

The Graph API StarterKit for AVD and W365 Automation

Esther Barthel



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Gold



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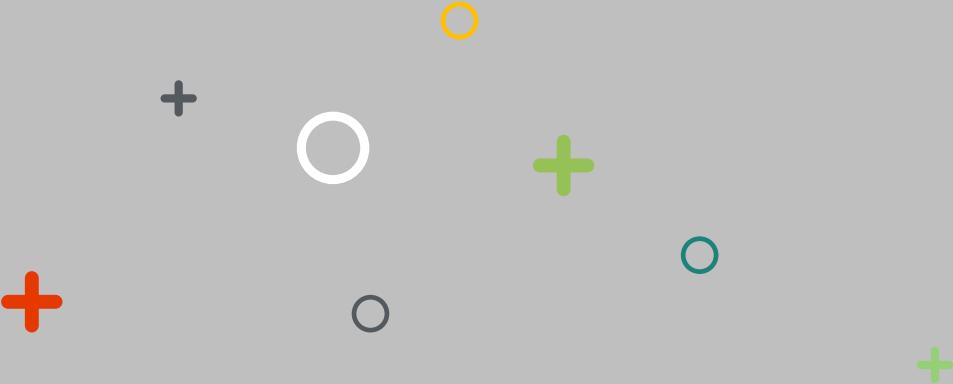
Sr. Solutions Architect
Sr. DevOps Engineer



Esther
Barthel



End User Computing







plex

N



AVD



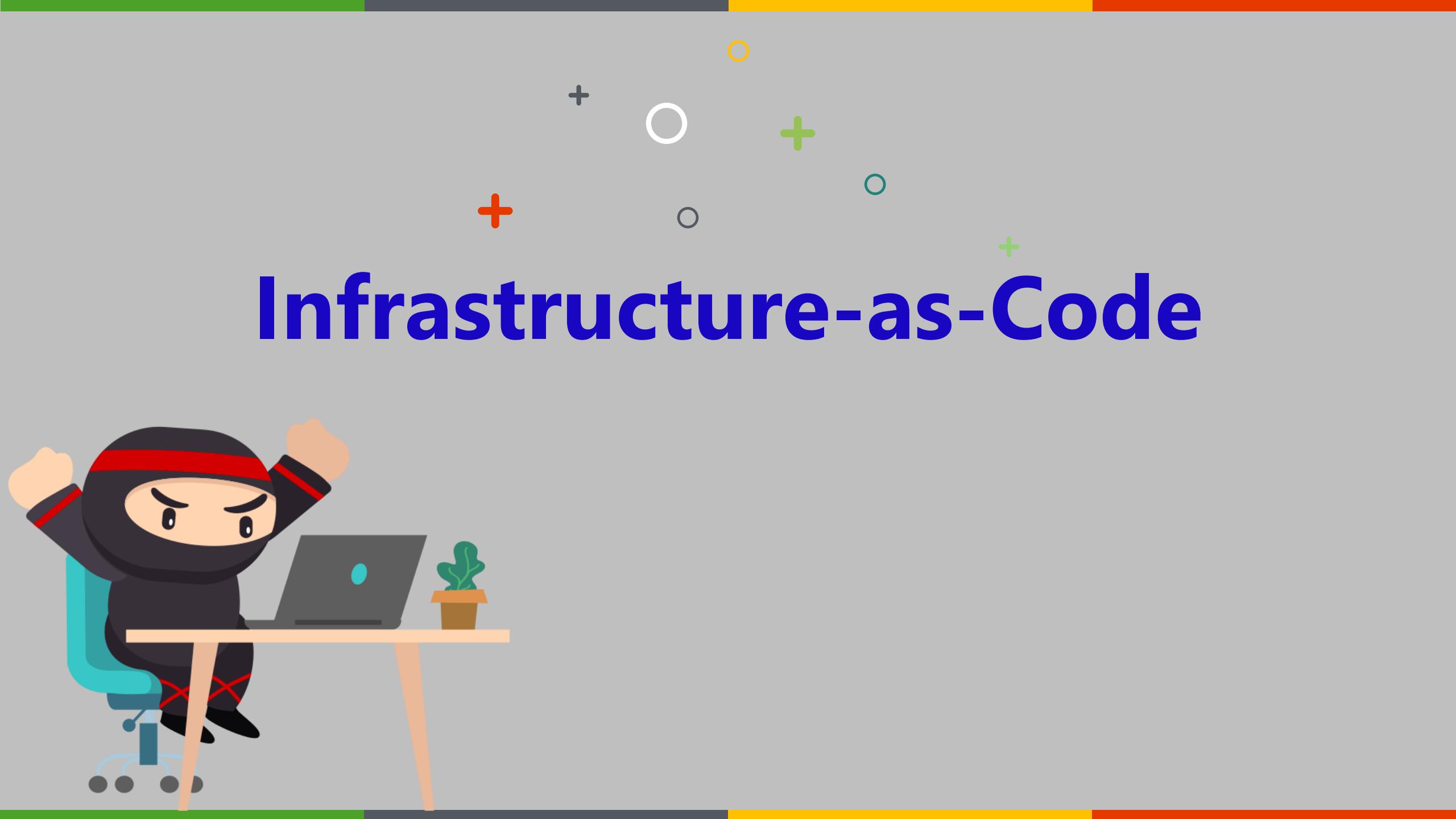
W365 CloudPC



AVD



W365 CloudPC



Infrastructure-as-Code





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



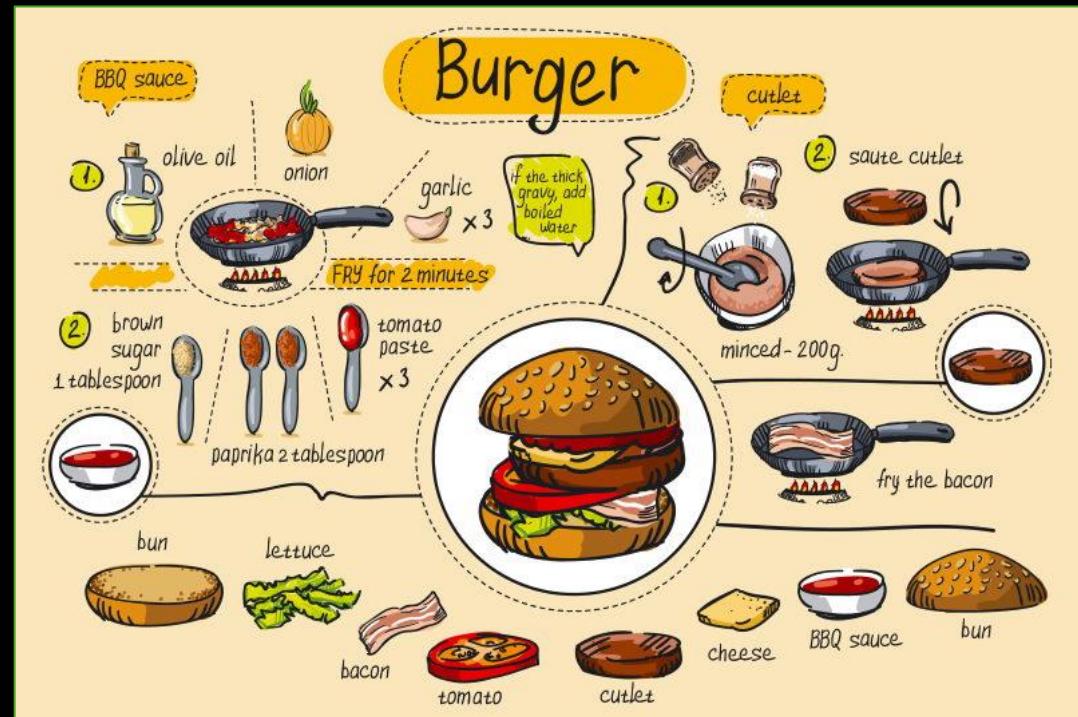
Grilled Burger

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

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

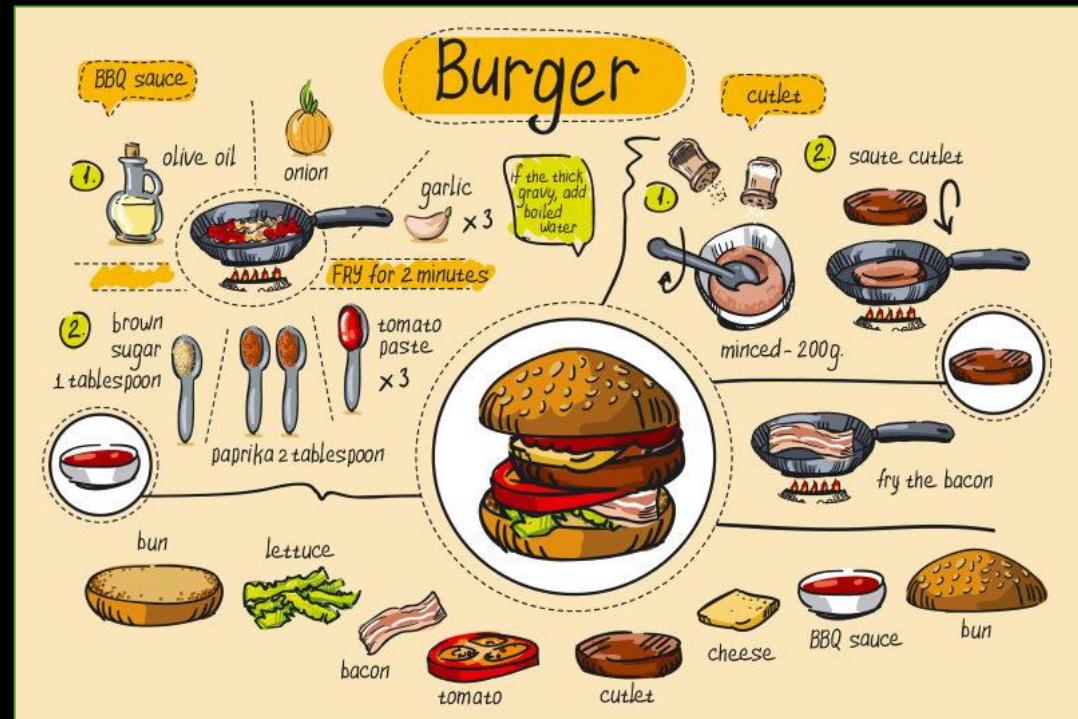
Griller Chicken

\$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

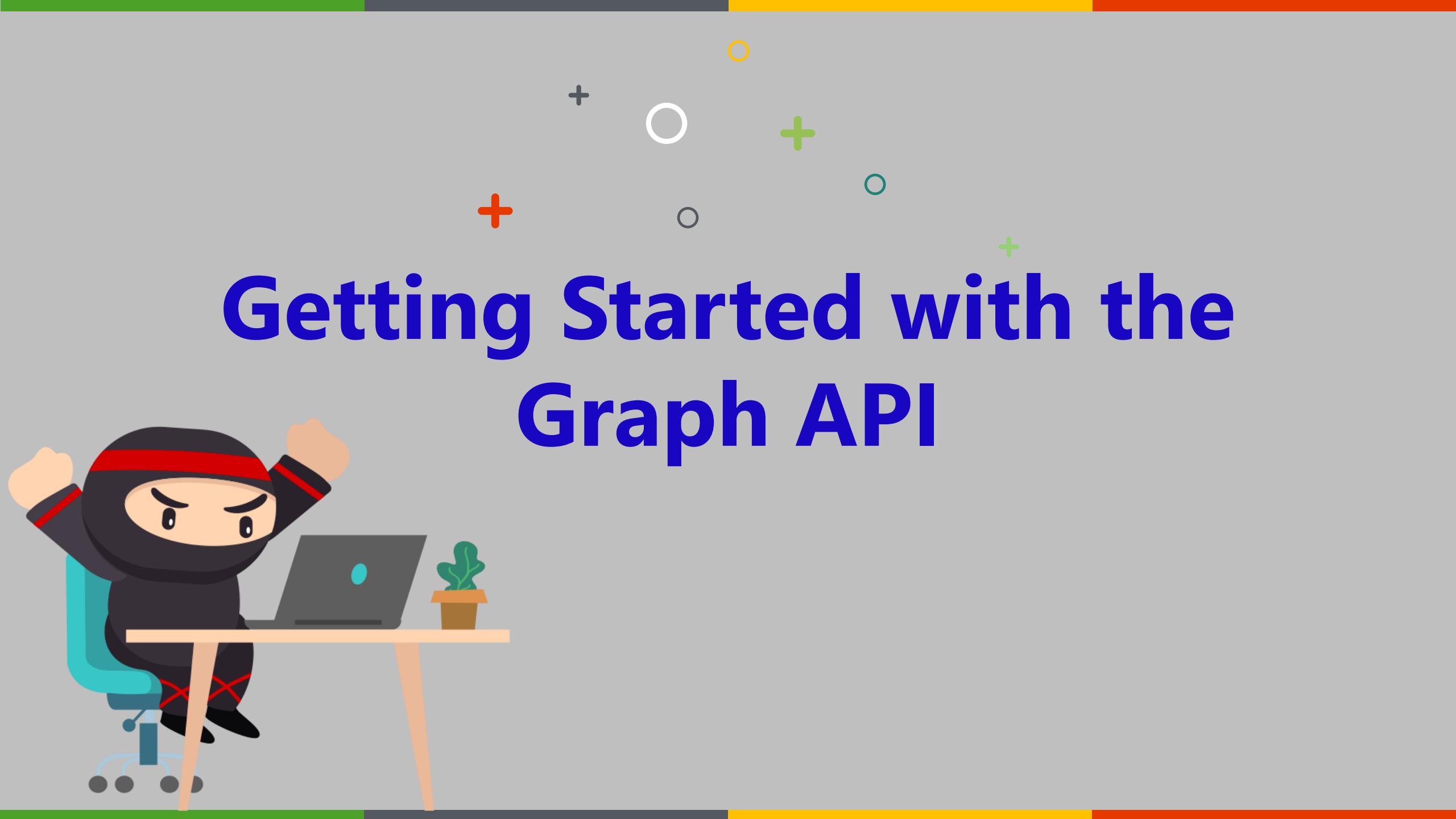


Declarative code
(templates)



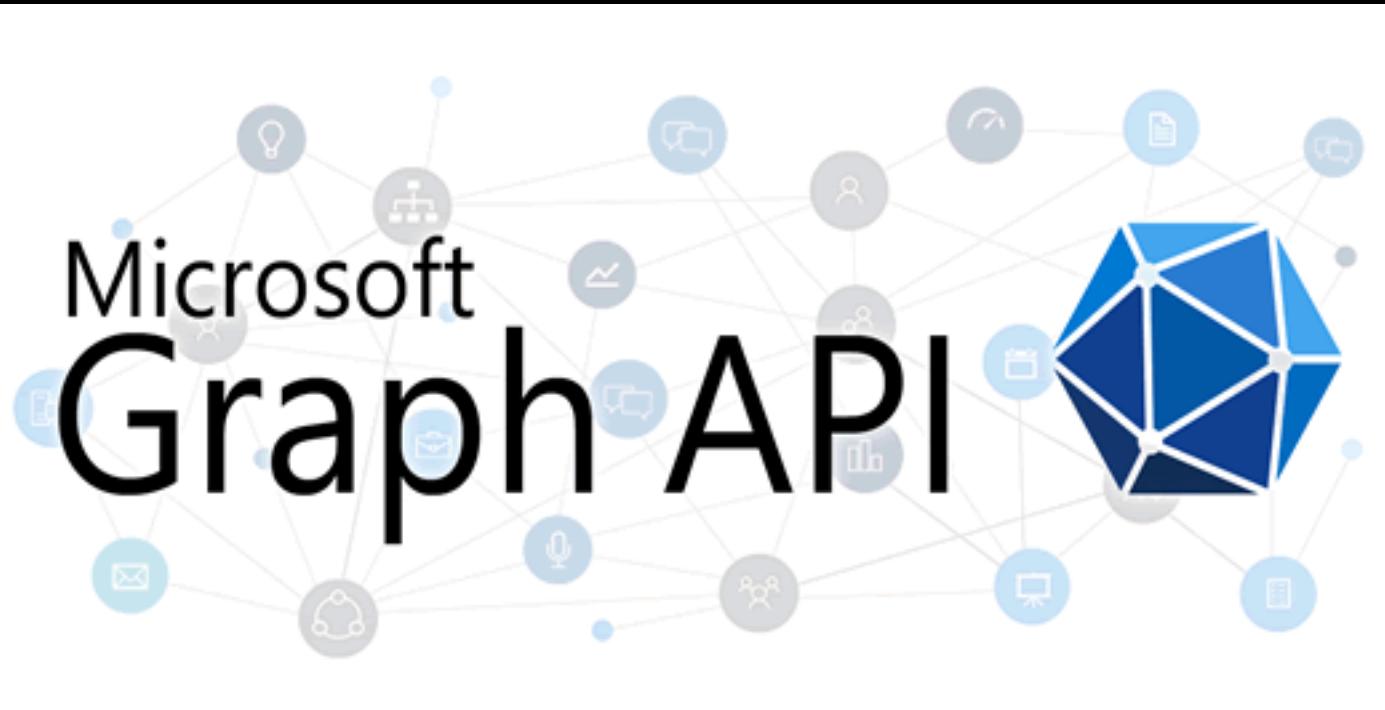
Imperative code
(scripts)





Getting Started with the Graph API





The image shows two dark-themed mobile application screens for a restaurant named "Every Bite a".

Left Screen (Burger Category):

- Burger** (selected)
- Pasta
- Salads

| Burger Type | Description | Price |
|----------------|---------------------|---------|
| Beef Burger | Onion With Cheese | \$18.00 |
| Chicken Burger | Cheese With Chicken | \$12.00 |
| Classic Burger | Beef Wit Lettuce | \$24.00 |
| Grilled Burger | Griller Chicken | \$14.00 |
| Classic Burger | Beef Wit Lettuce | \$24.00 |
| Grilled Burger | Griller Chicken | \$14.00 |

Right Screen (Fresh Beef Burger):

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.

A large, detailed illustration of a beef burger with multiple layers of meat, cheese, lettuce, and tomatoes.

Declarative code (templates)



Microsoft Graph



Declarative code (templates)

The image shows two dark-themed mobile application screens for a restaurant named "Every Bite a".

Screen 1 (Left): A grid of six burger options under the heading "Burger".

| Burger Type | Description | Price |
|----------------|---------------------|---------|
| Beef Burger | Onion With Cheese | \$18.00 |
| Chicken Burger | Cheese With Chicken | \$12.00 |
| Classic Burger | Beef Wit Lettuce | \$24.00 |
| Grilled Burger | Griller Chicken | \$14.00 |
| Classic Burger | Beef Wit Lettuce | \$24.00 |
| Grilled Burger | Griller Chicken | \$14.00 |

Screen 2 (Right): A large, detailed illustration of a "Fresh Beef Burger With Cheese..." featuring multiple layers of meat, cheese, lettuce, and tomatoes.

Text:

Every Bite a
Better Burger!

Burger Pasta Salads

Beef Burger
Onion With Cheese
\$18.00

Chicken Burger
Cheese With Chicken
\$12.00

Classic Burger
Beef Wit Lettuce
\$24.00

Grilled Burger
Griller Chicken
\$14.00

Classic Burger
Beef Wit Lettuce
\$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.

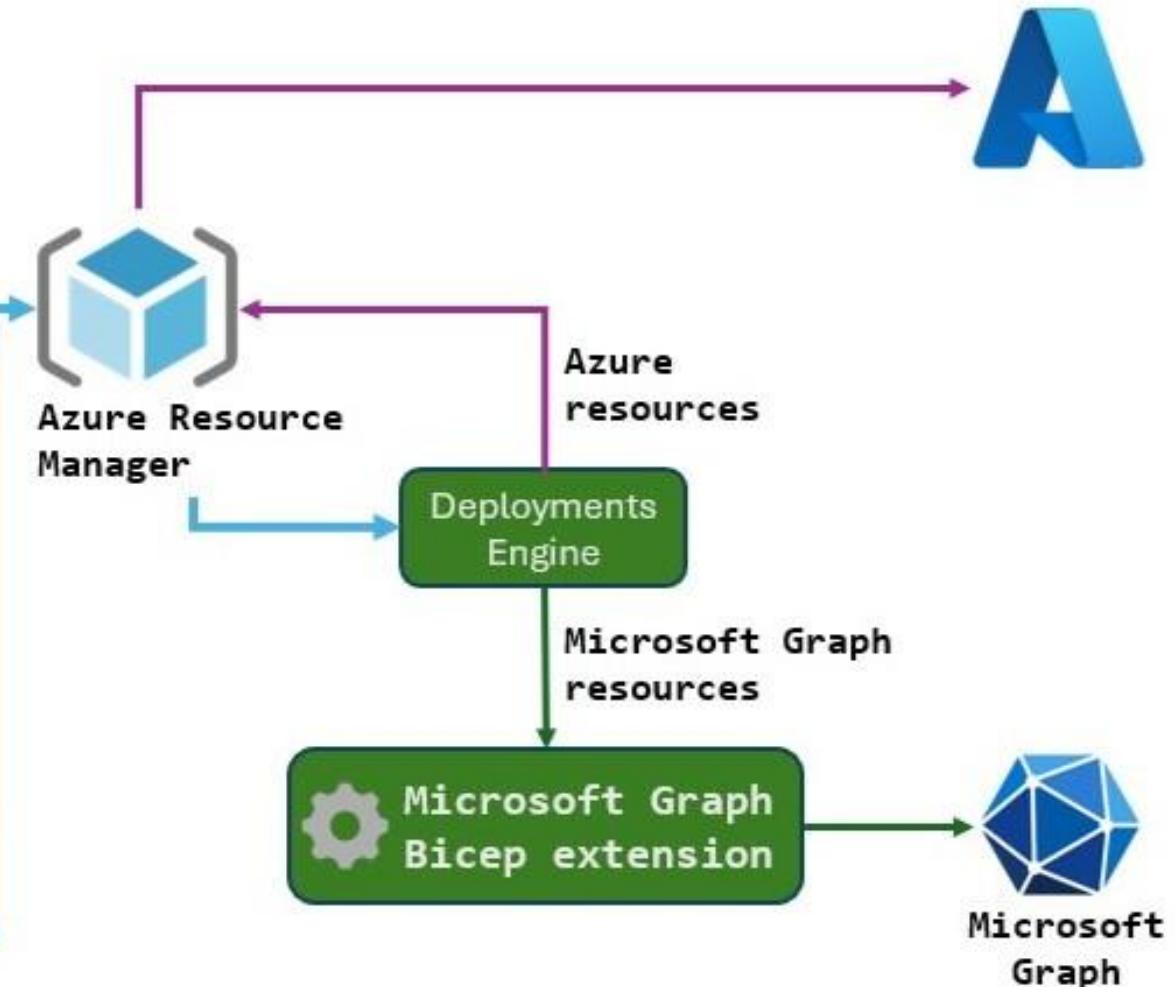


Sneak preview



```
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

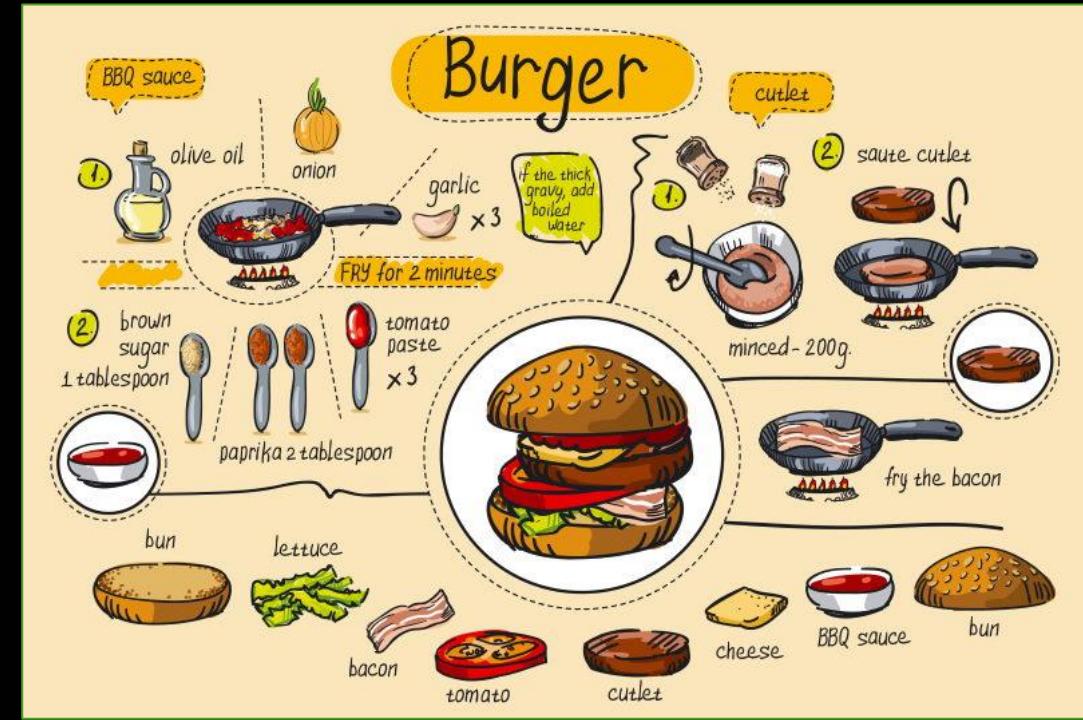
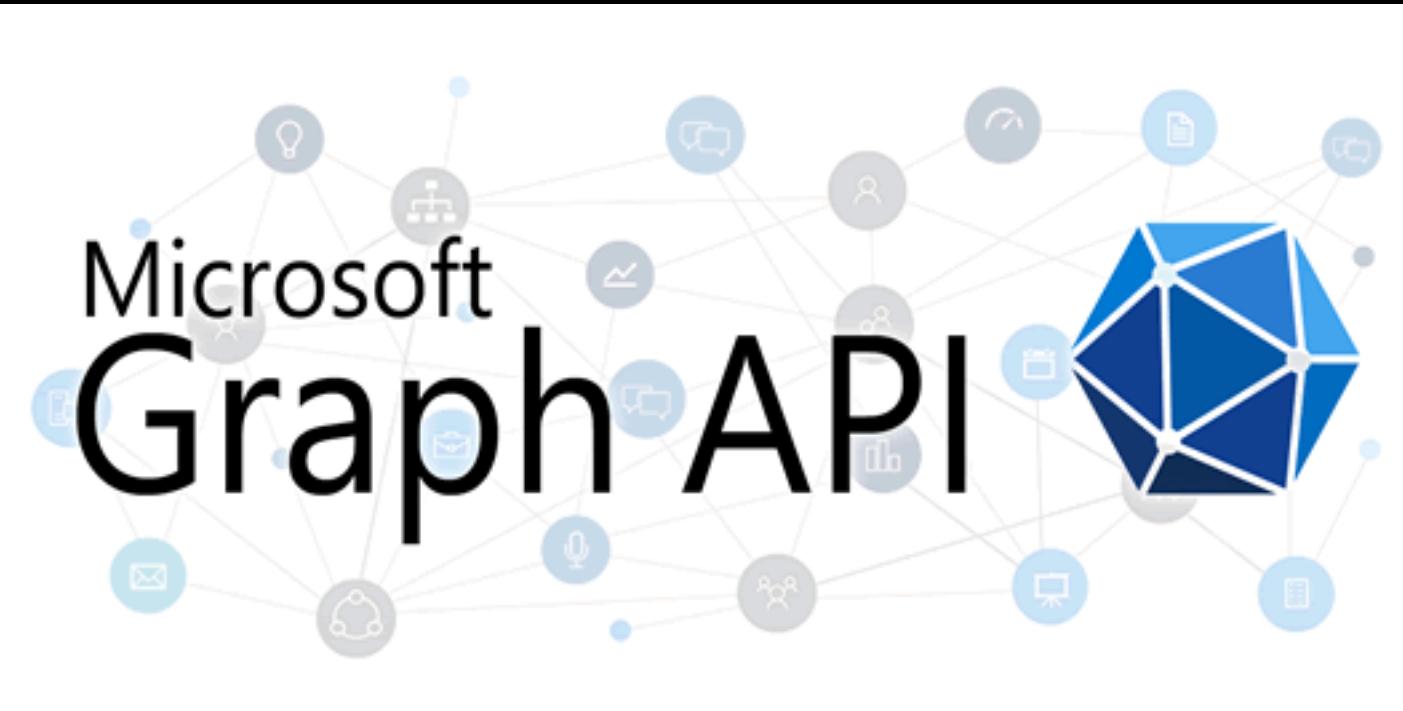
Groups

OAuth2 permission grants

Service principals



Microsoft Graph API



Imperative code (scripts)



Coding skills loading



Rest(full) API

PowerShell SDK



Microsoft Graph



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

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"
```

IT Processes

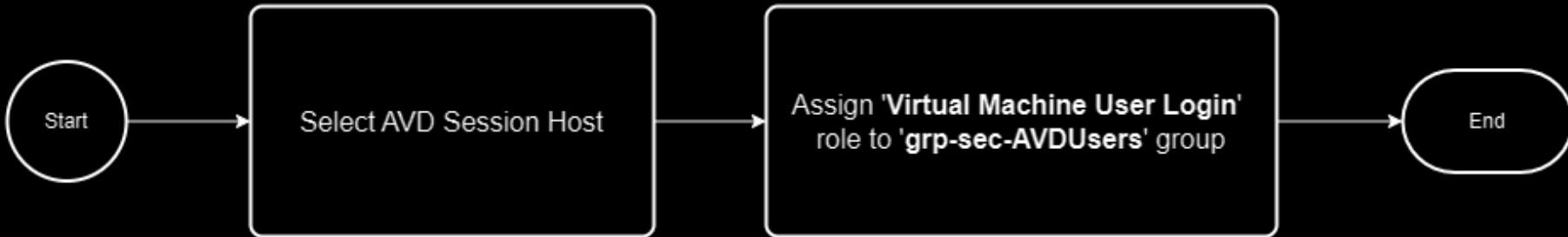




Graph API Example: Azure Virtual Desktop



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



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

Virtual machine

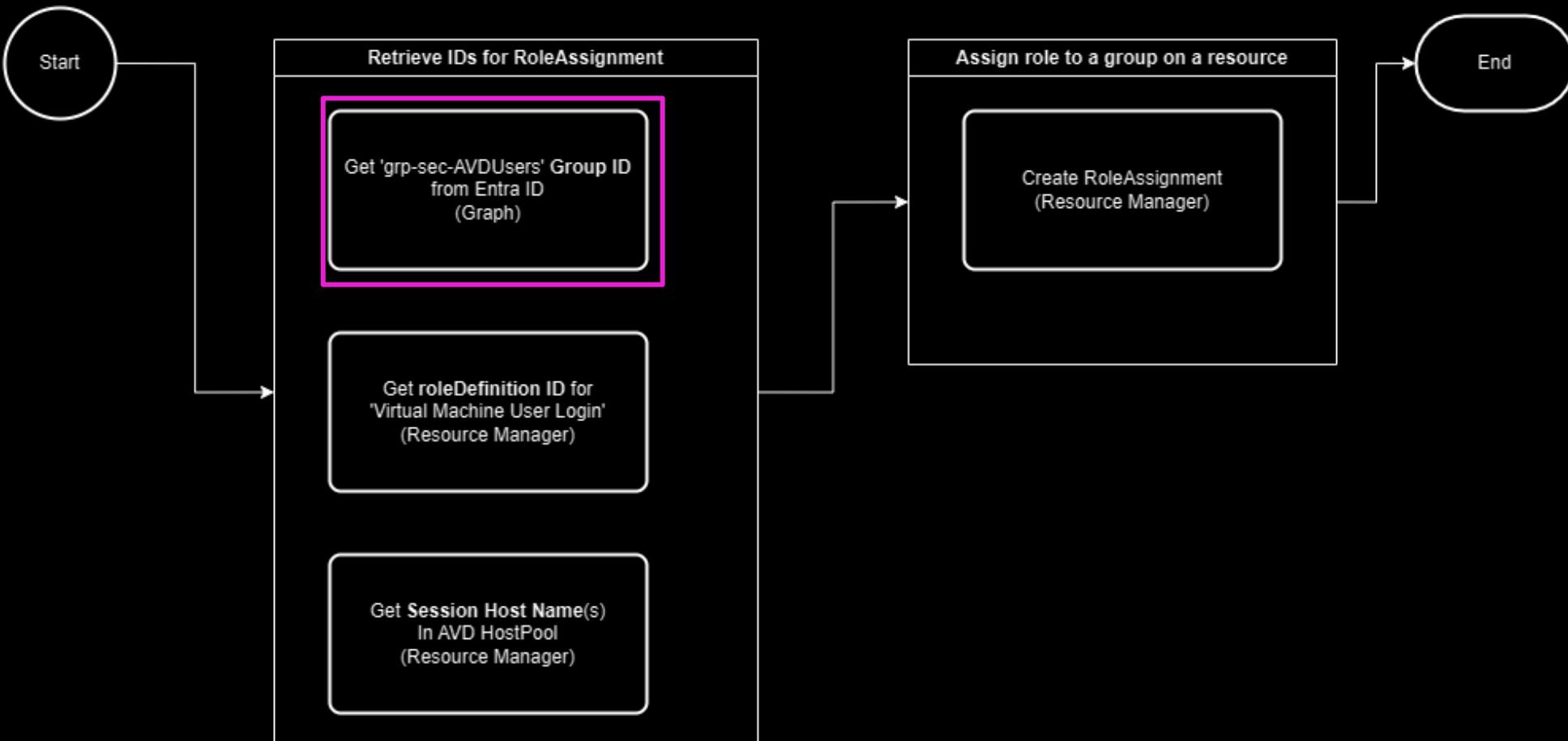
Search Add Download role assignments Edit columns Refresh Remove

Check access Role assignments Roles Deny assignments Classic administrators

| Name | Type | Role | Scope | Condition |
|--------------------------------|-------|----------------------------|---------------|-----------|
| Virtual Machine User Login (1) | Group | Virtual Machine User Login | This resource | None |
| grp-sec-AVDUsers | Group | Virtual Machine User Login | This resource | None |



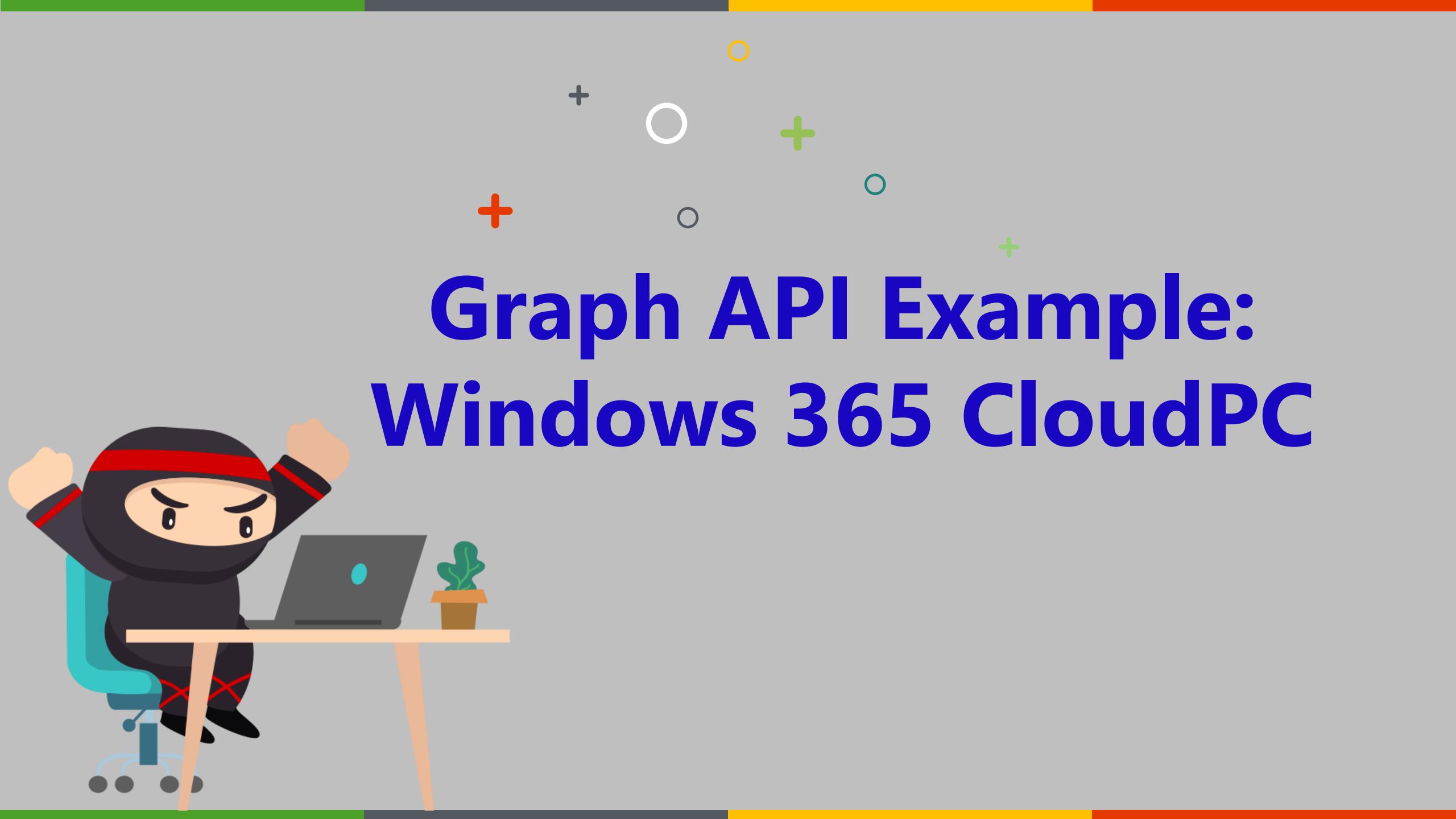
Assign 'Virtual Machine User Login' role for a group to an AVD Session Host





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

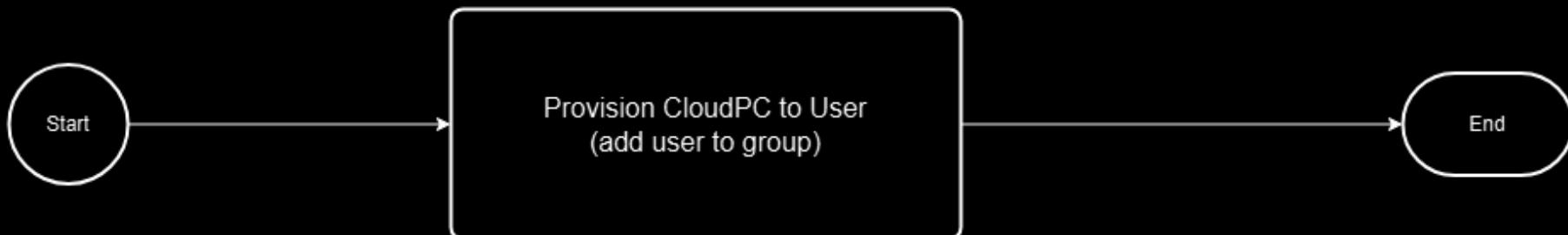
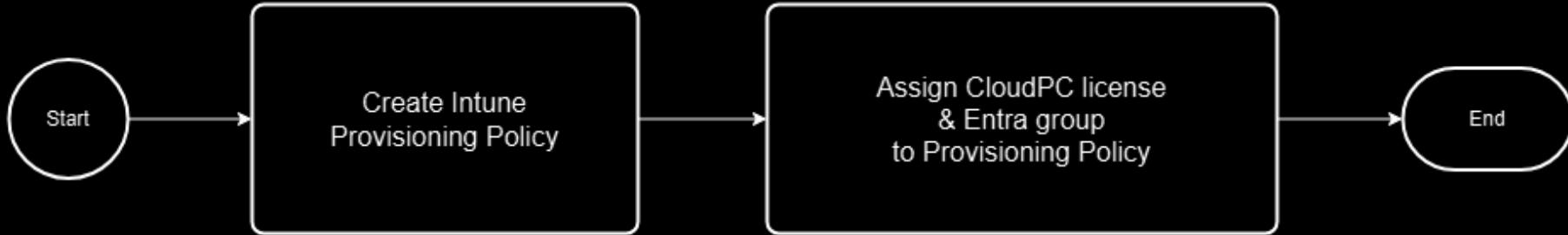
```
1 > #region Get Credentials from Azure Key Vault...
10 endregion
11
12 > #region Step 00 - Connect to Azure Resource Manager API, using REST API (retrieve bearer token)...
35 #endregion
36
37 > #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)...
60 #endregion
61
62 > #region 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

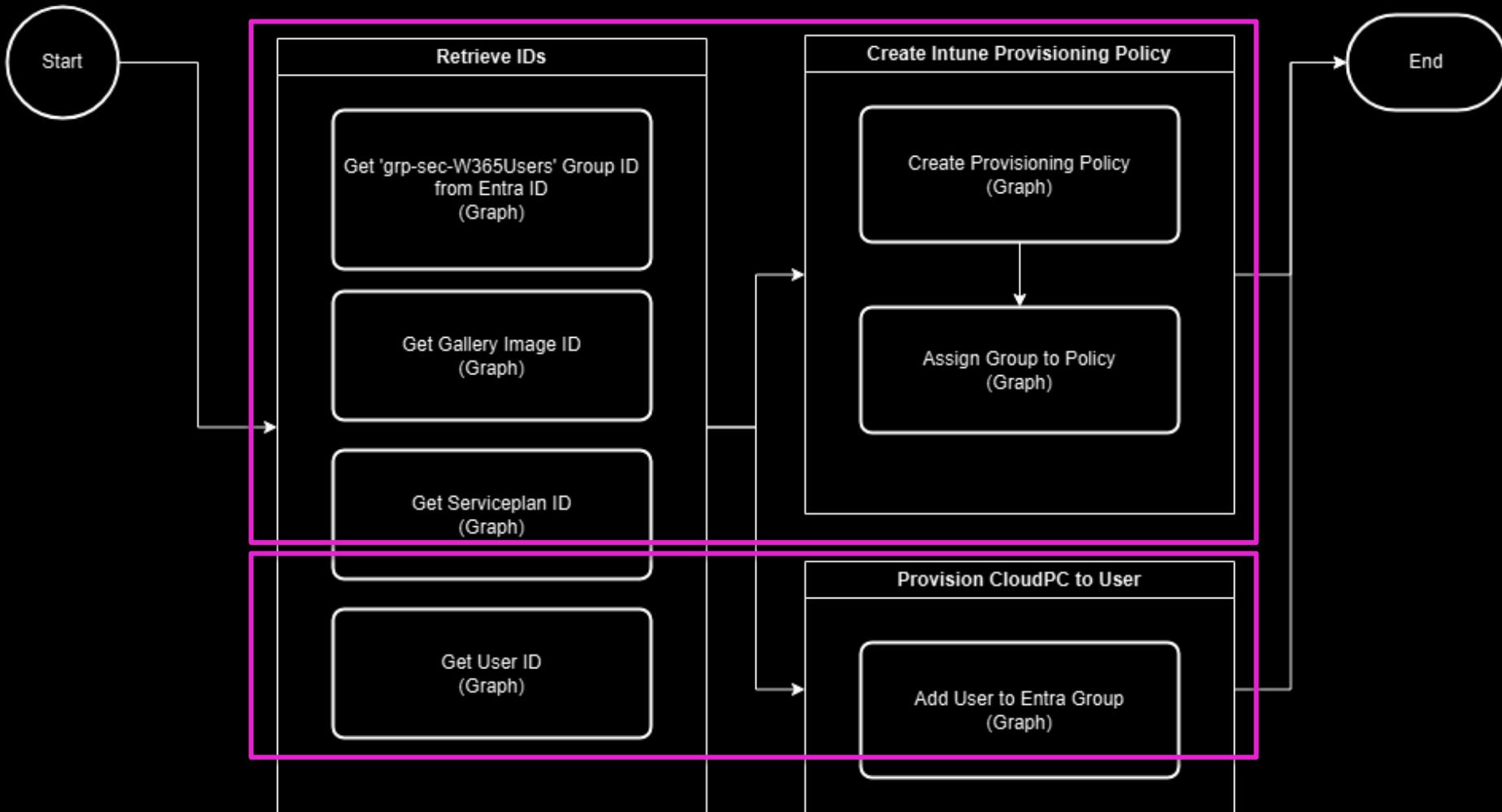


Provision Windows 365 CloudPC to User





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
```

Graph API reference doc





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
```



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



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
```



request, the client uses the client secret.

HTTP

cURL

HTTP

 Copy

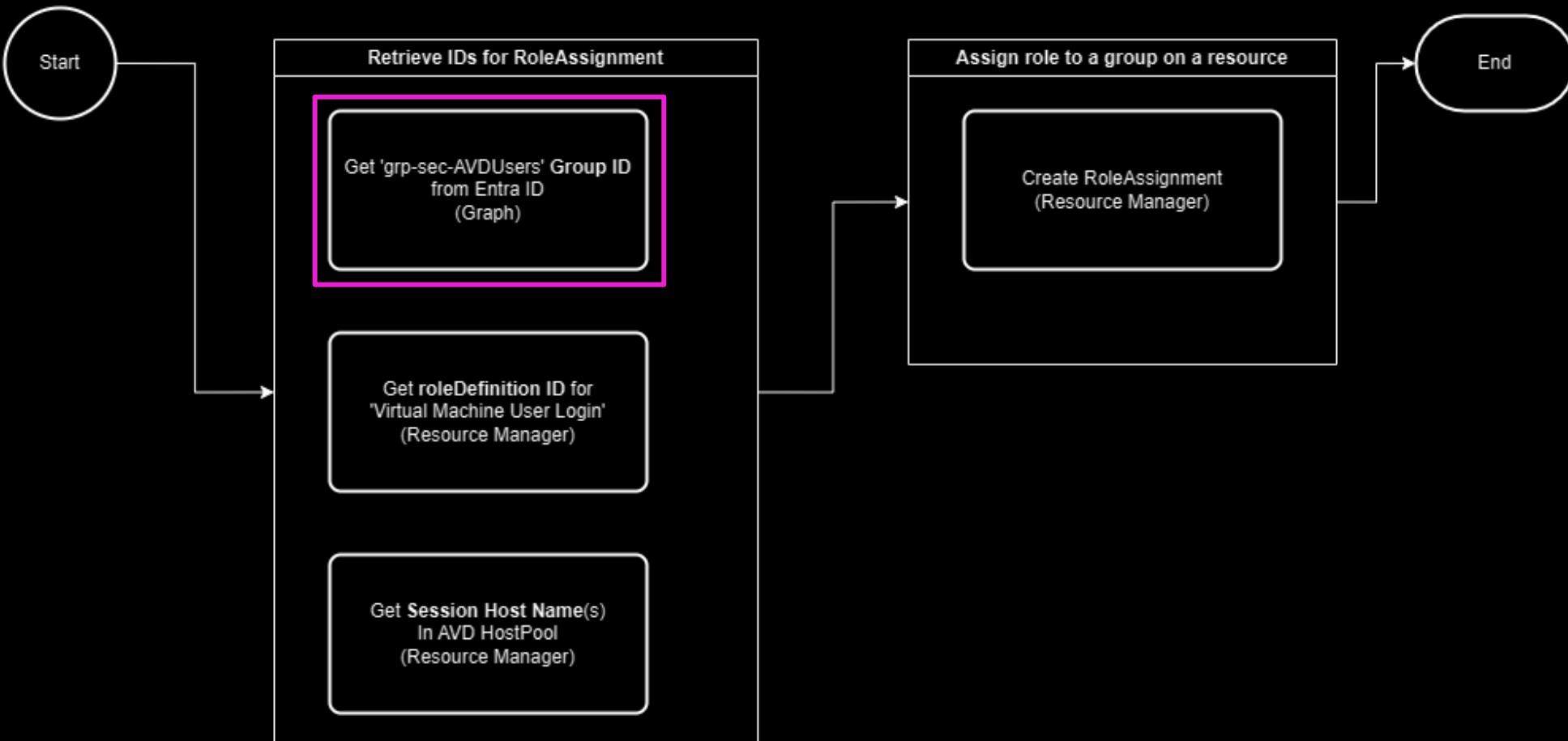
// Line breaks are for legibility only.

```
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



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

The screenshot shows the Postman application interface. The top navigation bar includes 'Home', 'Workspaces', 'API Network', a search bar 'Search Postman', and user account options ('Invite', 'Upgrade'). The left sidebar has sections for 'Collections', 'Environments', and 'History'. The main workspace displays a collection titled '00. ExpertsLive Demos / AzureVirtualDesktop / 01. Assign AIM role to group' with a sub-item '00. Graph: Get Bearer Token (oAuth)'. Below this, a POST request is configured to 'https://login.microsoftonline.com/{{tenantid}}/oauth2/v2.0/token'. The 'Body' tab is selected, showing form-data parameters: 'grant_type' (value: 'client_credentials'), 'client_id' (value: '{{clientId}}'), 'client_secret' (value: '{{clientSecret}}'), and 'scope' (value: 'https://graph.microsoft.com/default'). The 'Body' section also contains a table for key-value pairs. At the bottom, the response status is 'Status: 200 OK' with a 'Save as example' button.

| Key | Value | Description | ... Bulk Edit |
|---|-------------------------------------|-------------|---------------|
| <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 | Description | |

Body Cookies (3) Headers (15) Test Results (1/1) Status: 200 OK Time: 218 ms Size: 2.92 KB Save as example

Pretty Raw Preview Visualize JSON

```

1  {
2   "token_type": "Bearer",
3   "expires_in": 3599,
4   "ext_expires_in": 3599,
5   "access_token":
"eyJ0eXAiOiJKV1QiLCJub25jZSI6IjZP0VN2bUtpUVJ1TD1SVUlsRkN0ZzY2RVZ3dG5JeVc2dGNFMz1vSFVvaU0iLCJhbGciOiJSUzI1NiIsIng1dCI6IkwxS2ZLRKlfam5YYndXYzIyeFp4dzFzVUhIMCIsImtpZCI6IkwxS2ZLRKlfam5YYndXYzIyeFp4dzFzVUhIMCJ9.

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```



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POST 03. Graph - Add Memb

GET xx. Graph: Get CloudPC

GET xx. Graph: List CloudPC

POST 00. Graph: Get Bearer 1



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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)



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POST 03. Graph - Add Memb

GET xx. Graph: Get CloudPC

GET xx. Graph: List CloudPC

POST 00. Graph: Get Bearer 1



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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)



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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 |
|-------------------------------------|---------------|--------------------------------------|
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| <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 | |
| Key | Value | Description |

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

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

Pretty Raw Preview Visualize JSON ↻

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3   "expires_in": 3599,  
4   "ext_expires_in": 3599,  
5   "access_token":  
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  TQtNGVjYi000TNiLTg3MDYtYzJhYjQ1NDU5MzJiIiwigcmgi0iIwLkFh0EE1YXpodll2MHZVVzJzV3NSLWgyemJBTUFBUFBQUBQFBQXFbQFBQUDc0FBQS4iLCJyb2xlcYI6WyJvc2VylJlyWRCYX  
  LlJlyWQuQWxsIiwiRGV2aN1TwFuYwdlbwVudE1hbmFnZWREZxZpY2VzLlJlyWQuQWxsIiwiRGV2aN1l1JlyWQuQWxsIiwiUm9sZU1hbmFnZW1lbnQuUmVhZC5EaXJlY3RvcnkIiLCJHcm91cC5SzWFkL  
  nZW1lbnRTZXJ2aWNlQ29uZmlnLlJlyWQuQWxsIiwiRGlyZWN0b3J5LlJlyWQuQWxsIiwiVXNlci5SZWFkLkFsbCIsIlJvbGVNYW5hZ2VtZW50LlJlyWQuQ2xvdWROQyIsIkRldmljZU1hbmFnZW1lbnRD...  
  VNYW5hZ2VtZW50UkJBQy5SZWFkLkFsbCIsIlJvbGVNYW5hZ2VtZW50LlJlyWQuQ2xvdWROQyIsIkRldmljZU1hbmFnZW1lbnRD...  
  SIsIkdyb3VwTwVtYmVylJlyWRXcm10ZS5BbGwiLCJD...  
  LCJ0ZW5hbwnRfc...  
  kMC0wZDFkLTRhY2ItYjQwOC1kNWNhNzMxMjFlOTAiXSwieG1zX3RjZHQi0jE3MDUwNjMxMjMsInhtc190ZGJyIjoiRVUi...  
  F14neTRVTrhVc0FR7TfihNI iTeMRXF7c5d2hIEfkN1n3wGo-x...  
  ...
```



≡ ← → 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

Protocol

View Model

ICON



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

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4     {  
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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](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 ↻

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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](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 }
```

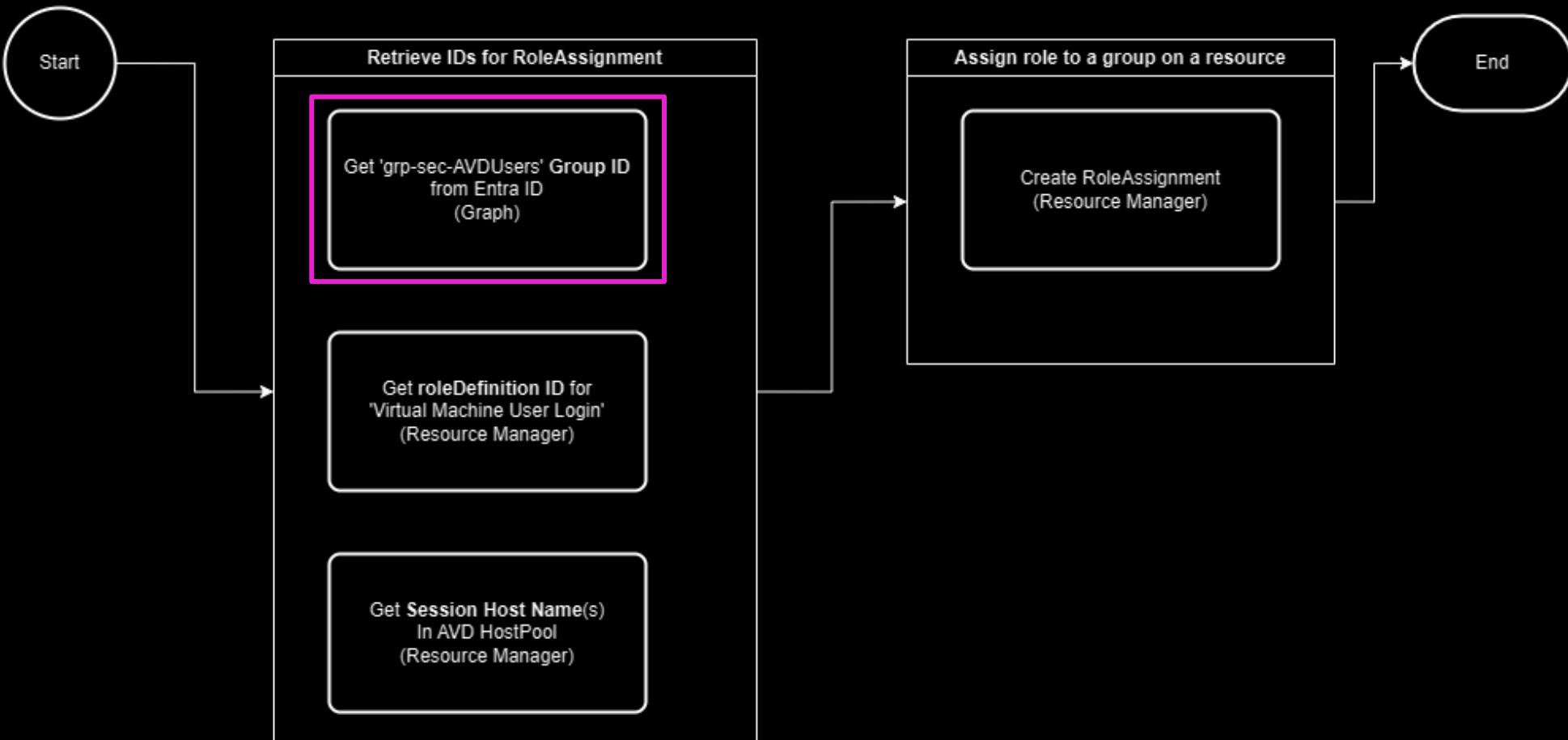
PowerShell & REST API



Azure Virtual Desktop



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
```



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37 #region Step 00 - Connect to Microsoft Graph API (retrieve bearer token)
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```



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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"
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```



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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
```



_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>
```



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

Virtual machine

Search

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[Activity log](#)

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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) | | | | |
| <input type="checkbox"/> GR grp-sec-AVDUsers | Group | Virtual Machine User Login | This resource | None |

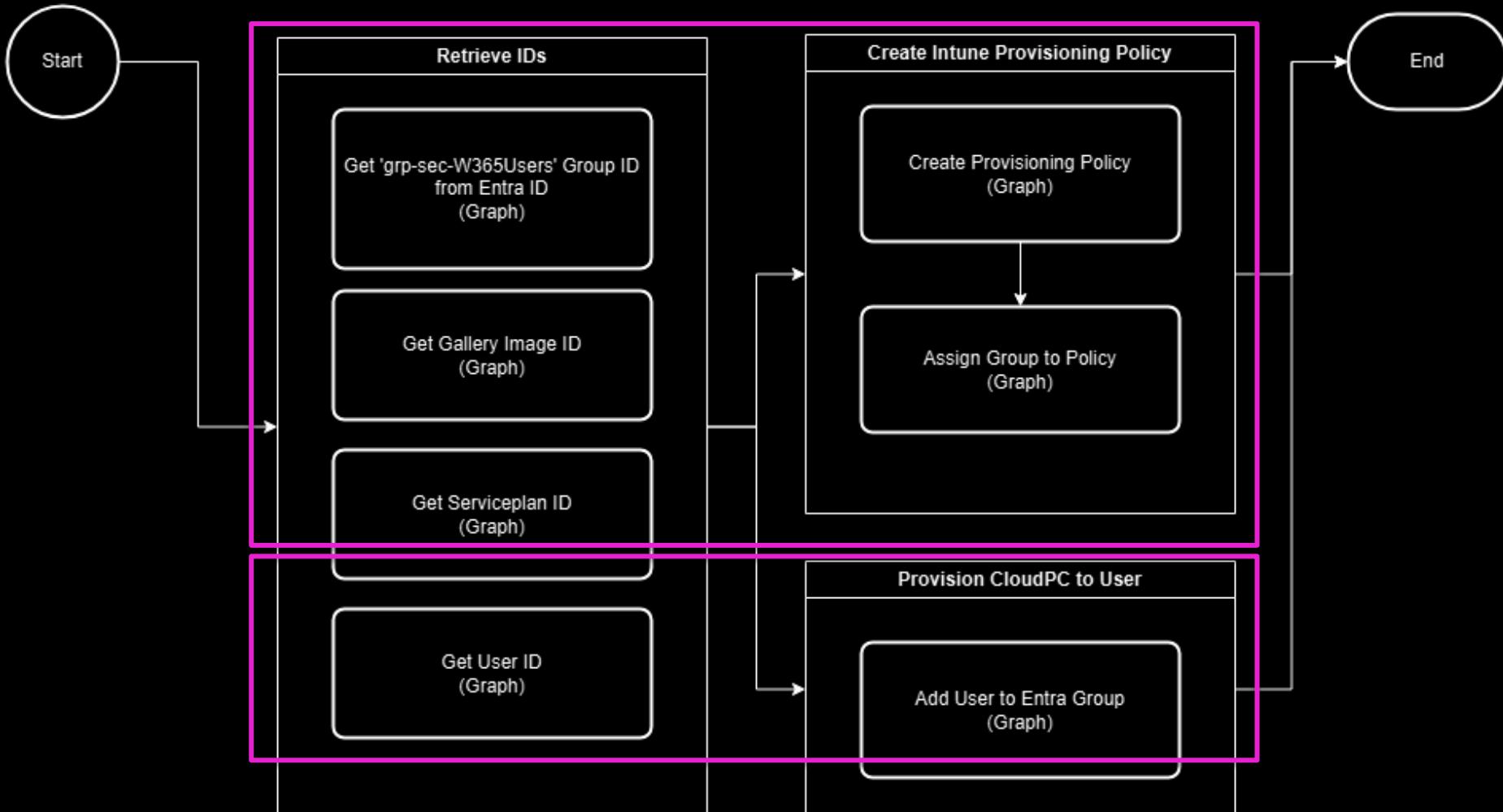
PowerShell & REST API



Windows 365 CloudPC



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 = @{
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          = @{
```



```
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

ConvertTo-Json

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

Copy

-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

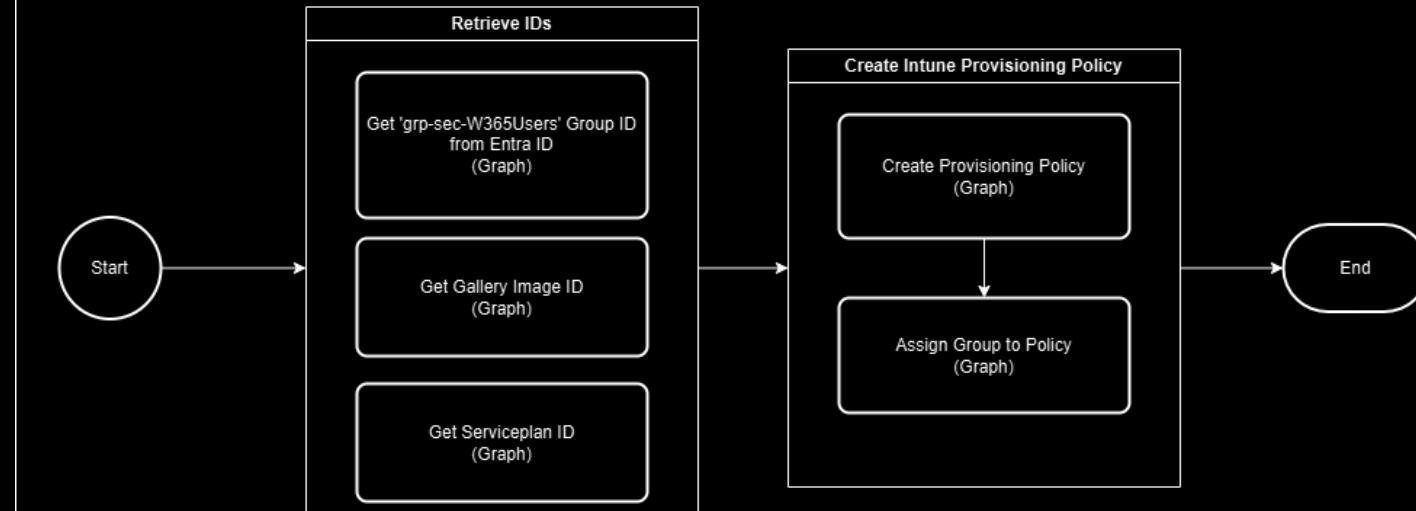
Step 02 - Gallery Image Id: microsoftwindowsdesktop_windows-ent-cpc_win11-23h2-ent-cpc-m365

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
```



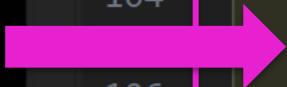
```
87 #region Step 03 - Add Member to Group
88 # URL for the REST API call
89 $restUri = "https://graph.microsoft.com/v1.0/groups/$groupId/members/`$ref"
90 # Method for the REST API call
91 $restMethod = "POST"
92 # Body for a REST API call with Method PUT
93 $restBody = @{
94     "@odata.id"          = "https://graph.microsoft.com/v1.0/directoryObjects/$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
```

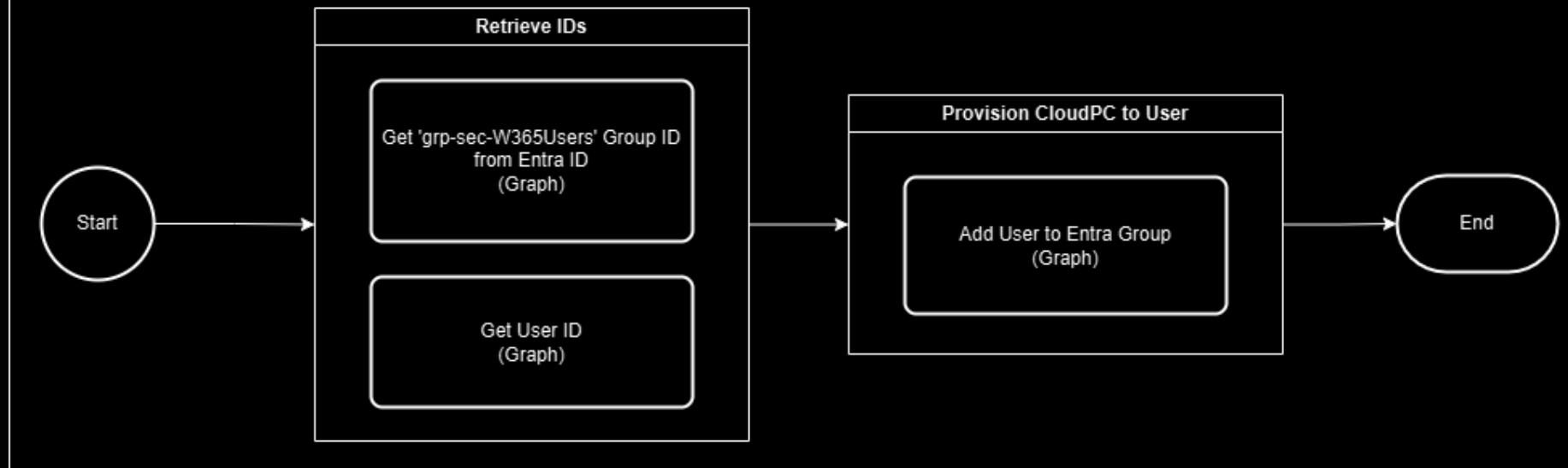
[PROBLEMS](#)[TERMINAL](#)[PORTS](#)[GITLENS](#)[AZURE](#)[COMMENTS](#)[OUTPUT](#)[DEBUG CONSOLE](#)

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





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X

«

Overview

All devices

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By platform

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Linux

Device onboarding

Windows 365

Enrollment

Overview

All Cloud PCs

Provisioning policies

Custom images

Azure network connection

User settings

Refresh

Export

Columns

Provide feedback

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

Search

Add filter

Showing 1 to 1 of 1 records

< Previous

Page

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of 1

Next >

Device name ↑↓ Provisioning policy ↑↓ Image ↑↓

A... ↑↓ PC type ↑↓

Not provisioned CPC-W365-Frontline-P... Windows 11 Enterprise + Microsoft 365...

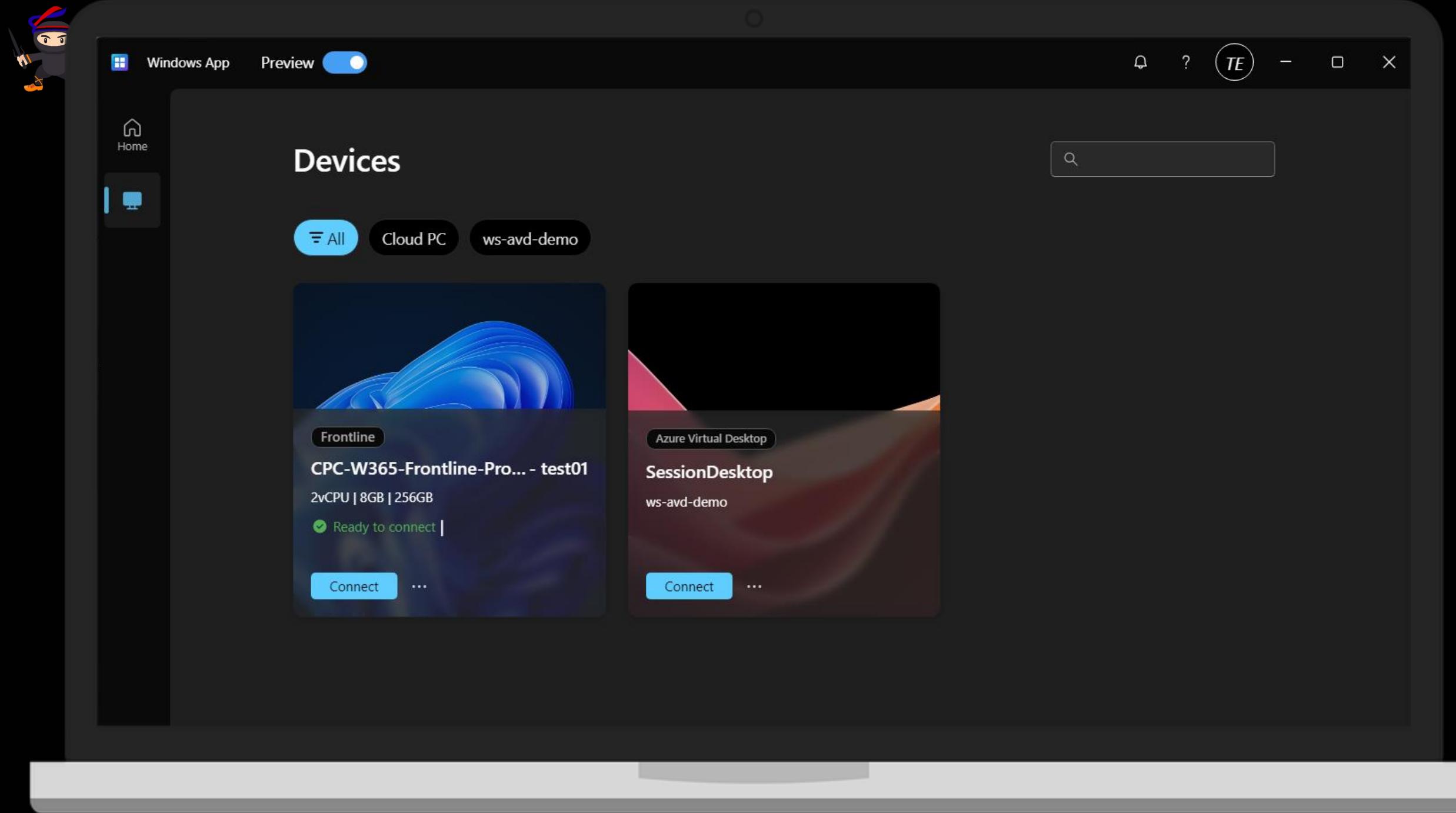
Cloud PC Frontline 2vCPU/8GB/256GB

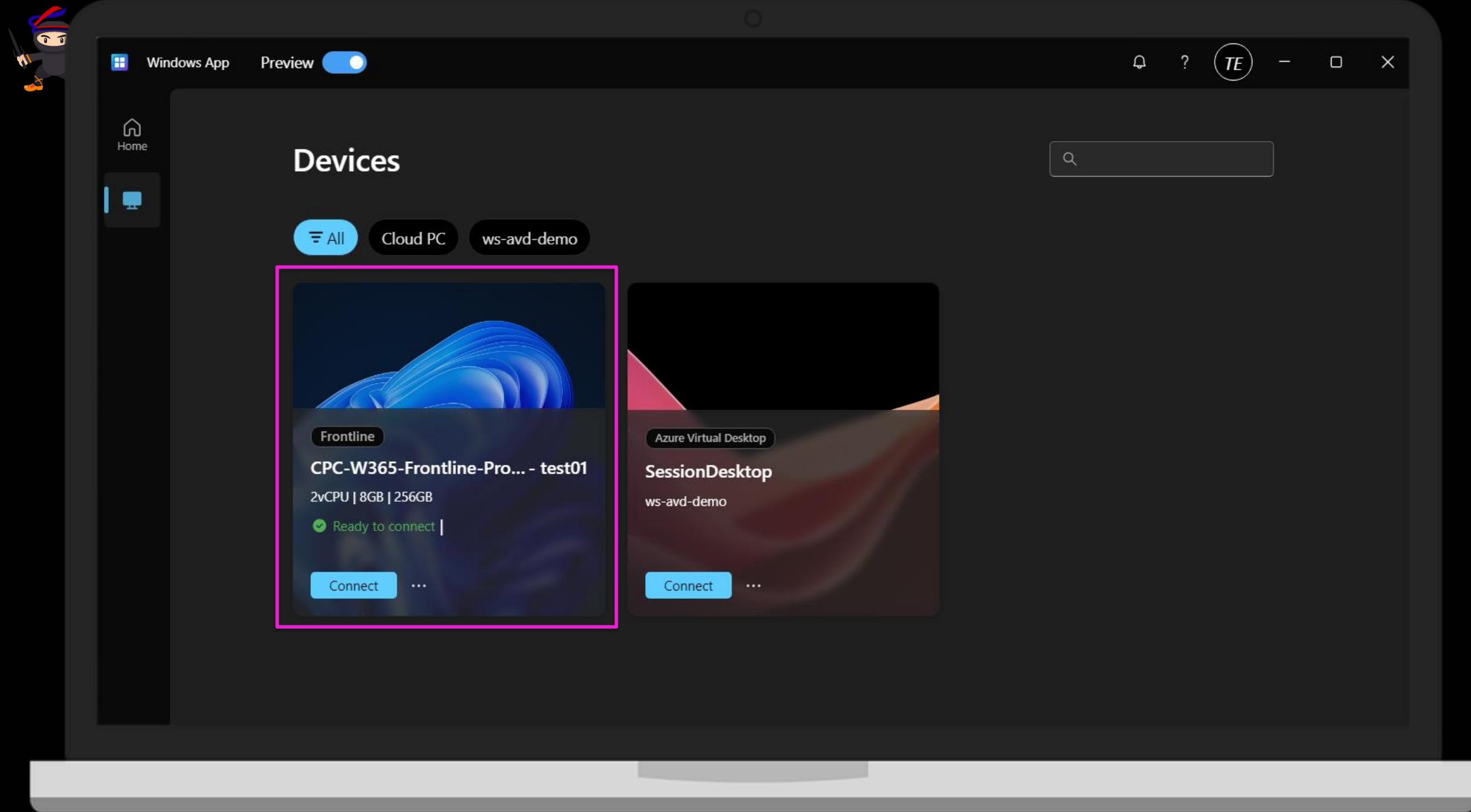
Status ↑↓

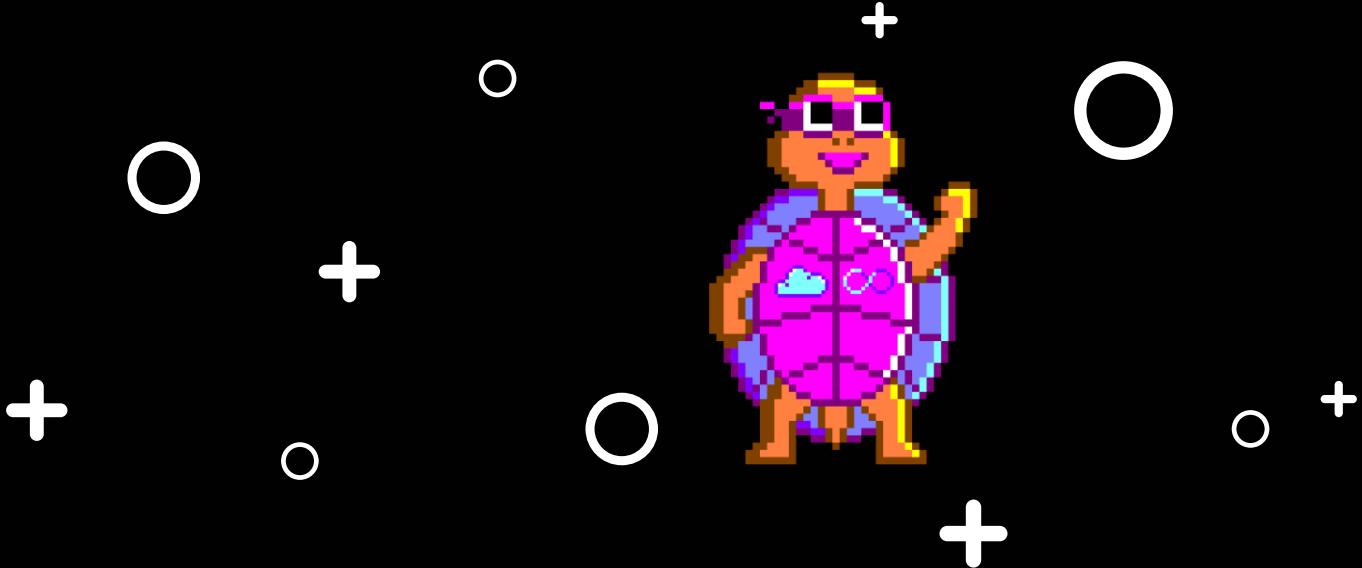
Provisioning

User ↑↓

test01@cognitionitdev...







THANK YOU

Are there any questions?



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