



BitTitan MigrationWiz

M365 Tenant Report – Documentation

V.0.81

Table of Contents

Table of Contents	2
Microsoft 365 Discovery Report	4
Important Updates – January 2025	4
Overview	6
Overview	7
Administrative rights required	8
Tenant Settings	8
Files in the Package	9
Registration of the App (First Time Run)	10
Updates to the Config XML File	13
Mailbox Permissions & MFA Details	13
Running the script	14
Troubleshooting	15
Script Error on Report Download from M365	15

Figure 1 - MigrationWiz Summary Report	4
Figure 2 - Concealed data in M365 Tenant	9
Figure 3 - First Time Run - Application Registration	10
Figure 4 - API Permission request.....	11
Figure 5 - Script First Run	11
Figure 6 - API Permissions in Entra ID	12
Figure 7 - Options for Mailbox Permissions and MFA Details	13
Figure 8 - The script in process.....	14
Figure 9 - M365 Error Display	15

Microsoft 365 Discovery Report

Important Updates – January 2025

The most considerable upgrade is that the entire script uses the Microsoft Graph API to obtain all of the information from the M365 Tenant. The Exchange Online module is used for a small amount of data but this is a single login requirement. This all means that the speed of execution of the discovery is MASSIVELY increased, along with the configuration requirements being drastically less.

There no need to use the PNP Online modules to connect to SharePoint online which totally eliminates the need to repeatedly respond to login requests during the running of the discovery process. Once you run it and login to Exchange Online once right at the start, the script can be completely left alone.

It also now contains an updated summary page on the output, showing the license requirements for the MigrationWiz toolset. This output looks like this

MigrationWiz		Created for Tenant	cozymouse.onmicrosoft.com
Microsoft 365 Tenant Migration Assessment			
Tenant Overview			
Exchange Online			
Mailboxes	User Mailboxes	Shared Mailboxes	Resource Accounts
33	28	3	2
Size (GB)	Size (GB)	Size (GB)	
64.80	64.80	0.00	0.00
Over 50GB	Over 50GB	Over 50GB	Over 50GB
0	0	0	0
Archive MB's	Archive MB's	Archive MB's	Archive MB's
3	3	0	0
SharePoint Online			
SharePoint Sites	Total Size (GB)	Unified Groups	
28	13.05	8	
Document Libraries	Total Library Size (GB)	Libraries > 50GB	Licenses Req'd
16	1.85	0	16
Teams			
Total Teams	Teams File Size GB	Teams > 100GB	Licenses Req'd
9	12.39	0	9
Teams Document Libraries Not Shared Documents			
Libraries	Total Size (GB)	Libraries > 50GB	Licenses Req'd
1	0.86	0	1
Other Microsoft 365 Items			
Domains	Guest Accounts	Contacts	Distribution Lists
11	2	3	7
Admin Accounts	MFA Users	License Packs	Planners
28	69	2	1
Unified Groups	Security Groups	Mail Enabled Sec Grp	CA Policies
8	21	2	1
Public Folders			
OneDrive			
Active OneDrive	Empty OneDrive	Total Size (GB)	
6	8	565.85	

Figure 1 - MigrationWiz Summary Report

The main updates are summarized here.

- Completely uses PowerShell 7. No need for PS5 modules.
- The only modules required are now;
 - Microsoft Graph
 - Exchange Online v3
 - Import-Excel (for the Excel output of the script)
- Runs all discovery using Microsoft Graph (and some Exchange-Online)
- No need for repeated logins to modules and SharePoint connections
- No need for the PNP.Online PowerShell module
- Automatic Application Registration and Certificate Generation
- Huge speed differential compared to previous versions
- Summary sheet created
- Also now discovers:
 - Conditional Access Policies
 - Transport Rules
 - Send/Receive Connectors
 - MX Records
 - Microsoft Planner information
- No need to have Excel installed on the machine running the script
- No individual CSV's required now to create the final report
- Public Folder Information is no longer collected.
- Logs are now kept in a separate sub folder from the main location
- No need for Microsoft Excel to be installed on the machine running the script

Overview

This assessment is a supplement for estimating how many migration licenses could be required to perform your migration without purchasing more licenses than you need. The tool is a beta and provided as-is with limited support.

The information in the assessment is based off what is returned from the APIs in your tenant and is not guaranteed to be 100% accurate. It should be considered best practice to confirm the data in the report against your source tenant for any inaccuracies before requesting a license quote from your BitTitan migration license sales associate or reseller.

The Microsoft 365 Discovery Report is a collection of outputs from the various workloads inside a Microsoft 365 tenant, all consolidated into a single Excel based report. It details the following workloads.

- Exchange Online Mailboxes (Users/Shared)
- OneDrive Usage
- SharePoint Sites
- SharePoint Permissions
- SharePoint Libraries
- Teams – including Channels/Memberships
- MFA details
- Distribution Lists
- Contacts
- Guest Accounts
- Public Folders
- Unified & Security Groups
- Calendar Permissions
- Azure AD Devices
- Password Expiration Details
- License Information and Consumption
- Registered Domains

It is all performed by using a locally based PowerShell script that runs on your own infrastructure, connecting to the various workloads directly from there.

The recommendation is that the files be located locally in the C:\SCRIPTS folder. This can be modified by editing the first part of the code that relates to the \$GLOBAL:scriptlocation variable.

The report gives a solid tenant landscape and is intended to be used in preparation for a migration effort. By using the outputs, various batching and grouping techniques can be used, making the planning easier than using the normal Microsoft 365 Admin Center and the reports contained there.

By using the 'Import-Excel' PowerShell modules there is no need to have Microsoft Excel installed on the machine that is running the script.

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- Transport Rules
- Send/Receive Connectors

- MX Records
- Microsoft Planner information

It is all performed by using a locally based PowerShell script that runs on your own infrastructure, connecting to the various workloads directly from there.

The report gives a solid tenant landscape and is intended to be used in preparation for a migration effort. By using the outputs, various batching and grouping techniques can be used, making the planning easier than using the normal Microsoft 365 Admin Center and the reports contained there.

Administrative rights required

On the source tenant where the report is being run the account connecting to the various M365 Modules will need to have the following administrative rights assigned to it.

- Global Reader
- Global Admin / Entra ID Admin to create the App Reg in Entra ID

As the script uses the Application Registration to connect and use Microsoft Graph it is a required that to run the App Reg process, you will need to connect with an account that has the appropriate rights in Entra ID to perform this task.

If the Account being used to perform this task has Global Admin rights then it will work seamlessly.

As the script automatically creates the self signed certificate that it uses for authentication into Microsoft Graph, this registration process should be run on the machine/user session that is going to be running the script and creating the output.

Tenant Settings

There have been some instances in tenants whereby the settings that makes all the reports contain anonymous data is turned on. This leads to the discovery report not being able to match all the UPN's with correct data and subsequently, all of the User Mailbox sheets are totally blank, even though the identities sheet has data. It is recommended to perform this task at least an hour before generating the report since this is a organization setting and the change may not take place right away in the tenant.

To fix this, make this small change in your tenant.

1. Go to the [Microsoft 365 admin center](#).
2. Go to **Settings** > **Org Settings** > **Services**.
3. Select **Reports**.
4. Clear **Display concealed user, group, and site names in all reports**, and then select **Save**.

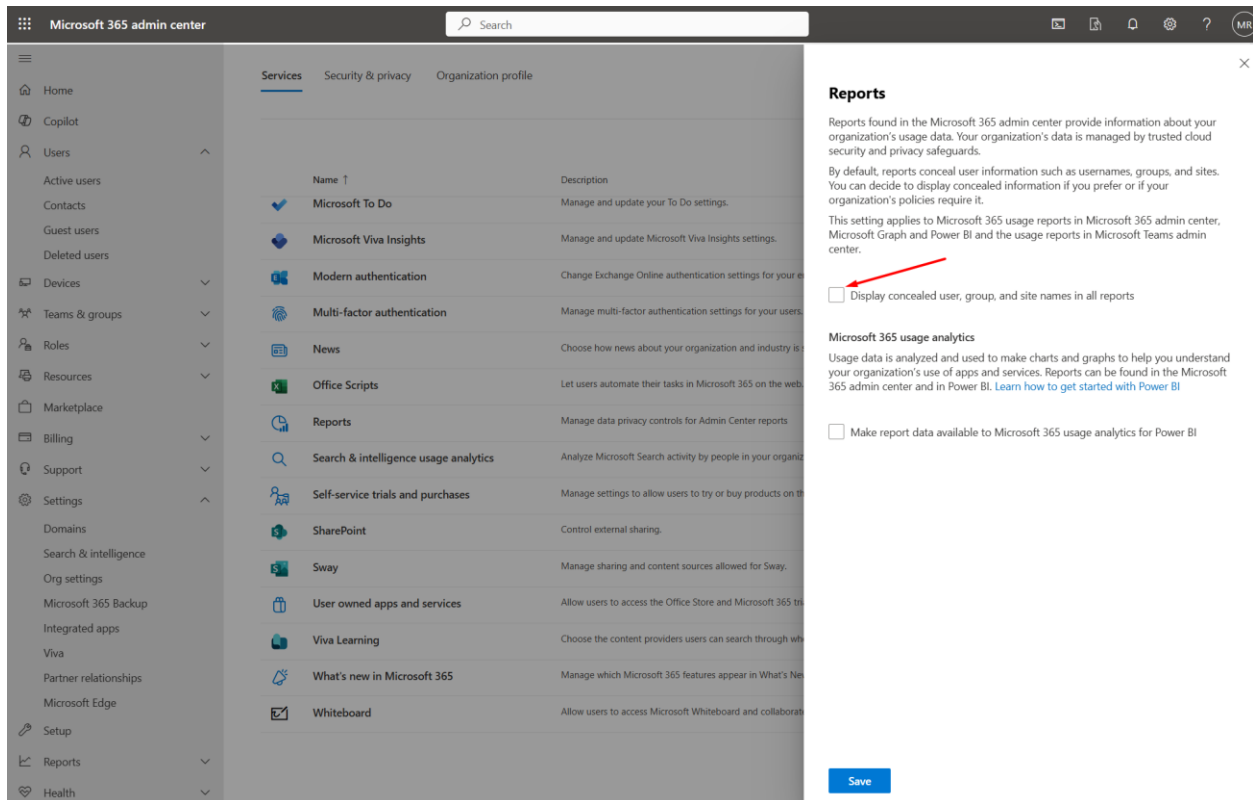


Figure 2 - Concealed data in M365 Tenant

Files in the Package

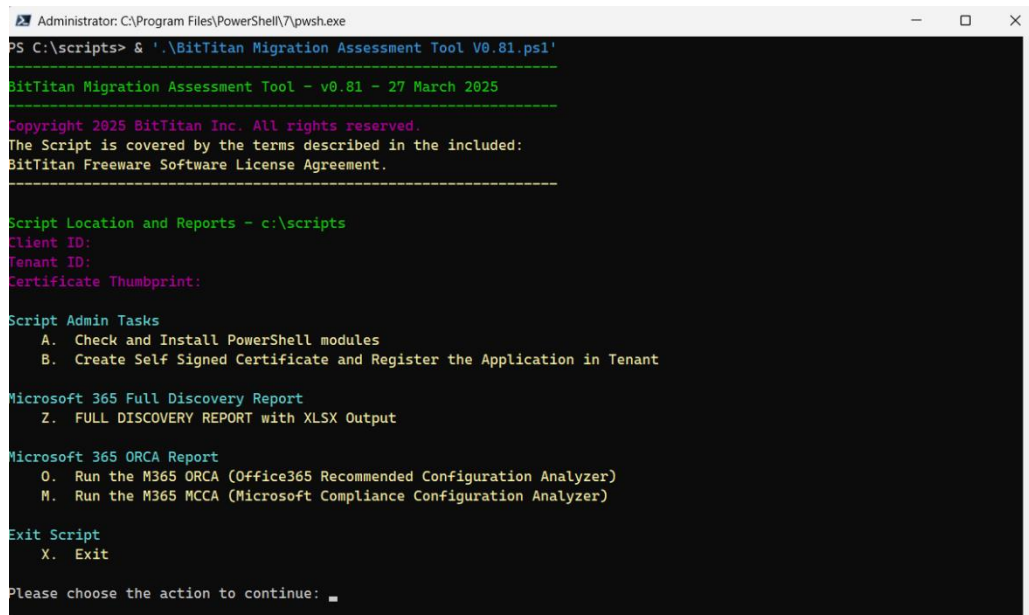
The files needed to run the discovery script, that should be extracted from the products ZIP file and detached into the C:\SCRIPTS folder are

- BitTitan Migration Assessment Tool V0.81.ps1
- bt-blank-config.xml
- BT M365 Summary Report.xlsx

The script will run and create the file BT-M365-Config.XML that is referred to later in the document.

Registration of the App (First Time Run)

When you run the script for the first time. Choose option A first, to ensure that all the PowerShell Modules are correctly loaded.



```
Administrator: C:\Program Files\PowerShell\7\powershell.exe
PS C:\scripts> & '.\BitTitan Migration Assessment Tool V0.81.ps1'

-----
BitTitan Migration Assessment Tool - v0.81 - 27 March 2025
-----
Copyright 2025 BitTitan Inc. All rights reserved.
The Script is covered by the terms described in the included:
BitTitan Freeware Software License Agreement.
-----

Script Location and Reports - c:\scripts
Client ID:
Tenant ID:
Certificate Thumbprint:

Script Admin Tasks
  A. Check and Install PowerShell modules
  B. Create Self Signed Certificate and Register the Application in Tenant

Microsoft 365 Full Discovery Report
  Z. FULL DISCOVERY REPORT with XLSX Output

Microsoft 365 ORCA Report
  O. Run the M365 ORCA (Office365 Recommended Configuration Analyzer)
  M. Run the M365 MCCA (Microsoft Compliance Configuration Analyzer)

Exit Script
  X. Exit

Please choose the action to continue: _
```

Figure 3 - First Time Run - Application Registration

Then choose option B to connect to Entra ID and register the application.

As you go through this automated process it will perform the following.

- Request connection to the M365 Tenant you are using.
- Connect to Entra ID
- Register the Application and Request Consent for the API Permissions (as below)

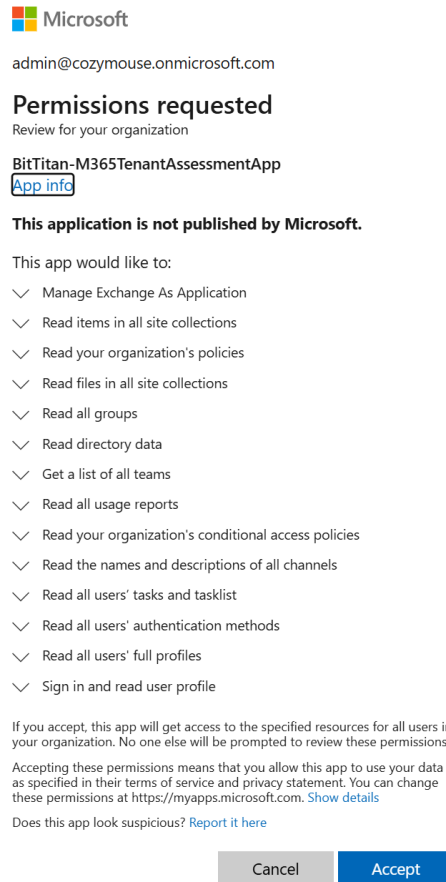


Figure 4 - API Permission request

After completion of this process the script will show this status.

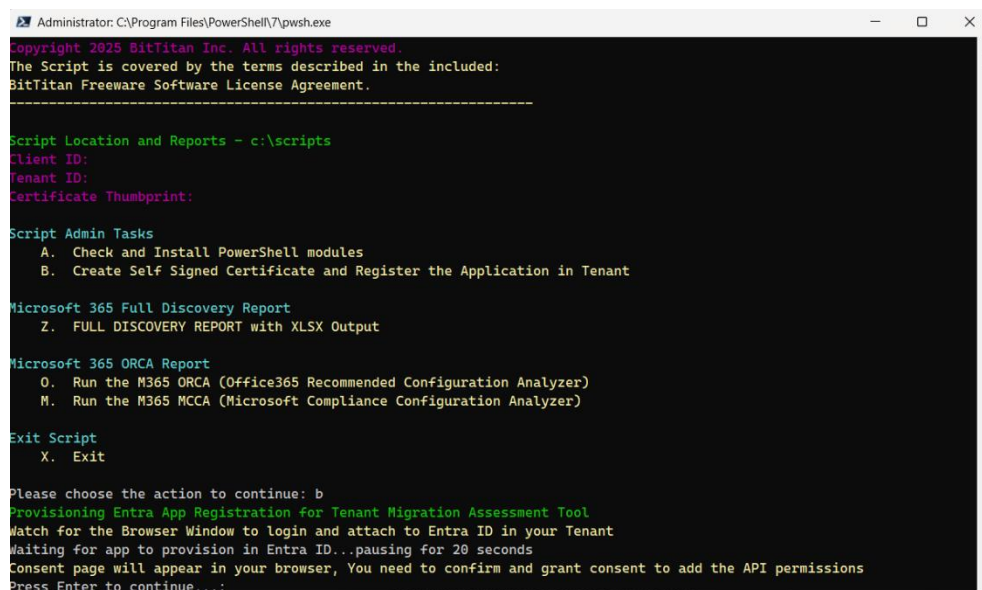


Figure 5 - Script First Run

You can check that the application has loaded the API Permissions correctly if you wish by checking Entra ID Application Registrations. The example below shows what they should look like.

Microsoft Azure

Home > CozyMouse | App registrations > BitTitan-M365TenantAssessmentApp

BitTitan-M365TenantAssessmentApp | API permissions

Search

Refresh Got feedback?

Overview

Quickstart

Integration assistant

Diagnose and solve problems

Manage

Branding & properties

Authentication

Certificates & secrets

Token configuration

API permissions

Expose an API

App roles

Owners

Roles and administrators

Manifest

Support + Troubleshooting

Configured permissions

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

+ Add a permission ✓ Grant admin consent for CozyMouse

API / Permissions name	Type	Description	Admin consent requ...	Status
Microsoft Graph (12)				...
Channel.ReadBasic.All	Application	Read the names and descriptions of all channels	Yes	Granted for CozyMouse ...
Directory.Read.All	Application	Read directory data	Yes	Granted for CozyMouse ...
Files.Read.All	Application	Read files in all site collections	Yes	Granted for CozyMouse ...
Group.Read.All	Application	Read all groups	Yes	Granted for CozyMouse ...
Policy.Read.All	Application	Read your organization's policies	Yes	Granted for CozyMouse ...
Policy.Read.ConditionalAccess	Application	Read your organization's conditional access policies	Yes	Granted for CozyMouse ...
Reports.Read.All	Application	Read all usage reports	Yes	Granted for CozyMouse ...
Sites.Read.All	Application	Read items in all site collections	Yes	Granted for CozyMouse ...
Tasks.Read.All	Application	Read all users' tasks and tasklist	Yes	Granted for CozyMouse ...
Team.ReadBasic.All	Application	Get a list of all teams	Yes	Granted for CozyMouse ...
User.Read.All	Application	Read all users' full profiles	Yes	Granted for CozyMouse ...
UserAuthenticationMethod.Read.All	Application	Read all users' authentication methods	Yes	Granted for CozyMouse ...
Office 365 Exchange Online (1)				...
Exchange.ManageAsApp	Application	Manage Exchange As Application	Yes	Granted for CozyMouse ...

Figure 6 - API Permissions in Entra ID

Updates to the Config XML File

The M365-Config.XML file will be automatically updated with the Client ID, Tenant ID and Certificate Thumbprint. It is then reloaded into memory so the script can be executed immediately to start the discovery process.

Mailbox Permissions & MFA Details

As these options take longer to run and are not always essential to a tenant discovery you can turn them on/off in the XML file. Just set them to either Yes or No in the BT-M365-CONFIG.XML file. The default is 'ON' for these options.

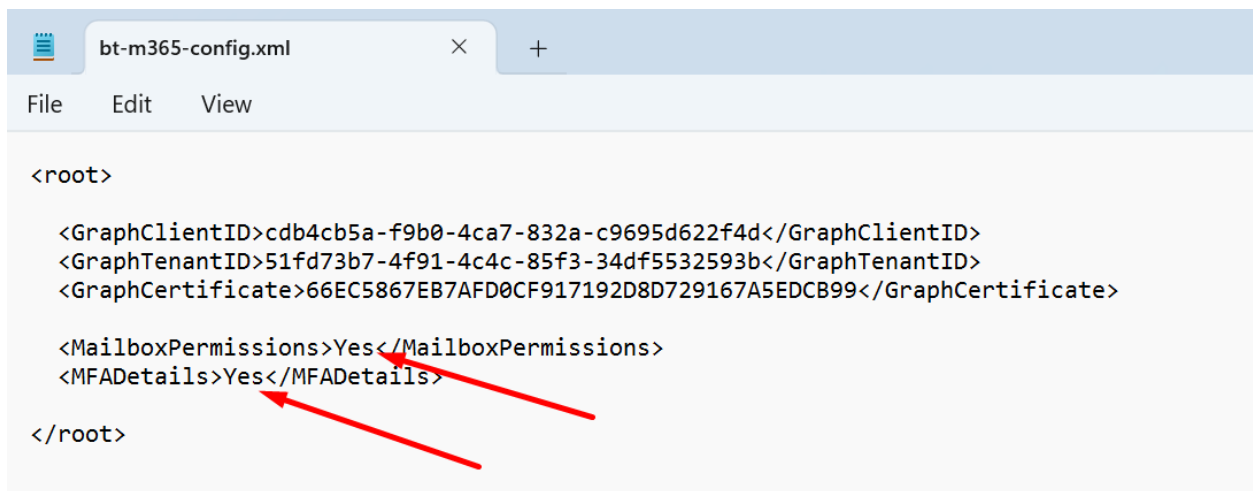
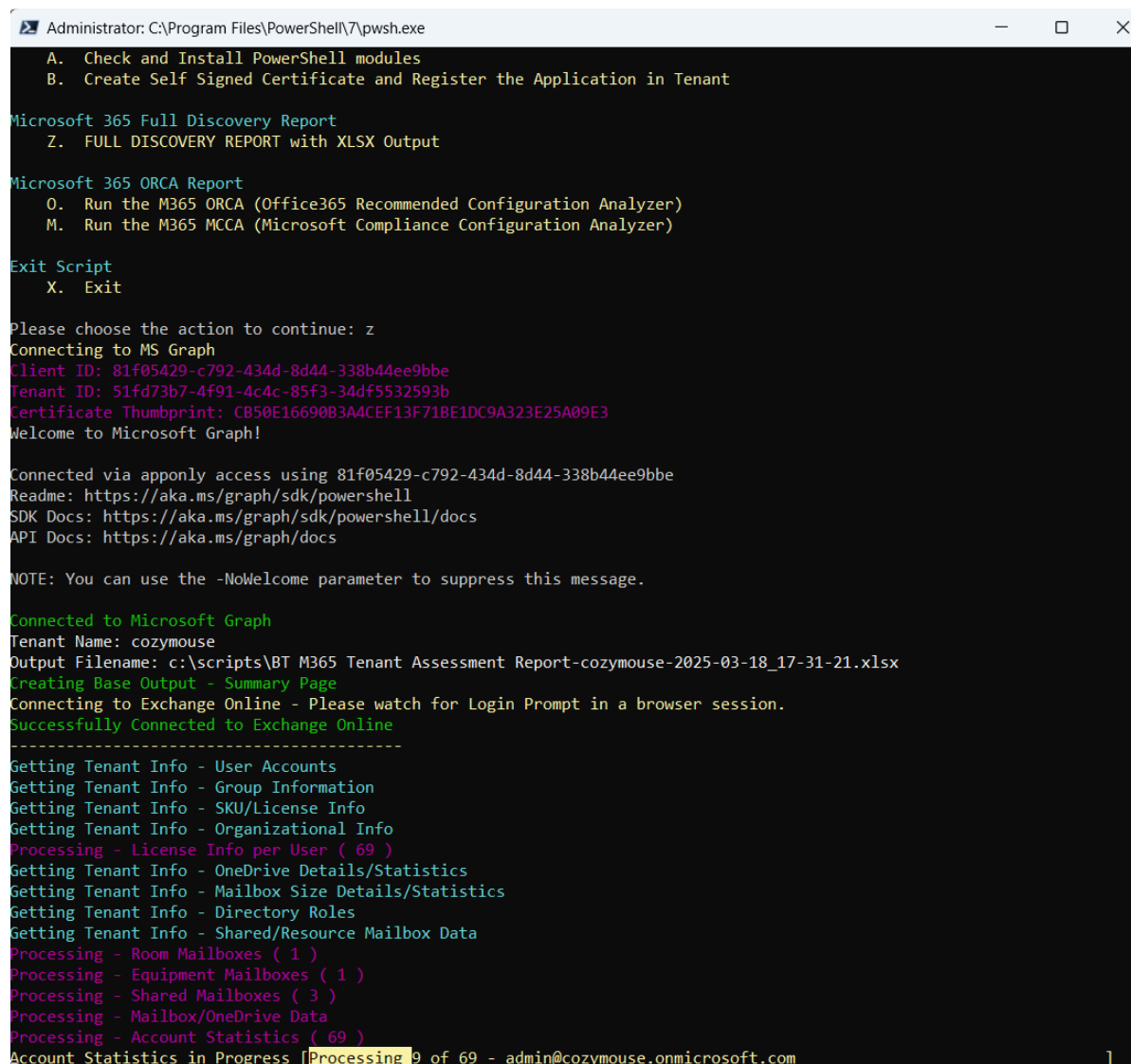


Figure 7 - Options for Mailbox Permissions and MFA Details

Running the script

Simply use Option Z on the menu to connect to Microsoft Graph and start the discovery process. It will prompt for the login the Exchange Online right at the start, but once this is done you can leave it fully unattended and then watch for the output.

The below example shows what it looks like in action.



```
Administrator: C:\Program Files\PowerShell\7\pwsh.exe
A. Check and Install PowerShell modules
B. Create Self Signed Certificate and Register the Application in Tenant

Microsoft 365 Full Discovery Report
Z. FULL DISCOVERY REPORT with XLSX Output

Microsoft 365 ORCA Report
O. Run the M365 ORCA (Office365 Recommended Configuration Analyzer)
M. Run the M365 MCCA (Microsoft Compliance Configuration Analyzer)

Exit Script
X. Exit

Please choose the action to continue: z
Connecting to MS Graph
Client ID: 81f05429-c792-434d-8d44-338b44ee9bbe
Tenant ID: 51fd73b7-4f91-4c4c-85f3-34df5532593b
Certificate Thumbprint: CB50E16690B3A4CEF13F71BE1DC9A323E25A09E3
Welcome to Microsoft Graph!

Connected via apponly access using 81f05429-c792-434d-8d44-338b44ee9bbe
Readme: https://aka.ms/graph/sdk/powershell
SDK Docs: https://aka.ms/graph/sdk/powershell/docs
API Docs: https://aka.ms/graph/docs

NOTE: You can use the -NoWelcome parameter to suppress this message.

Connected to Microsoft Graph
Tenant Name: cozymouse
Output Filename: c:\scripts\BT M365 Tenant Assessment Report-cozymouse-2025-03-18_17-31-21.xlsx
Creating Base Output - Summary Page
Connecting to Exchange Online - Please watch for Login Prompt in a browser session.
Successfully Connected to Exchange Online
-----
Getting Tenant Info - User Accounts
Getting Tenant Info - Group Information
Getting Tenant Info - SKU/License Info
Getting Tenant Info - Organizational Info
Processing - License Info per User ( 69 )
Getting Tenant Info - OneDrive Details/Statistics
Getting Tenant Info - Mailbox Size Details/Statistics
Getting Tenant Info - Directory Roles
Getting Tenant Info - Shared/Resource Mailbox Data
Processing - Room Mailboxes ( 1 )
Processing - Equipment Mailboxes ( 1 )
Processing - Shared Mailboxes ( 3 )
Processing - Mailbox/OneDrive Data
Processing - Account Statistics ( 69 )
Account Statistics in Progress [Processing 9 of 69 - admin@cozymouse.onmicrosoft.com]
```

Figure 8 - The script in process

Troubleshooting

Script Error on Report Download from M365

There have been some instances where the data being pulled back by Graph doesn't always report the length correctly. Therefore when the download report option is run it uses it's own progress. At the end of the download, it updates it's own progress bar but gives it the wrong value and it errors.

The report still runs and everything continues so there is no need to do anything.

```
Getting Tenant Info - SharePoint Site Information
Get-MgReportSharePointSiteUsageDetail_Get1: C:\scripts\M365DiscoveryV7.09.ps1:986
Line |
986 | ... ointSiteUsageDetail -Period "D30" -OutFile "$($scriptlocation)\ShareP ...
      |                                     ~~~~~
      | Cannot set percent because PercentComplete cannot be greater than 100. (Parameter 'value') Actual value was
      | 2147483647.
Found 34 SharePoint Sites - including Teams
Getting Tenant Info - Planner Information
```

Figure 9 - M365 Error Display