Host Name ...
143 #endregion
144
145 > #region Step 04 - Assign Role to Entra Group ...
183 #endregion
184 ✨
185
```

```
37 #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)
38 # URL for the REST API call
39 $restUri = "https://login.microsoftonline.com/$tenantId/oauth2/v2.0/token"
40 # Method for the REST API call
41 $restMethod = "POST"
42 # Body for the REST API call
43 $restBody = @{
44     grant_type      = "client_credentials"
45     client_id       = $clientId
46     client_secret   = $clientSecret
47     scope           = "https://graph.microsoft.com/.default"
48 }
49 # Parameters for the REST API call
50 $restParams = @{
51     Uri            = $restUri
52     Method         = $restMethod
53     Body           = $restBody
54     ContentType    = "application/x-www-form-urlencoded"
55 }
56 # Make the REST API call to retrieve the token response and store it in a variable
57 $restResponse = Invoke-RestMethod @restParams
58 # Store the access token for the Microsoft Graph API in a variable
59 $graphBearerToken = $restResponse.access_token
60 #endregion
61
```

```
37 #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)
38 # URL for the REST API call
39 $restUri = "https://login.microsoftonline.com/$tenantId/oauth2/v2.0/token"
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51     Uri            = $restUri
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53     Body           = $restBody
54     ContentType    = "application/x-www-form-urlencoded"
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56 # Make the REST API call to retrieve the token response and store it in a variable
57 $restResponse = Invoke-RestMethod @restParams
58 # Store the access token for the Microsoft Graph API in a variable
59 $graphBearerToken = $restResponse.access_token
60 #endregion
61
```

```
37 #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)
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46     client_secret   = $clientSecret
47     scope           = "https://graph.microsoft.com/.default"
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54     ContentType    = "application/x-www-form-urlencoded"
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61
```

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37 #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)
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40 # Method for the REST API call
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42 # Body for the REST API call
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44     grant_type      = "client_credentials"
45     client_id       = $clientId
46     client_secret   = $clientSecret
47     scope           = "https://graph.microsoft.com/.default"
48 }
49 # Parameters for the REST API call
50 $restParams = @{
51     Uri            = $restUri
52     Method         = $restMethod
53     Body           = $restBody
54     ContentType    = "application/x-www-form-urlencoded"
55 }
56 # Make the REST API call to retrieve the token response and store it in a variable
57 $restResponse = Invoke-RestMethod @restParams
58 # Store the access token for the Microsoft Graph API in a variable
59 $graphBearerToken = $restResponse.access_token
60 #endregion
61
```

```
37 #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)
38 # URL for the REST API call
39 $restUri = "https://login.microsoftonline.com/$tenantId/oauth2/v2.0/token"
40 # Method for the REST API call
41 $restMethod = "POST"
42 # Body for the REST API call
43 $restBody = @{
44     grant_type      = "client_credentials"
45     client_id       = $clientId
46     client_secret   = $clientSecret
47     scope           = "https://graph.microsoft.com/.default"
48 }
49 # Parameters for the REST API call
50 $restParams = @{
51     Uri            = $restUri
52     Method         = $restMethod
53     Body           = $restBody
54     ContentType    = "application/x-www-form-urlencoded"
55 }
56 # Make the REST API call to retrieve the token response and store it in a variable
57 $restResponse = Invoke-RestMethod @restParams
58 # Store the access token for the Microsoft Graph API in a variable
59 $graphBearerToken = $restResponse.access_token
60 #endregion
61
```

```
37 #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)
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40 # Method for the REST API call
41 $restMethod = "POST"
42 # Body for the REST API call
43 $restBody = @{
44     grant_type      = "client_credentials"
45     client_id       = $clientId
46     client_secret   = $clientSecret
47     scope           = "https://graph.microsoft.com/.default"
48 }
49 # Parameters for the REST API call
50 $restParams = @{
51     Uri            = $restUri
52     Method         = $restMethod
53     Body           = $restBody
54     ContentType    = "application/x-www-form-urlencoded"
55 }
56 # Make the REST API call to retrieve the token response and store it in a variable
57 $restResponse = Invoke-RestMethod @restParams
58 # Store the access token for the Microsoft Graph API in a variable
59 $graphBearerToken = $restResponse.access_token
60 #endregion
61
```

```
62 #region Step 01 - Get the Entra Group ID
63 # URL for the REST API call
64 $restUri = "https://graph.microsoft.com/v1.0/groups"
65 $restUri += "?`$filter=startswith(displayName, 'grp-sec')" # filter
66 $restUri += "&`$top=1&`$select=id, displayName,description" # select
67 # Method for the REST API call
68 $restMethod = "GET"
69 # NO Body for a REST API call with Method GET
70 $restHeaders = @{
71     "Authorization"="Bearer $graphBearerToken";
72     "Content-Type" = "application/json"
73 }
74 # Parameters for the REST API call
75 $restParams = @{
76     Uri          = $restUri
77     Method       = $restMethod
78     Headers      = $restHeaders
79 }
80 # Make the REST API call to retrieve the token response and store it in a variable
81 $restResponse = Invoke-RestMethod @restParams
82 # Output the REST API call results
83 $groupId = $restResponse.value.id
84 Write-Host "Step 01 - groupId: " -NoNewline -ForegroundColor Yellow
85 Write-Host "$($groupId) (GRAPH API)" -ForegroundColor Cyan
86 #endregion
```

```
62 #region Step 01 - Get the Entra Group ID
63 # URL for the REST API call
64 $restUri = "https://graph.microsoft.com/v1.0/groups"
65 $restUri += "?`$filter=startswith(displayName, 'grp-sec')" # filter
66 $restUri += "&`$top=1&`$select=id, displayName,description" # select
67 # Method for the REST API call
68 $restMethod = "GET"
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71     "Authorization"="Bearer $graphBearerToken";
72     "Content-Type" = "application/json"
73 }
74 # Parameters for the REST API call
75 $restParams = @{
76     Uri          = $restUri
77     Method       = $restMethod
78     Headers      = $restHeaders
79 }
80 # Make the REST API call to retrieve the token response and store it in a variable
81 $restResponse = Invoke-RestMethod @restParams
82 # Output the REST API call results
83 $groupId = $restResponse.value.id
84 Write-Host "Step 01 - groupId: " -NoNewline -ForegroundColor Yellow
85 Write-Host "$($groupId) (GRAPH API)" -ForegroundColor Cyan
86 #endregion
```

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83 $groupId = $restResponse.value.id
84 Write-Host "Step 01 - groupId: " -NoNewline -ForegroundColor Yellow
85 Write-Host "$($groupId) (GRAPH API)" -ForegroundColor Cyan
86 #endregion
```

```
62 #region Step 01 - Get the Entra Group ID
63 # URL for the REST API call
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85 Write-Host "$($groupId) (GRAPH API)" -ForegroundColor Cyan
86 #endregion
```

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62 #region Step 01 - Get the Entra Group ID
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82 # Output the REST API call results
83 $groupId = $restResponse.value.id
84 Write-Host "Step 01 - groupId: " -NoNewline -ForegroundColor Yellow
85 Write-Host "$($groupId) (GRAPH API)" -ForegroundColor Cyan
86 #endregion
```

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62 #region Step 01 - Get the Entra Group ID
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83 $groupId = $restResponse.value.id
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85 Write-Host "$($groupId) (GRAPH API)" -ForegroundColor Cyan
86 #endregion
```

```
62 #region Step 01 - Get the Entra Group ID
63 # URL for the REST API call
64 $restUri = "https://graph.microsoft.com/v1.0/groups"
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66 $restUri += "&`$top=1&`$select=id, displayName,description" # select
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71     "Authorization"="Bearer $graphBearerToken";
72     "Content-Type" = "application/json"
73 }
74 # Parameters for the REST API call
75 $restParams = @{
76     Uri          = $restUri
77     Method       = $restMethod
78     Headers      = $restHeaders
79 }
80 # Make the REST API call to retrieve the token response and store it in a variable
81 $restResponse = Invoke-RestMethod @restParams
82 # Output the REST API call results
83 $groupId = $restResponse.value.id
84 Write-Host "Step 01 - groupId: " -NoNewline -ForegroundColor Yellow
85 Write-Host "$($groupId) (GRAPH API)" -ForegroundColor Cyan
86 #endregion
```

```
_ExpertsLive > Demos > ➜ 01_Assign_AIM_Role_To_Group.ps1 > abc #region Get Credentials from Azure Key Vault
```

```
12 > #region Step 00 - Connect to Azure Resource Manager API, using REST API (retrieve bearer token) ...
35 #endregion
36
37 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token) ...
60 #endregion
61
62 > #region Step 01 - Get the Entra Group ID ...
86 #endregion
87
88 > #region Step 02 - Get roleDefinition ID ...
113 #endregion
114
115 > #region Step 03 - Get Session Host Name ...
143 #endregion
144
145 > #region Step 04 - Assign Role to Entra Group ...
183 #endregion
```

PROBLEMS 2

TERMINAL

PORTS

GITLENS

AZURE

COMMENTS

OUTPUT

DEBUG CONSOLE

```
PS C:\_GitHub\Playgroundv2> . 'C:\_GitHub\Playgroundv2\__ExpertsLive\Demos\01_Assign_AIM_Role_To_Group.ps1'
● Step 01 - groupId: cf31d097-f74e-425c-9277-a8d83f6ae889 (GRAPH API)
Step 02 - roleDefinitionId: fb879df8-f326-4884-b1cf-06f3ad86be52 (ARM API)
Step 03 - sessionhostName: vm-avd-demo-0 (ARM API)
Step 04 - roleAssignmentName: 4dc77d98-69c1-4c87-b041-c4efe6458a98 (ARM API)
○ PS C:\_GitHub\Playgroundv2>
```

[Add](#)[Download role assignments](#)[Edit columns](#)[Refresh](#)[Remove](#)[Feedback](#)[Overview](#)[Activity log](#)[Access control \(IAM\)](#)[Tags](#)[Diagnose and solve problems](#)**Connect**[Connect](#)[Bastion](#)**Networking**[Check access](#)[Role assignments](#)[Roles](#)[Deny assignments](#)[Classic administrators](#)**Name****Type****Role****Scope****Condition**

> Owner (3)

> Contributor (1)

> Virtual Machine Data Access Administrator (preview) (1)

Virtual Machine User Login (1)



grp-sec-AVDUsers

Group

Virtual Machine User
Login

This resource

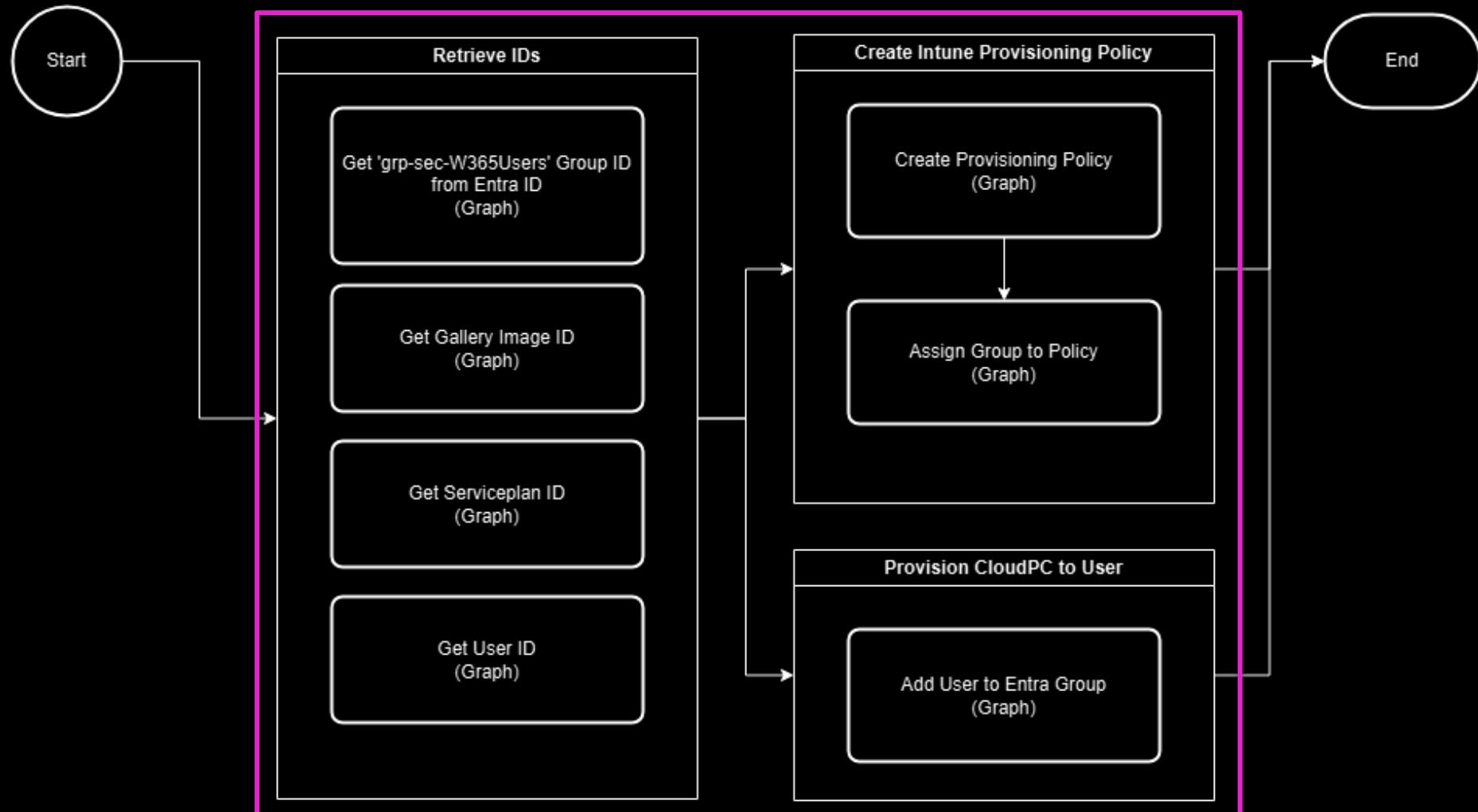
None

PowerShell & REST API



MC2MC
—CONNECT—

Provision Windows 365 CloudPC to User



_ExpertsLive > Demos > 02_W365_Create_Provisioning_Policy.ps1 > ...

```
11 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token) ...
36 #endregion
37
38 > #region Step 01 - Get the Entra Group ID...
62 #endregion
63
64 > #region Step 02 - Get the Gallery Image ID...
87 #endregion
88
89 > #region Step 03 - Get the CloudPC Serviceplan ID...
111 #endregion
112
113 > #region Step 04 - Create CloudPC Provisioning Policy...
163 #endregion
164
165 > #region Step 05 - Assign Entra Group and Serviceplan to CloudPC Provisioning Policy...
199 #endregion
200
```

```
63
64 #region Step 02 - Get the Gallery Image ID
65 # URL for the REST API call
66 $restUri = "https://graph.microsoft.com/v1.0/deviceManagement/virtualEndpoint/galleryImages"
67 $restUri += "?`$filter=startswith(skuName, 'win11-23h2-ent-cpc-m365')`" # filter
68 # Method for the REST API call
69 $restMethod = "GET"
70 # NO Body for a REST API call with Method GET
71 $restHeaders = @{
72     "Authorization" = "Bearer $graphBearerToken";
73     "Content-Type" = "application/json"
74 }
75 # Parameters for the REST API call
76 $restParams = @{
77     Uri      = $restUri
78     Method   = $restMethod
79     Headers  = $restHeaders
80 }
81 # Make the REST API call to retrieve the token response and store it in a variable
82 $restResponse = Invoke-RestMethod @restParams
83 # Output the REST API call results
84 $galleryImageId = $restResponse.value.id
85 Write-Host "Step 02 - Gallery Image Id: " -NoNewline -ForegroundColor Yellow
86 Write-Host "$($galleryImageId)" -ForegroundColor Cyan
```

```
63
64 #region Step 02 - Get the Gallery Image ID
65 # URL for the REST API call
66 $restUri = "https://graph.microsoft.com/v1.0/deviceManagement/virtualEndpoint/galleryImages"
67 $restUri += "?`$filter=startswith(skuName, 'win11-23h2-ent-cpc-m365')" # filter
68 # Method for the REST API call
69 $restMethod = "GET"
70 # NO Body for a REST API call with Method GET
71 $restHeaders = @{
72     "Authorization" = "Bearer $graphBearerToken";
73     "Content-Type" = "application/json"
74 }
75 # Parameters for the REST API call
76 $restParams = @{
77     Uri      = $restUri
78     Method   = $restMethod
79     Headers  = $restHeaders
80 }
81 # Make the REST API call to retrieve the token response and store it in a variable
82 $restResponse = Invoke-RestMethod @restParams
83 # Output the REST API call results
84 $galleryImageId = $restResponse.value.id
85 Write-Host "Step 02 - Gallery Image Id: " -NoNewline -ForegroundColor Yellow
86 Write-Host "$($galleryImageId)" -ForegroundColor Cyan
```

```
88
89 #region Step 03 - Get the CloudPC Serviceplan ID
90 # URL for the REST API call
91 $restUri = "https://graph.microsoft.com/beta/deviceManagement/virtualEndpoint/frontLineServicePlans"
92 # Method for the REST API call
93 $restMethod = "GET"
94 # NO Body for a REST API call with Method GET
95 $restHeaders = @{
96     "Authorization" = "Bearer $graphBearerToken";
97     "Content-Type"  = "application/json"
98 }
99 # Parameters for the REST API call
100 $restParams = @{
101     Uri      = $restUri
102     Method   = $restMethod
103     Headers  = $restHeaders
104 }
105 # Make the REST API call to retrieve the token response and store it in a variable
106 $restResponse = Invoke-RestMethod @restParams
107 # Output the REST API call results
108 $serviceplanId = $restResponse.value.id
109 Write-Host "Step 03 - Serviceplan Id: " -NoNewline -ForegroundColor Yellow
110 Write-Host "$($serviceplanId)" -ForegroundColor Cyan
111 #endregion
```

```
88
89 #region Step 03 - Get the CloudPC Serviceplan ID
90 # URL for the REST API call
91 $restUri = "https://graph.microsoft.com/beta/deviceManagement/virtualEndpoint/frontLineServicePlans"
92 # Method for the REST API call
93 $restMethod = "GET"
94 # NO Body for a REST API call with Method GET
95 $restHeaders = @{
96     "Authorization" = "Bearer $graphBearerToken";
97     "Content-Type"  = "application/json"
98 }
99 # Parameters for the REST API call
100 $restParams = @{
101     Uri      = $restUri
102     Method   = $restMethod
103     Headers  = $restHeaders
104 }
105 # Make the REST API call to retrieve the token response and store it in a variable
106 $restResponse = Invoke-RestMethod @restParams
107 # Output the REST API call results
108 $serviceplanId = $restResponse.value.id
109 Write-Host "Step 03 - Serviceplan Id: " -NoNewline -ForegroundColor Yellow
110 Write-Host "$($serviceplanId)" -ForegroundColor Cyan
111 #endregion
```

```
113 #region Step 04 - Create CloudPC Provisioning Policy
114 # URL for the REST API call
115 $restUri = "https://graph.microsoft.com/v1.0/deviceManagement/virtualEndpoint/provisioningPolicies"
116 # Method for the REST API call
117 $restMethod = "POST"
118 # Body for a REST API call with Method PUT
119 $restBody = @{
120     "@odata.type"          = "#microsoft.graph.cloudPcProvisioningPolicy"
121     description           = "Windows 365 CloudPC Frontline Provisioning Policy"
122     displayName            = "CPC-W365-Frontline-Provisioning"
123     domainJoinConfigurations = @(
124         @{
125             domainJoinType      = "azureADJoin"
126             regionName         = "automatic"
127             onPremisesConnectionId = $null
128             regionGroup        = "europeUnion"
129         }
130     )
131     enableSingleSignOn      = $true
132     imageDisplayName        = "win11-23h2-ent-cpc-m365"
133     imageId                = "$($galleryImageId)"
134     imageType               = "gallery"
135     cloudPcNamingTemplate   = "CPC-%USERNAME:5%-%RAND:5%"
136     windowsSetting          = @{
```

```
113 #region Step 04 - Create CloudPC Provisioning Policy
114 # URL for the REST API call
115 $restUri = "https://graph.microsoft.com/v1.0/deviceManagement/virtualEndpoint/provisioningPolicies"
116 # Method for the REST API call
117 $restMethod = "POST"
118 # Body for a REST API call with Method PUT
119 $restBody = @{
120     "@odata.type"          = "#microsoft.graph.cloudPcProvisioningPolicy"
121     description           = "Windows 365 CloudPC Frontline Provisioning Policy"
122     displayName            = "CPC-W365-Frontline-Provisioning"
123     domainJoinConfigurations = @(
124         @{
125             domainJoinType      = "azureADJoin"
126             regionName         = "automatic"
127             onPremisesConnectionId = $null
128             regionGroup        = "europeUnion"
129         }
130     )
131     enableSingleSignOn      = $true
132     imageDisplayName        = "win11-23h2-ent-cpc-m365"
133     imageId                = "$($galleryImageId)"
134     imageType               = "gallery"
135     cloudPcNamingTemplate   = "CPC-%USERNAME:5%-%RAND:5%"
136     windowsSetting          = @{
```

```
113 #region Step 04 - Create CloudPC Provisioning Policy
114 # URL for the REST API call
115 $restUri = "https://graph.microsoft.com/v1.0/deviceManagement/virtualEndpoint/provisioningPolicies"
116 # Method for the REST API call
117 $restMethod = "POST"
118 # Body for a REST API call with Method PUT
119 $restBody = @{
    "@odata.type"          = "#microsoft.graph.cloudPcProvisioningPolicy"
    description            = "Windows 365 CloudPC Frontline Provisioning Policy"
    displayName             = "CPC-W365-Frontline-Provisioning"
    domainJoinConfigurations = @(
        @{
            domainJoinType      = "azureADJoin"
            regionName          = "automatic"
            onPremisesConnectionId = $null
            regionGroup         = "europeUnion"
        }
    )
    enableSingleSignOn      = $true
    imageDisplayName        = "win11-23h2-ent-cpc-m365"
    imageId                = "$($galleryImageId)"
    imageType               = "gallery"
    cloudPcNamingTemplate  = "CPC-%USERNAME:5%-%RAND:5%"
    windowsSetting          = @{
        "joinDomain" = @{
            "domain" = "frontlinew365.onmicrosoft.com"
            "username" = "CloudPCFrontlineUser"
            "password" = "P@ssw0rd"
        }
    }
)
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
```

```
139     microsoftManagedDesktop = @{
140         managedType = "notManaged"
141         profile    = ""
142     }
143     provisioningType      = "shared"
144 }
145 # Headers for the REST API call
146 $restHeaders = @{
147     "Authorization" = "Bearer $graphBearerToken";
148     "Content-Type"  = "application/json"
149 }
150 # Parameters for the REST API call
151 $restParams = @{
152     Uri      = $restUri
153     Method   = $restMethod
154     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
155     Headers = $restHeaders
156 }
157 # Make the REST API call to retrieve the token response and store it in a variable
158 $restResponse = Invoke-RestMethod @restParams
159 # Output the REST API call results
160 $provisioningPolicyId = $restResponse.id
161 Write-Host "Step 04 - Provisioning Policy Id: " -NoNewline -ForegroundColor Yellow
162 Write-Host "$($provisioningPolicyId)" -ForegroundColor Cyan
```

```
139     microsoftManagedDesktop = @{
140         managedType = "notManaged"
141         profile     = ""
142     }
143     provisioningType      = "shared"
144 }
145 # Headers for the REST API call
146 $restHeaders = @{
147     "Authorization" = "Bearer $graphBearerToken";
148     "Content-Type"  = "application/json"
149 }
150 # Parameters for the REST API call
151 $restParams = @{
152     Uri      = $restUri
153     Method   = $restMethod
154     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
155     Headers = $restHeaders
156 }
157 # Make the REST API call to retrieve the token response and store it in a variable
158 $restResponse = Invoke-RestMethod @restParams
159 # Output the REST API call results
160 $provisioningPolicyId = $restResponse.id
161 Write-Host "Step 04 - Provisioning Policy Id: " -NoNewline -ForegroundColor Yellow
162 Write-Host "$($provisioningPolicyId)" -ForegroundColor Cyan
```

WARNING: Resulting JSON is truncated as serialization has exceeded the set depth of 2.

```
{
    "level1": {
        "level2": {
            "level3": "System.Collections.Hashtable"
        }
    }
}
```

```
139     microsoftManagedDesktop = @{
140         managedType = "notManaged"
141         profile     = ""
142     }
143     provisioningType      = "shared"
144 }
145 # Headers for the REST API call
146 $restHeaders = @{
147     "Authorization" = "Bearer $graphBearerToken";
148     "Content-Type"  = "application/json"
149 }
150 # Parameters for the REST API call
151 $restParams = @{
152     Uri      = $restUri
153     Method   = $restMethod
154     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
155     Headers = $restHeaders
156 }
157 # Make the REST API call to retrieve the token response and store it in a variable
158 $restResponse = Invoke-RestMethod @restParams
159 # Output the REST API call results
160 $provisioningPolicyId = $restResponse.id
161 Write-Host "Step 04 - Provisioning Policy Id: " -NoNewline -ForegroundColor Yellow
162 Write-Host "$($provisioningPolicyId)" -ForegroundColor Cyan
```

WARNING: Resulting JSON is truncated as serialization has exceeded the set depth of 2.

```
{
    "level1": {
        "level2": {
            "level3": "System.Collections.Hashtable"
        }
    }
}
```

```
{
    "level1": {
        "level2": {
            "level3": {
                "level4": {
                    "level5": "value"
                }
            }
        }
    }
}
```

ConvertTo-Json

Reference

Feedback

Module: Microsoft.PowerShell.Utility

Converts an object to a JSON-formatted string.

Syntax

PowerShell

Copy

ConvertTo-Json

```
[-InputObject] <Object>
[-Depth <Int32>]
[-Compress]
[-EnumsAsStrings]
[-AsArray]
[-EscapeHandling <StringEscapeHandling>]
[<CommonParameters>]
```

-Depth

Specifies how many levels of contained objects are included in the JSON representation. The value can be any number from `0` to `100`. The default value is `2`. `ConvertTo-Json` emits a warning if the number of levels in an input object exceeds this number.

[PROBLEMS](#)[TERMINAL](#)[PORTS](#)[GITLENS](#)[AZURE](#)[COMMENTS](#)[OUTPUT](#)[DEBUG CONSOLE](#)

Step 00 - Graph bearer token: eyJ0eXAiOiJKV1QiLCJub25jZ...

Step 01 - groupId: 715b1ead-7ea8-4803-94b5-b13788c6a9db

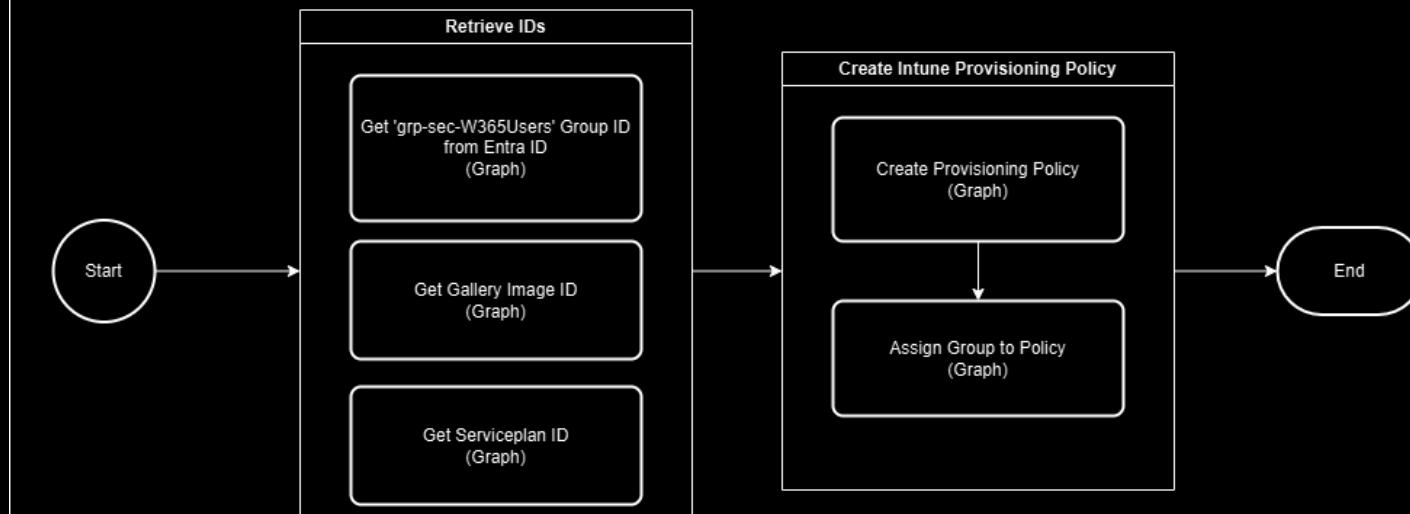
Step 02 - Gallery Image Id: microsoftwindowsdesktop_windows-ent-cpc_win11-23h2-ent-cpc-m365

Step 03 - Serviceplan Id: 50ef7026-6174-40ba-bff7-f0e4fcddbf65

Step 04 - Provisioning Policy Id: a5a00319-eb6b-478a-bcda-9d76bcd7fdf5

Step 05 - Group and Serviceplan assigned to policy

Create Windows 365 CloudPC Provisioning Policy



<<

[Home](#) > [Devices | Windows 365](#) >

CPC-W365-Frontline-Provisioning ...

[General](#) [Edit](#)

Name	CPC-W365-Frontline-Provisioning
Description	Windows 365 CloudPC Frontline Provisioning Policy
License type	Frontline
Use Microsoft Entra single sign-on	Yes
Join type	Microsoft Entra Join
Geography	European Union
Region	Automatic (Recommended)

[Image](#) [Edit](#)

Image type	Gallery
Windows 11 Enterprise + Microsoft 365 Apps	

23H2

[Configuration](#) [Edit](#)

Language & Region	English (United States)
Apply device name template	true
Enter a name template	CPC-%USERNAME:5%-%RAND:5%
Additional Services	None

[Assignments](#) [Edit](#)

Group	Cloud PC size	Number of Cloud PCs	Users
grp-sec-W365Users	Cloud PC Frontline 2vCPU/8GB/256GB	0	see users

_ExpertsLive > Demos > 03_W365_Provision_CloudPC_to_User.ps1 > ...

```
11 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token) ...
34    #endregion
35
36 > #region Step 01 - Get the Entra Group ID...
60    #endregion
61
62 > #region Step 02 - Get the Entra User ID...
85    #endregion
86
87 > #region Step 03 - Add Member to Group...
112   #endregion
113   ♦♦
114
```

```
61
62 #region Step 02 - Get the Entra User ID
63 # URL for the REST API call
64 $restUri = "https://graph.microsoft.com/v1.0/users"
65 $restUri += "?`$filter=startswith(displayName, 'test01')"    # filter
66 # Method for the REST API call
67 $restMethod = "GET"
68 # NO Body for a REST API call with Method GET
69 $restHeaders = @{
70     "Authorization"="Bearer $graphBearerToken";
71     "Content-Type" = "application/json"
72 }
73 # Parameters for the REST API call
74 $restParams = @{
75     Uri          = $restUri
76     Method       = $restMethod
77     Headers      = $restHeaders
78 }
79 # Make the REST API call to retrieve the token response and store it in a variable
80 $restResponse = Invoke-RestMethod @restParams
81 # Output the REST API call results
82 $userId = $restResponse.value.id
83 Write-Host "Step 02 - User Id: " -NoNewline -ForegroundColor Yellow
84 Write-Host "$($userId)" -ForegroundColor Cyan
```

```
61
62 #region Step 02 - Get the Entra User ID
63 # URL for the REST API call
64 $restUri = "https://graph.microsoft.com/v1.0/users"
65 $restUri += "?`$filter=startswith(displayName, 'test01')"    # filter
66 # Method for the REST API call
67 $restMethod = "GET"
68 # NO Body for a REST API call with Method GET
69 $restHeaders = @{
70     "Authorization"="Bearer $graphBearerToken";
71     "Content-Type" = "application/json"
72 }
73 # Parameters for the REST API call
74 $restParams = @{
75     Uri          = $restUri
76     Method       = $restMethod
77     Headers      = $restHeaders
78 }
79 # Make the REST API call to retrieve the token response and store it in a variable
80 $restResponse = Invoke-RestMethod @restParams
81 # Output the REST API call results
82 $userId = $restResponse.value.id
83 Write-Host "Step 02 - User Id: " -NoNewline -ForegroundColor Yellow
84 Write-Host "$($userId)" -ForegroundColor Cyan
```

```
87 #region Step 03 - Add Member to Group
88 # URL for the REST API call
89 $restUri = "https://graph.microsoft.com/v1.0/groups/$groupId/members/`$ref"
90 # Method for the REST API call
91 $restMethod = "POST"
92 # Body for a REST API call with Method PUT
93 $restBody = @{
94     "@odata.id"          = "https://graph.microsoft.com/v1.0/directoryObjects/$userId"
95 }
96 # Headers for the REST API call
97 $restHeaders = @{
98     "Authorization" = "Bearer $graphBearerToken";
99     "Content-Type"  = "application/json"
100 }
101 # Parameters for the REST API call
102 $restParams = @{
103     Uri      = $restUri
104     Method   = $restMethod
105     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
106     Headers = $restHeaders
107 }
108 # Make the REST API call to retrieve the token response and store it in a variable
109 $restResponse = Invoke-RestMethod @restParams
110 # Output the REST API call results
```

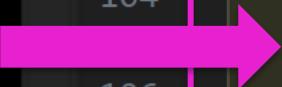
```
87 #region Step 03 - Add Member to Group
88 # URL for the REST API call
89 $restUri = "https://graph.microsoft.com/v1.0/groups/$groupId/members/`$ref"
90 # Method for the REST API call
91 $restMethod = "POST"
92 # Body for a REST API call with Method PUT
93 $restBody = @{
94     "@odata.id"          = "https://graph.microsoft.com/v1.0/directoryObjects/$userId"
95 }
96 # Headers for the REST API call
97 $restHeaders = @{
98     "Authorization" = "Bearer $graphBearerToken";
99     "Content-Type"  = "application/json"
100 }
101 # Parameters for the REST API call
102 $restParams = @{
103     Uri      = $restUri
104     Method   = $restMethod
105     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
106     Headers = $restHeaders
107 }
108 # Make the REST API call to retrieve the token response and store it in a variable
109 $restResponse = Invoke-RestMethod @restParams
110 # Output the REST API call results
```

```
87 #region Step 03 - Add Member to Group
88 # URL for the REST API call
89 $restUri = "https://graph.microsoft.com/v1.0/groups/$groupId/members/`$ref"
90 # Method for the REST API call
91 $restMethod = "POST"
92 # Body for a REST API call with Method PUT
93 $restBody = @{
94     "@odata.id"          = "https://graph.microsoft.com/v1.0/directoryObjects/\$userId"
95 }
96 # Headers for the REST API call
97 $restHeaders = @{
98     "Authorization" = "Bearer $graphBearerToken";
99     "Content-Type"  = "application/json"
100 }
101 # Parameters for the REST API call
102 $restParams = @{
103     Uri      = $restUri
104     Method   = $restMethod
105     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
106     Headers = $restHeaders
107 }
108 # Make the REST API call to retrieve the token response and store it in a variable
109 $restResponse = Invoke-RestMethod @restParams
110 # Output the REST API call results
```

```
87 #region Step 03 - Add Member to Group
88 # URL for the REST API call
89 $restUri = "https://graph.microsoft.com/v1.0/groups/$groupId/members/`$ref"
90 # Method for the REST API call
91 $restMethod = "POST"
92 # Body for a REST API call with Method PUT
93 $restBody = @{
94     "@odata.id"      = https://graph.microsoft.com/v1.0/directoryObjects/\$userId
95 }
96 # Headers for the REST API call
97 $restHeaders = @{
98     "Authorization" = "Bearer $graphBearerToken";
99     "Content-Type"  = "application/json"
100 }
101 # Parameters for the REST API call
102 $restParams = @{
103     Uri      = $restUri
104     Method   = $restMethod
105     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
106     Headers  = $restHeaders
107 }
108 # Make the REST API call to retrieve the token response and store it in a variable
109 $restResponse = Invoke-RestMethod @restParams
110 # Output the REST API call results
```

WARNING: Resulting JSON is truncated as serialization has exceeded the set depth of 2.

```
{  
    "level1": {  
        "level2": {  
            "level3": "System.Collections.Hashtable"  
        }  
    }  
}
```



```
{  
    "level1": {  
        "level2": {  
            "level3": {  
                "level4": {  
                    "level5": "value"  
                }  
            }  
        }  
    }  
}
```

```
92 # Body for a REST API call with Method PUT
93 $restBody = @{
94     "@odata.id"          = "https://graph.microsoft.com/v1.0/directoryObjects/$userId"
95 }
96 # Headers for the REST API call
97 $restHeaders = @{
98     "Authorization" = "Bearer $graphBearerToken";
99     "Content-Type"  = "application/json"
100 }
101 # Parameters for the REST API call
102 $restParams = @{
103     Uri      = $restUri
104     Method   = $restMethod
105     Body     = ConvertTo-Json -InputObject $restBody -Depth 10 -Compress
106     Headers = $restHeaders
107 }
108 # Make the REST API call to retrieve the token response and store it in a variable
109 $restResponse = Invoke-RestMethod @restParams
110 # Output the REST API call results
111 Write-Host "Step 03 - User added to Group" -ForegroundColor Yellow
112 #endregion
113 ♦♦
114
```

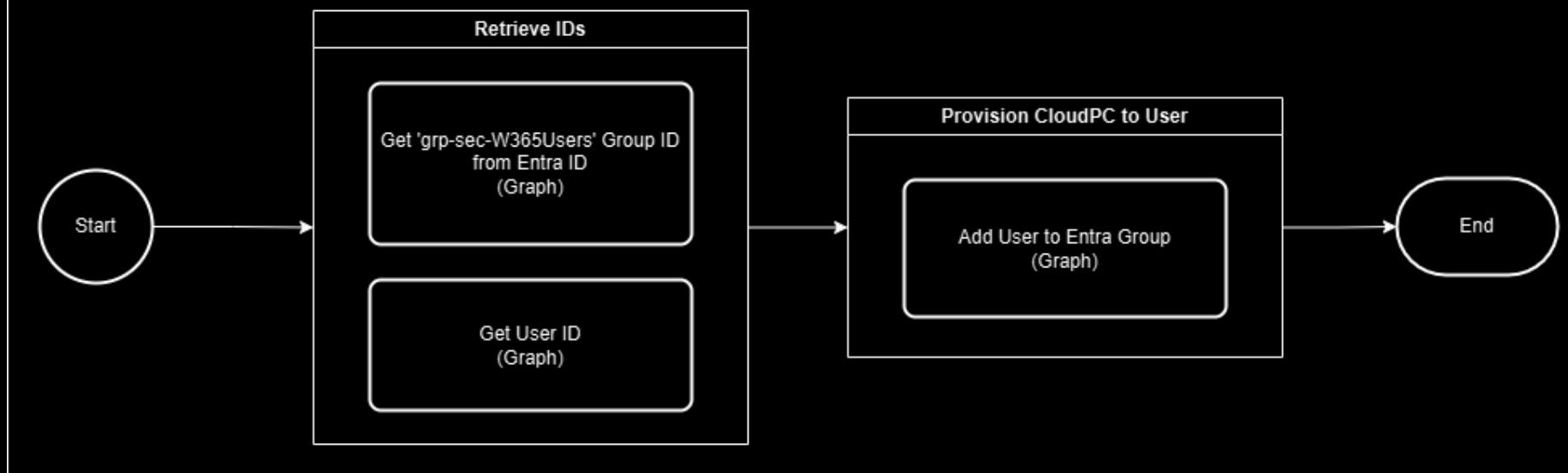
[PROBLEMS](#)[TERMINAL](#)[PORTS](#)[GITLENS](#)[AZURE](#)[COMMENTS](#)[OUTPUT](#)[DEBUG CONSOLE](#)

Step 01 - groupId: 715b1ead-7ea8-4803-94b5-b13788c6a9db

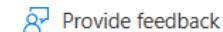
Step 02 - User Id: f4eb6841-9fab-403c-9990-8fd6d0753d1d

Step 03 - User added to Group

Provision Windows 365 CloudPC to User



Devices | Windows 365

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You can provision, configure, protect, and monitor your Cloud PCs. [Learn more about Cloud PC setup](#)

[Failed](#)

0

[In grace period](#)

0

[Provisioned](#)

0

[Provisioned with warning](#)

0

[Provisioning](#)

1

[Not provisioned](#)

0



Showing 1 to 1 of 1 records

< PreviousPage 1▼of 1Next >[Device name ↑↓](#)[Provisioning policy ↑↓](#)[Image ↑↓](#)[A... ↑↓](#)[PC type ↑↓](#)[Not provisioned](#)[CPC-W365-Frontline-P...](#)[Windows 11 Enterprise + Microsoft 365...](#)[Cloud PC Frontline 2vCPU/8GB/256GB](#)[Provisioning](#)[Status ↑↓](#)[User ↑↓](#)test01@cognitionitdev...

Status ↑↓
Provisioning





Windows App

Preview



TE



Home

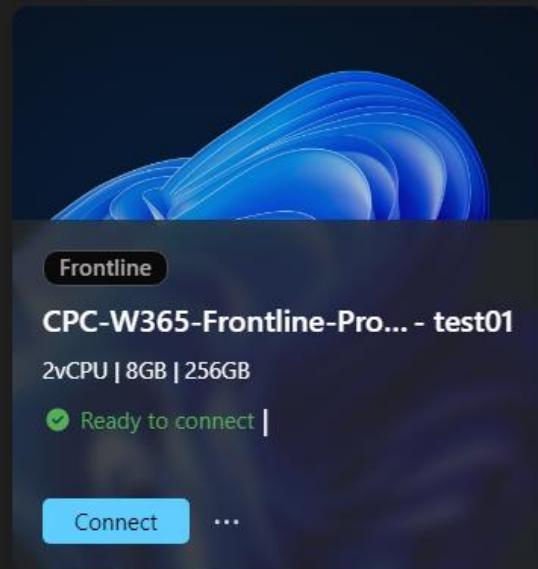


Devices



Cloud PC

ws-avd-demo





Windows App

Preview



TE



Home



Devices



Cloud PC

ws-avd-demo

Frontline

CPC-W365-Frontline-Pro... - test01

2vCPU | 8GB | 256GB

✓ Ready to connect

Connect ...

Azure Virtual Desktop

SessionDesktop

ws-avd-demo

Connect ...

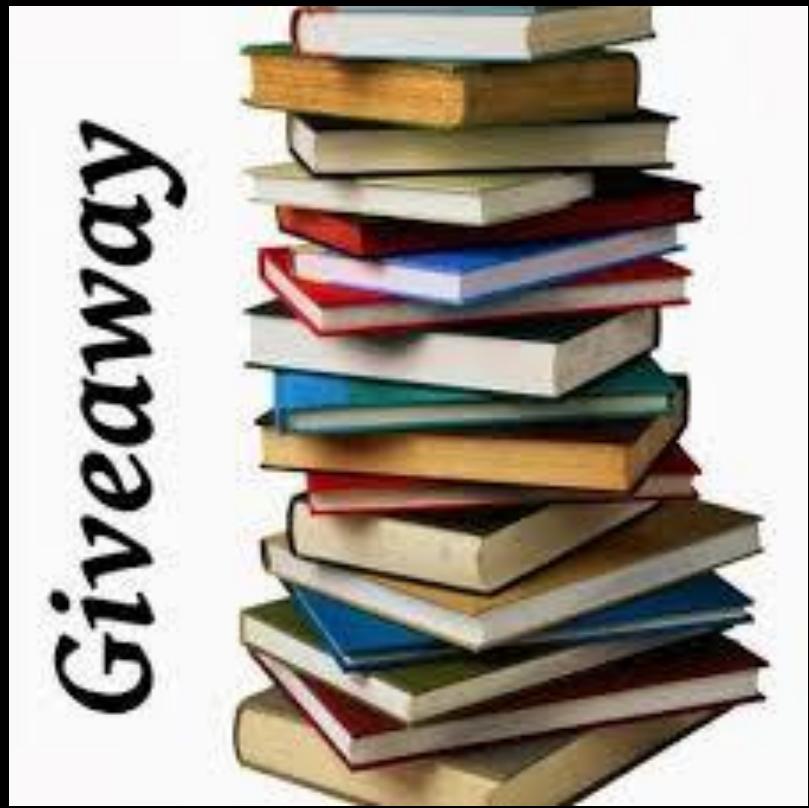


THANK YOU

Are there any questions?

code: https://github.com/cloud-devops-ninja/myPresentations/tree/main/GraphAPI_StarterKit

What does API stand for?





cloud-devops-ninja
presents
GraphAPI_StarterKit

